

Transforming Teachers' Work Globally

Transforming Teachers' Work Globally

*In Search of a Better Way for Schools
and Their Communities*

Edited by

Eija Kimonen
University of Eastern Finland, Finland

and

Raimo Nevalainen
University of Jyväskylä, Finland



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DHRUV RAINA

FOREWORD

APPROACHES TO TEACHERS' WORK IN A GLOBAL CONTEXT

It is indeed an honor to write a foreword to this volume edited by Eija Kimonen and Raimo Nevalainen, both of whom I have known for several years. During this time, I have been impressed by the scope of their interests and their commitment, both intellectual and methodological, to their research on teachers' work. Underpinning all the chapters appearing in this volume is a consensus about the methods to be employed, but more importantly, a social-cognitive constructivist understanding of educational practice. Thus, understanding teacher professional development is inseparably linked to effective educational and curriculum reform.

Furthermore, the chapters in the volume reveal the comparative orientation of the editors, as there are many lessons to be learned from the diversity of learning environments and the manner in which educational systems the world over are responding to curriculum and pedagogic reform to cope with the needs of the times. The chapters explore the process of educational reform and teachers' work in distinct cultural and national contexts, extending from Finland, to England, China, Japan, and the United States. I appreciate the significance of the fact that this volume is dedicated to India as well, since three chapters of this volume describe approaches to education there. This brings us to another interesting feature of this research project; the fact that the case-study schools chosen by the investigators are by and large rural schools, where the implementation of pedagogic reform can be rather slow, especially in an Indian context.

The underlying premise is that teacher competence, as a concept, indexes the ability to analyze changes in the social and educational environment in order to reform and/or modify teaching practices. In fact, as the editors of the volume inform us, a recent but central preoccupation with educational studies has been to understand how processes of educational innovation, changing contexts, and teacher professionalism can combine to enhance pedagogical and professional competence. The chapters in the volume go a long way in explicating the manner in which these two types of competence facilitate the processes of change within the school environment.

The title of the book is truly evocative of the spirit of the work, for the different studies in their own way gesture towards the transformation of the role of the teacher and the enhancement of the quality of teacher professionalism as the *sine qua non*

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for the enrichment of educational quality and effectiveness. I was veritably struck by Chapter 7 dealing with rural schools in China and the findings of the study undertaken in 2002 by Caroline Dyer and her colleagues in *Democratising Teacher Education Research in India* (see Dyer & Choksi with Awasty, Iyer, Moyade, Nigam, & Purohit, 2002). Nevertheless, the in-depth analysis of curriculum reform in primary schools in China discloses both the strengths and weaknesses of normative frameworks and requires reflection on some minimalist notion of normativity that educational researchers need to work with when researching educational programs and systems from quite diverse cultural and national contexts.

Finally, I would like to remark on two notable features of this volume. On the one hand the chapters highlight the interplay between the internal and external elements that act as determinants significantly influencing the success of the school. Amongst the internal elements particularly noteworthy is the importance of collaborative teams of researchers who work towards the development of an excellent curriculum that recognizes the distinction between curriculum and instructional materials; and the imperative need for sustaining teacher teams and individual teachers' initiatives since these go a long way in reinforcing teacher professionalism. On the external side the chapters forcefully highlight the role of the community in providing a unique and stable identity for the school and teachers by maintaining the school at the center of the culture of the town or village. Secondly, the book reviews the different social constructivist perspectives of educational practice and discusses the methods employed in the study and similar studies that need to be undertaken. In this case, the book opens itself to a readership of both researchers and teachers oriented to reflexively examining their own teaching contexts. This is one of the several virtues of the volume and the editors and contributors are to be commended for their effort.

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PREFACE

LAYING THE FOUNDATIONS FOR EDUCATIONAL CHANGE AND INNOVATIVE PRACTICES

The Key Role of Teachers

This volume is a collection of studies examining the key role of the teacher in the process of school change when innovative pedagogical practices and better ways to develop the school are being sought. The work done by teachers in a changing school culture is a central source of strength in establishing the new practices in ordinary school life.

Teachers are generally understood to be crucial for successful change in the school, for the long-term development of their professionalism, and for the advancement of the school's socio-cultural processes. Hargreaves and Fullan (2012) stressed that the quality of teaching is captured in the professional capital of those teachers who are "talented, committed and collegial, thoughtful and wise. Their moral purpose is expressed in their relentless, expert-driven pursuit of serving their students and their communities, and in learning, always learning, how to do that better" (p. 5).

This book suggests that the essential professional responsibility of the teacher is to create learning environments in which teaching and educating are linked to real-life situations. This allows learning to be connected with student's life, experiences, and practical problems. According to this view, solving problems requires an understanding and conscious perception of the whole, something attainable through activity. Combining activeness and a holistic view allows a level of action to be achieved that is not a repetition of previous skills and knowledge, but rather an ability to function in new situations. For this reason acquired knowledge helps students to come to terms with an increasingly extensive and complex reality.

Botkin, Elmandjra, and Malitza (1979) noted in their report *No Limits to Learning* that traditional, maintenance learning should be replaced by learning that is both innovative and societal. Several of the chapters in the present volume demonstrate how teachers around the world have tried to connect learning with nature, production, culture, or other aspects of society whenever appropriate. The authors of this book share the view that innovative teachers should create a school culture that lays stress on the autonomous control of learning, encourages flexibility, and develops interactiveness

both in the school and between the school and the surrounding community. In this manner ideal learning is linked to its natural context, instruction being active, problem-oriented, holistic, and life-centered.

OVERVIEW

The purpose of this book is to outline the complex character of teachers' work in schools and their communities. Teachers' work is observed here in the light of research findings regarding innovative approaches and reforms. This book is divided into three parts. The first part focuses on contexts for transformation in teachers' work, the second on an examination of case studies documenting the changing nature of teachers' work, and the third on comparison of the trends and issues previously presented. The chapters in this volume discuss prospects of teachers' work in the United States and Europe, as well as in China, India, and Japan.

Part One examines teachers' work in the context of the collegial support of professional development and the enrichment of learning environments. An understanding of the following topics regarding the aims, methods, and learning situations, and their guiding values is one of the central elements in teachers' work. The first chapter, *Supporting Teachers' Work: Insights from a Study of Differentially Improving Schools in the United States*, by La Tefy Schoen, analyzes teachers' work from the perspective of the social constructivist concept of learning. This chapter focuses on learning environments and aspects of the culture that likely impact the work of teachers within the school context. A central theme is the question of how to support the work of teachers as part of school reculturing. It appears here that learning environments in the improving schools are much more likely to utilize authentic learning strategies. In these schools such a factor is also linked with the organizational culture of the school and student achievement. This is a strong support for cognitive constructivist theories of learning over traditional behaviorist or teacher-centered instructional methods. The chapter is based on a 15-month study of school culture conducted at six matched schools in the United States.

Chapter 2, *Extending Teachers' Work to Outdoor Learning Environments: Applying High-Quality Instruction for Meaningful Learning*, by Elizabeth L. Hammerman and Donald R. Hammerman, reveals the importance of primary experience in learning and its environments. The authors focus on outdoor education as it applies to teachers' work, particularly emphasizing the use of the outdoor environment as an approach allowing better learning of concepts, skills, and dispositions relating to the goals and objectives of the school curriculum. After a brief overview of the history and evolution of outdoor education in the United States, it analytically compares the distinctive features of teacher-centered instruction as opposed to student-centered instruction. This serves as the basis for a model for high-quality instruction incorporating outdoor education as a means for creating meaningful learning and extending teachers' work to non-traditional settings. This chapter is based on the extensive research on the

historical basis and pedagogical methods of outdoor education in the United States done by the authors.

Chapter 3, *Changing Aims and Values of Outdoor-Oriented Education: Ideals for Teachers' Work from the American and Indian Experience*, by Eija Kimonen, discusses the results of her research on outdoor-oriented education in two socially different countries: India and the United States. She concentrates on the interplay between changes in educational policy and society in the two countries during the 20th century, and on how this interplay has been reflected as various aims of outdoor-oriented education. Her conclusion is that the variation observed in the patterns of emphasis on the sub-components constituting the aims of outdoor-oriented education in the two countries is connected with the manner in which these patterns influence and are influenced by social, economic, and political factors. This is interpreted as being a dialectical process linked to changes in the differing degrees and types of emphasis placed on central social value dimensions at different stages of societal evolution.

Chapter 4, *Teacher Professional Orientations and Competences in a School and Community Context: Social Participation in the Process of Community Education*, by Raimo Nevalainen and Eija Kimonen, concentrates on Finnish rural teachers' social participation in the community education process as well as on the professional competences needed in this process. The study also provides information on approaches used in community education and their application to teaching. It draws attention to the importance of career-long continuing education, particularly for teachers working in remote rural schools and having few opportunities for contacts with other members of their profession. This chapter presents parts of a larger study of comparative education research project devoted to an examination of teacher profession.

In Part Two, teachers' work is studied on the basis of data provided by a unique collection of qualitative case studies of small schools in Finland, the United States, and China. The section begins with a chapter by Raimo Nevalainen and Eija Kimonen entitled *The Teacher as an Implementer of Curriculum Change: A Case-Study Analysis of Small Rural Schools in Finland*. Here the authors examine the process of curriculum change as seen in two small schools in Finland. They analyze the effect of the changes on curriculum policies and pedagogical practices. The examination also used previously published empirical research. The present results suggest that curricula are based on certain philosophies and beliefs about education that shape teacher's actions. Therefore, curricular changes involve transformations in teacher beliefs and depend upon teacher's readiness to cooperate and experiment. This chapter utilizes parts of three comparative research projects that have been conducted at the University of Jyväskylä in Finland.

In Chapter 6, *Teacher Perspectives on Reform in a Small, Rural American School of Historically Finnish Culture: Cultural Transformations*, Thomas L. Alsbury and Karen T. Jackson describe the key factors supporting and challenging successful school reform in a small rural school in the United States. They report the findings of a case study conducted at a single K–12 school. It covers 16 years of reform history resulting in sustained excellence in student achievement. The key factors, either

supporting or challenging the reform, are reported from the perspective of members of the elementary and middle school-level teaching staff involved in the beginning years of the reform effort and who continue to teach or do administrative work at the school. An additional notable feature of the case study is the historically Finnish culture of the local community and school.

The findings reported in the last chapter of this part, *The Challenges of Basic Education Curriculum Change in Rural Primary Schools in West China*, by Shuo Liu, Ruifeng Cui, and Genshu Lu, form part of a research project Learning by Doing organized in Pucheng County, West China. This chapter examines the process of curriculum change as seen in two rural schools. The authors show here that the process of modernizing Chinese society, particularly in its impoverished rural areas, has led to the realization that the most effective way of breaking the cycle of poverty is to provide students with the tools they will need to be able to think on their own. These tools will enable them to identify and figure out resolutions to problems by themselves, with the teacher serving as a partner in information creation rather than as an authority functioning solely as an intergenerational transmitter of knowledge.

Part Three contains comparative reflections on teachers' work in the context of philosophical currents, orientations to teacher professionalism, the development of teacher education, and a fundamental change of socialization environments. Part Three begins with a chapter looking at the foundations of teachers' work in a changing social context of the United States and India. Chapter 8, *Philosophical Perspectives for Teachers' Work: Focusing on American and Indian Outdoor-Oriented Education with International Connections*, by Eija Kimonen, is devoted to some basic philosophical views for the work of teachers. It attempts to identify the essence of the developmental trends in the history of ideas in the field of education, using data from socially different countries. The examination concentrates on the philosophical background of outdoor-oriented education, most specifically in the United States and India. Additionally, it attempts to identify possible philosophical connections between this form of education in those two countries, the early Soviet Union, and revolutionary China. The study is based on a research project that examines the interrelationship between education and society during the 20th century. This chapter continues to focus on the issues introduced in Chapters 2 and 3.

Chapter 9, *Teacher Competences in a Changing School Culture: A Comparative Analysis of Teacher Professionalism in England and Finland*, by Raimo Nevalainen and Eija Kimonen, is a qualitative study examining the teacher's pedagogical and dispositional competences. The findings reported here form a part of a comparative research project investigating teacher professionalism in England and Finland presented in Chapter 4. The results indicate that pedagogical competence includes skills and knowledge that can be part of the pre-active, interactive, and post-active phases of teaching. Dispositional competences represent the teacher's qualifications for professional practice and for action as a member of a working community. The authors conclude that teachers must commit themselves to lifelong learning and form their own theory-in-use. The competence to reflect on and study their professional

practice also enables teachers to participate in developing collaborative school culture.

In Chapter 10, *The Reform and Development of Teacher Education in China and Japan in an Era of Social Changes: Trends and Issues*, Congman Rao presents a comparative study of how teacher education is being transformed in China and Japan. It focuses on the similarities and differences that have marked the reform and development of teacher education during the past three decades. The author concludes that a common feature of the reform of teacher education in both societies is a desire to upgrade the social and professional status of teachers. Society should see teachers as true professionals with careers based on lifelong learning. Profound change means that teachers can not continue with traditional ways of teaching – they must absorb knowledge from the latest educational research in order to develop their professionalism. This chapter presents parts of a comparative research project on teacher education in China and Japan.

In the final chapter, *Teachers' Work and Changing Socialization Environments: Pedagogical Procedures of Outdoor-Oriented Education in the United States and India*, Eija Kimonen discusses the pedagogical procedures of outdoor-oriented education in the United States and India throughout the course of the past century. She interprets outdoor-oriented education as being the pedagogical processes taking place *in* settings intimately linked with out-of-school reality, concerning subject matter *about* the reality outside the school, and preparing students *for* dealing with this reality. The most significant function of this process is to articulate, internalize, and change the essence of reality. The study applies the historico-hermeneutical approach to comparative education, and it follows the developmental trends of educational policy within a social context in the light of the social, economic, and political factors that define national identity. This chapter is based on the research project on outdoor-oriented education dealt with in Chapters 3 and 8.

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PART ONE

**ENHANCING
TRANSFORMATION IN
TEACHERS' WORK**

LA TEFY SCHOEN

1. SUPPORTING TEACHERS' WORK

*Insights from a Study of
Differentially Improving Schools
in the United States*

INTRODUCTION

Why are some schools more successful at improving student achievement than others? In trying to gain a better understanding of the myriad of factors within schools that impact student learning, I took an organizational perspective and looked closely at the culture of the school. Many researchers in recent years have begun to attribute variations in school processes to the effects of the organizational culture of the school. It has been suggested that social dynamics within a given school setting impact the way school staff perform their work, accounting for variations in effectiveness. This chapter describes a study conducted in the southern U.S., designed to document and compare variations in the organizational culture of matched schools. While the study itself examined the entirety of school culture, this chapter will focus on learning environments and aspects of the culture that likely impact the work of teachers within the school context. This approach to teacher effectiveness is known as the socio-cultural perspective. This socio-cultural perspective contrasts with traditional behavioral perspectives because it is more concerned with the social and cultural conditions that generate and maintain behavior, than with the behavior itself. The premise of the chapter is that social and cultural conditions present at the school-level influence the learning environments in classes and that, in order to improve student learning, one should improve the quality of the learning environments; this is best done by re-culturing various aspects of school operations to better support the work of teachers. The remainder of the chapter will discuss a study built on the following assumptions:

- The socio-cultural characteristics of the school context impact the work-related behaviors of the teachers, who, in turn, impact the quality of the classroom learning environments.
- Mean scores on standardized achievement tests issued by the state and aggregated at the school level are valid indicators of student achievement.
- School improvement status can be determined by tracking a school's index score (based on student test scores) over a period of two years.
- School culture exists; therefore, it can be measured or documented in some way.

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- Each individual school has its own distinct culture.
- Variations in the quality of the learning environment and the learning opportunities for students exist across classrooms; these environmental factors affect the learning of students and their subsequent achievement.
- Schools are a specific type of complex organization, so established organizational theory generated in other settings is applicable to schools (Schein, 1985; Owens & Steinhoff, 1988; Owens, 2001; Owens & Valensky, 2007).
- Findings from the last century of research in developmental and cognitive psychology are pertinent for information on the optimum learning environments for schools (Schoen, 2008).
- Differences in school cultures can be documented and described using the four domains identified in Phase 1 of this study (Schoen, 2010; Schoen & Teddlie, 2008).
- The principles that govern effective organizational cultures for primary and secondary schools as well as the principles that govern optimum learning environments for children are global and, therefore, relevant across international settings (McInerney & Liem, 2008).

REVIEW OF THE LITERATURE

Education has been described as a multi-disciplinary field of practice (Schulman, 1987), whose tools of inquiry emanate from an array of diverse disciplines including the natural sciences, psychology, sociology, and anthropology (Chatterji, 2002). Consequently, this study embraces a multi-disciplinary approach to describe and contrast school cultures. The search for information on school culture and how to study it spanned several bodies of literature and academic disciplines. A review of relevant research and theory across several social science fields led to the mixed model research design of the study described here.

The literature review also resulted in the development of a new model of school culture (Schoen & Teddlie, 2008) that was used to frame the study. The intent of this chapter is not to present the findings of the study in full, but to focus on insights about the school-level conditions that support high-quality learning environments associated with gains in student achievement.

Student Learning: Insights from Developmental and Cognitive Psychology

Developmental psychology focuses on how people grow, adapt, and change. Research in developmental psychology has contributed much to our understanding of human physical, socio-emotional, personality, cognitive, language, and moral development over the past century (Slavin, 2000). Theories of human development differ in terms of whether the growth and change is considered to be gradual and continuous from infancy to adulthood, or whether it proceeds through a series of preset common stages.

Many of those that have been most influential in the field of education have been discontinuous or “stage” theories of human development that assert that all children progress through invariable stages of development in a predictable sequence. Such theorists believe that children develop qualitatively different understandings, abilities, and beliefs at each stage of the progression (Epstein, 1990).

Cognitive Development

Cognition refers to the human thought processes. Cognitive psychologists have researched the development of thought extensively over the past century and have helped us understand a great deal about the conditions that foster the development of thinking and reasoning ability. While there are many that might be discussed here, the works of two cognitive psychologists, in particular, stand out as having contributed greatly to our awareness of factors important in learning environments. These psychologists are referred to as constructivists because they believe that knowledge must be constructed by the learners. Constructivists, in contrast to behaviorists, do not believe that awareness of information constitutes knowledge, unless the learners have constructed their own web of meaning pertaining to the information.

Piaget's Stages of Cognitive Development

Jean Piaget, a Swiss psychologist born in 1896, believed knowledge comes from action (Wadsworth, 1996); his theory of cognitive development (Piaget, 1952; Piaget & Garcia, 1986) has been extremely influential over the past century. Piaget believed that all children are born with an innate predisposition to interact with their environment and to make sense of their experiences (Slavin, 2000). In Piaget's view, intellectual or cognitive abilities develop gradually over time as the child moves through a series of stages in which mental processes become increasingly complex and sophisticated. Piaget's distinct stages are each characterized by the emergence of new abilities and ways of processing information.

Cognitive development, according to Piaget, occurs as children generate schemes, or mental patterns that guide their behavior. Changes in thinking are produced as children assimilate new objects and experiences into their preexisting schemes or accommodate their scheme to fit interactions with a new object or concept.

Piagetian theory has influenced educational environments, curriculum, materials, and methods in several ways:

- It has shifted the focus onto the process of thinking rather than the product of the effort.
- It has drawn attention to the importance of active involvement in learning, self-initiation of inquiry, and away from the traditional didactic approach to teaching.
- It has fostered the emergence of developmentally appropriate practices in the education of young children, rather than expecting them to behave and learn like adults.
- It has led to the acceptance of individual differences in the developmental process (Berk, 1997, p. 244).

Vygotsky and Social Constructivism

Lev Vygotsky, a Russian psychologist, emphasized the role of the social context on the thinking abilities of children. He believed that cognitive development occurs through a process known as self-regulation, in which the child internalizes signs and learns to use them to think and solve problems independently.

The first step in the development of self-regulation and independent thinking is learning that an abstract sign or symbol has meaning and is used in systematic ways. Then children practice and experiment with using signs in various ways and contexts, with and without assistance, until the signs and their systems are mastered. Finally, children realize that they can use the signs and systems to solve problems without the help of others.

Vygotsky also observed that children incorporate the speech of others into their communications and then use that speech in various ways to help them solve problems. In the process of making the speech, they have heard their own, young children often talk to themselves and rehearse using speech. As the child matures, self-talk is internalized and remains an important learning and self-regulation tool. Children who make extensive use of self-talk learn complex tasks more effectively than those who do not (Bivens & Berk, 1990).

Vygotsky's work on the role of social interaction in learning led to the description of two principles that have been extremely important in helping us to understand attributes of learning environments that stimulate cognitive growth. These are the concepts of scaffolding and the zone of proximal development; both ideas emphasize the importance of social learning and interactions with others during the learning process.

Scaffolding occurs when competent peers or adults help children as they struggle to develop greater understanding of complex concepts. Typically scaffolding involves providing a novice with a great deal of support in the early phases of learning, then gradually phasing out the support, requiring children to take increasing responsibility until they can complete the task alone.

However, Vygotsky's most influential idea from an educational standpoint was the concept of the zone of proximal development (see Vygotsky, 1978, pp. 85–91). Vygotsky believed that children make the greatest cognitive growth when working on tasks slightly too difficult for them to complete alone, but easy enough to do with the assistance of others. His experiments demonstrated that children are capable of higher mental functioning when they work collaboratively with peers to solve complex problems. He observed that when small groups of children worked together on tasks, none could perform alone. Their interactions and brainstorming often advanced the complexity of their thinking until they were able to successfully solve the problem. This process of learning together is referred to as the social construction of knowledge, and learning environments that offer these types of opportunities allow students to experience a great deal more cognitive growth than environments where students work exclusively on independent learning activities.

Dewey's Version of Pragmatic Social Constructivism

John Dewey, an American contemporary of Piaget and Vygotsky, also had a dramatic impact on our understanding of appropriate learning environments. Dewey's notions of learning, and how to enhance learning in schools, have been influential in educational practice. The themes present in his writings bear much similarity to those in mainstream cognitive constructivist theories, such as those of Piaget and Vygotsky.

Garrison (1998) refers to Dewey's theories about inquiry, learning, and education as pragmatic social constructivism. A major area in which Dewey's ideas depart from other cognitive constructivist theories, however, is his insistence that education should not focus on cognition alone, but must include the physical and affective domains. For Dewey, the three were inseparable. Dewey frequently reminded educators to include the body, its actions, and its passions more predominantly in the curriculum (ibid., p. 43). "Pragmatic social constructivism urges educators to consider the entire context, the environmental ethos of schools and community within which the student as a creative individual must function in organic interconnection" (ibid., p. 60).

Several aspects of Dewey's pragmatic approach to constructivism are summarized in [Table 1](#). The concepts in the left column hold a prominent place in Dewey's writings about the construction of knowledge. The statements in the right column are not direct quotes from Dewey, but embody his ideas. These statements have been paraphrased by Garrison (Hickman & Alexander Eds., 1998, pp. 63–81; Larochelle, Bednarz, & Garrison Eds., 1998, pp. 43–60), by Shook (2000, pp. 123, 176–210), and by Schoen (2010) to summarize Dewey's ideas.

Authentic Pedagogy

Throughout most of the industrial age, learning in schools was assumed to be an individual endeavor. Behaviorist views of learning and learning environments prevailed, resulting in classrooms dominated by teacher talk, independent pencil and paper assignments, graded for correctness. Behaviorist assumptions about the nature of the learning process defined the teacher's role as one who shares information and assesses the extent to which individuals absorbed it. This model of teaching and learning became and remains the predominant guide for learning environments around the world.

However, despite a rocky start, cognitive constructivism grew in popularity in the late 20th century (Schoen, 2008). Constructivists focused on re-creating learning environments to allow for greater interactivity during learning and greater student engagement in direct inquiry. Concern emerged over the intellectual merit of students' tasks in schools. Learning theorist Theodore Sizer and others asked "to what extent do activities assigned to students require them to use their minds well?" (Sizer, 1985, p. 109; Newmann & Wehlage, 1993; Newmann, Wehlage, & Secada, 1995; Newmann, Doane, Gamoran, King, Kruse, Seashore-Louis, Marks, Osthoff, Porter, Secada, Wehlage, & Weinstein, 1996). As Dewey before them, they complained that the topics covered and methods used in school seemed disconnected from students'

Table 1. Summary of Dewey's Pragmatic Views of Knowledge Construction

Topic	Summary of Views
The value of education	Educational value is not intrinsic to subject matter. Its value in any given subject matter depends on its contribution to the growth of the learner. If the subject matter does not connect to the student's present state of knowledge, needs, and interests, it has no pedagogical value for the individual on that occasion.
The act of teaching	Teaching involves the coordination of the teacher, the student, and the subject matter. We never educate directly, but indirectly by means of the environment – we design environments.
The role of the teacher	The teacher must strive to connect the subject matter with the student's present needs and abilities. The educator's task is thus to arrange the subject matter so as to make it most accessible to each student. There must be an effort to organize subject matter so as to coordinate it with each student's needs, interests, and abilities.
The importance of the learning environment	Education does not necessarily involve teachers. Sometimes it simply involves the design of better learning environments.
The need for direct involvement of students in inquiry	Mere presentation of the results of the inquiry of others, in the form of facts to be learned, is often a barrier to learning because it does not connect the student's present needs, interests, and abilities to the knowledge; it is thus meaningless to him or her.
The construction of meaning	Natural inquiry is the process by which humans observe their environment and construct meaning. Observations that do not fit with current constructions of reality create within the individual a state of disequilibrium, which results in the deconstruction of ideas and the reconstruction of understanding of the state of affairs, followed by the restoration of equilibrium.
The role of experience in the construction of meaning	Experience is the result of our transactions with our environment. The value of an experience to the construction of meaning lies in the perception of the individual of continuities of experience. Meanings emerge when through reciprocal coordination of behavior we render something common between two or more centers of action.
The circular relationship of activity, idea, and emotion	Activity is essential to experience. Activity denotes the essence of the mind and the essence of the individual organism in its environment. The mode of behavior is the primary thing. It represents the stimulus, the idea, and the emotional excitation, the response. Similarly, the idea and the emotion produce a response that makes up the mode of behavior.
The process of mental activity and its product	The tendency is to shun isolated elements and to force connections wherever possible; this is the fundamental law of mental activity. The discovery of laws, the classification of facts, and the formation of a unified mental world, are all outgrowths of the mind's hunger for the fullest experience possible at the least cost. The organic growth of experience is the final aim of mental activity.
The role of communication in education	Communication is a form of art that has immense educational importance. Language is thoroughly social; meanings do not come into being without language, and language implies two selves involved in a conjoint or shared undertaking.
Educational methods	Educators must learn that there is no one best method of education. There is no one best way to grow. Teaching is a transactional, artistically transformative creative activity of assisting students in the making of meaning.

experiences beyond school. This, they argued, caused rampant apathy and low morale in students, who were bored and intellectually disengaged. According to Dewey, students are not motivated to learn when they fail to see the relevance of the topics and/or tasks assigned. The learning that does occur is of a rote nature. In the words of Dewey, this sort of schooling is “mechanical and dead” because natural curiosity (or a self-perceived need-to-know), followed by direct inquiry, are not present. Interest coupled with inquiry supplies motivation for students. Motivation, in turn, impacts their natural drive to acquire knowledge they find meaningful and useful (see *The Child and the Curriculum* by John Dewey reprinted in Hickman & Alexander Eds., 1998).

Newmann and his colleagues developed a method for evaluating the intellectual merit of the tasks students perform in schools, called the Criteria for Authentic Achievement. According to this framework, authentic tasks are those likely to be performed naturally by successful people in real-life situations. Newmann and colleagues' (1995; 1996) criteria for judging authenticity in school activities or assessments is based on the extent to which the task is useful for developing or evaluating: Construction of Knowledge, Disciplined Inquiry, and Value beyond School.

Newmann and associates (1995; 1996) created standards that embody Bloom's taxonomy of educational objectives (classifies the complexity of cognitive tasks), Dewey's notions of meaningfulness, and direct inquiry (see Bloom, Englehart, Furst, Hill, & Krathwohl, 1956; *Logic: The Theory of Inquiry* by John Dewey reprinted in Hickman & Alexander Eds., 1998; Piaget, 1952; Piaget & Garcia, 1986; Vygotsky, 1978). Their work advances the understanding of effective learning environments by providing a research-based tool for judging the worth of learning tasks and assessments. The standards presented in [Table 2](#) are broken down into two sets: standards for instruction and standards for assessment.

Social Cognitive Constructivism in Educational Practice

The view of cognitive development as a process, in which children actively build systems of meanings and understandings of reality through their own interactions and experiences with their environment, is an orientation to cognitive development referred to as social cognitive constructivism. Psychologist Robert Slavin (2000) believes that currently “a constructivist revolution is taking place in educational psychology” in which the predominant view of cognitive development is centered around constructivist theories, such as those of Piaget, Vygotsky, and others, that assert that learners must individually discover and transform complex information to make it their own. Through active experimentation, assimilation, and accommodation, learners construct and refine knowledge about the world around them.

Classroom practices based on constructivist learning theories deviate considerably from traditional didactic approaches to education, which favor behaviorist theories of learning built around Skinner's ideas of stimulus-response relationships. Constructivist classrooms are often referred to as learner-centered because of their emphasis on the active involvement of the student in their own learning. As Slavin (2000) points out,

Table 2. Standards for Authentic Pedagogy Adapted from
Newmann et al. (1996, pp. 29, 33)

Criteria	Standards for Authentic Pedagogy
Construction of knowledge	Instruction
	<i>Higher-Order Thinking (HOT)</i>
	Instruction involves students manipulating information and ideas by synthesizing, generalizing, explaining, hypothesizing, or arriving at conclusions that produce new meaning and understandings for them.
	Assessment
	<i>Organization of information</i>
	The task asks students to organize, synthesize, interpret, explain, or evaluate complex information.
	<i>Consideration of alternatives</i>
	The task asks students to understand or use ideas, theories, and perspectives considered central to a discipline.
Disciplined inquiry	Instruction
	<i>Student engagement in inquiry</i>
	The task involves students directly in disciplined inquiry to acquire knowledge.
	<i>Deep knowledge</i>
	Instruction addresses the central ideas of a topic with enough thoroughness to explore connections and relationships and to produce relatively complex understandings.
	<i>Substantive conversation</i>
	Students engage in extended conversational exchanges with the teacher or their peers about subject matter in a way that builds on an improved and shared understanding of ideas or topics.
	Assessment
	<i>Disciplinary content</i>
	The task asks students to understand or use ideas, theories, and perspectives important in a discipline.
	<i>Disciplinary process</i>
	The task asks students to use methods of inquiry, research, or communication characteristic of a discipline.
	<i>Elaborated written communication</i>
The task asks students to elaborate on their understanding or conclusions through extended writing.	
Value beyond school	Instruction
	<i>Connections to the world beyond the classroom</i>
	Students make connections between knowledge and either public problems or personal experiences.
	Assessment
	<i>Problem connected to the world beyond school</i>
	The task asks students to address a concept, problem, or issue similar to one that they have encountered or may encounter in life beyond the classroom.
	<i>Audience beyond school</i>
	The task asks students to communicate their knowledge, present a product, performance, or take some action for an audience beyond the teacher, classroom, and school.

“in a student-centered classroom, the teacher becomes the guide on the side instead of the sage on the stage” (p. 256). The teacher’s role becomes more like a coach who assists students to discover their own meaning, rather than an authority figure lecturing from static truths and rigidly restricting movement and interaction in the classroom.

Constructivist ideology can be seen in the classroom practices such as discovery learning (Bruner, 1966), an approach that seeks to involve students in the generation of principles based on their experiences. Jerome Bruner, an advocate of discovery learning, says: “We teach a subject not to produce little libraries on that subject, but rather to get a student to think ... for himself, ... to take part in the process of knowledge-getting. Knowing is a process, not a product” (ibid., p. 72). Constructivists believe that a key task of the teacher is to arouse curiosity and motivate students to explore complex problems until answers are discovered.

For constructivists, the aim of education is not the passing along of bodies of knowledge, but it is in “teaching students to use their minds well” (Sizer, 1999). Therefore, a constructively oriented classroom strives to help students become better regulators of their own learning. Self-regulated learners have an awareness of the strategies they use to learn and an understanding of when and how to use them (Bandura, 1977; 1999). Hence, constructivist teachers often engage students in explaining the processes they used to complete their work, in order to strengthen metacognitive skills or awareness of the mental processes used in acquiring specific types of knowledge.

Cognitive constructivism assumes that the aim of education is to provide students with experiences that teach them to use their minds well, and consequently greater value is placed on the *processes* of learning than on the *products* of learning. Constructivist teachers serve as facilitators of learning, whose primary responsibilities lie in the planning of meaningful experiences, the scaffolding of learning, the promotion of learner self-regulation, as well as assessing learning and providing feedback. The impact of constructivism on schooling is that it creates classrooms where students are more likely to be encouraged to talk and interact as a part of the learning process. Methods such as learning by doing and discovery learning are advocated by constructivists because they are more likely to result in Higher-Order Thinking (HOT) in students than the traditional forms of direct instruction that allow learners to assume a passive role. However, despite the wealth of psychological research generated over the past century in support of cognitive constructivism, in many schools across the world, traditional behaviorist approaches still dominate classroom instruction. The following list summarizes some attributes of classroom learning environments consistent with research in socio-cognitive construction of knowledge:

1. Students work on some activities independently, but much of their time in the classroom includes working in cooperative groups composed of peers functioning at a variety of cognitive levels.
2. The teacher scaffolds student learning by providing more assistance early on and requiring learners to take increasing responsibility for their learning tasks as their learning progresses.
3. Classroom activities include independent activities that students can complete

- on their own, and also more difficult learning experiences in which students work collaboratively to solve mutual complex problems.
4. Eventually, the role of the student as a director of learning supersedes that of the teacher. The teacher becomes a facilitator of learning who monitors and stimulates students to seek progressively greater insights.
 5. The types of activities that students explore in school have practical value and utility in the world outside of school. This is motivational to students, who frequently present their work to others including people outside the classroom.
 6. Evaluating student learning involves assessing student-generated work on authentic performances or products for an audience, possibly beyond the classroom.
 7. Students receive guidance in “learning how to learn.” They develop a meta-cognitive awareness of the processes they use to learn; this helps them learn to self-regulate their learning processes and to assume increasingly greater responsibility for directing their own learning.
 8. Student enthusiasm is high because their learning is meaningful to them. Students are encouraged and challenged to pursue their interest on a deeper level through active inquiry.
 9. Students function as members of a social group, but also as individual learners. The pacing and depth of student inquiry is individualized to fit their particular needs.
 10. Teachers are skillful monitors of student progress and provide coaching to redirect or assist students as needed.

APA Learner-Centered Psychological Principles

In 1998, Spielberger called upon the psychological community to make a greater effort to share their collective wisdom with educators and to actively suggest ways that schools and teachers could establish more stimulating and effective learning environments for students (Murphy & Alexander, 2006, pp. 3–4; see also Spielberger, 1998, pp. ix–xi). In response, the American Psychological Association (APA) put together a task force on psychology in education. The APA task force identified 14 core evidence-based principles to guide educational practice (*Learner-Centered Psychological Principles: A Framework for School Redesign and Reform*, 1997). These 14 principles, collaboratively devised by highly qualified psychologists, firmly supported the social cognitive constructivist perspective and were aptly named Learner-Centered Psychological Principles. Murphy and Alexander (2002) performed an exhaustive literature review that validated these principles and grouped the vast body of psychological research on learning into five broad dimensions: development, knowledge base, motivation/affect, strategic processing/executive functioning, and situation/context. This study falls firmly into the situation/context category, which has also been dubbed a socio-cultural constructivist perspective (McInerney, 2005, p. 587; McInerney & Liem, 2008, p. 7; Murphy & Alexander, 2006, p. 4; Schoen, 2008, p. 38).

School Culture

Teachers perform their work within the larger school environment. Classroom learning environments are but one of the dimensions that comprise a school's organizational culture. School culture can be thought of as a school's reaction to its internal and external demands. These demands along with its history, traditions, and belief systems shape countless aspects of the day-to-day functioning in the school. Each school's culture is a unique expression of who they are and what they value (both explicitly and implicitly). Culture is the means by which a school establishes a unique self-identity and the lens through which participants view themselves and the world (Hargreaves, 1994, pp. 163–186). School culture determines how teachers, principals, and other school staff perform their jobs.

A number of (external) forces act upon schools and the people running them. Variation in external forces, combined with diverse reactions and value systems of staff at different school sites, results in each individual school having its own culture, separate and unique even from neighboring schools with which they have much in common. School culture involves both norms of behavior and the underlying beliefs and assumptions that maintain it, therefore, school culture is elusive and difficult to define because it is not directly observable (Stoll & Fink, 1996). Surface-level indicators of deeply held beliefs and values may include behavioral regularities or norms, rituals, language usage, organizational philosophy, variations in policy implementation, informal rules for getting along with colleagues, procedures, opinions, traditions, symbols, distinguishing characteristics, ceremonies, and stories (Hoy & Miskel, 1991; Schein, 1985; 1992; Stoll & Fink, 1996). Most researchers (e.g., Deal & Peterson, 1999; Fullan, 1993; 1999; 2000; Hargreaves, 1991; Lieberman, Darling-Hammond, & Zuckerman, 1991; Murphy, 1991; Murphy & Hallinger, 1993) believe that school culture can be changed over a period of time, though there is no agreement on the exact processes. Common threads in the literature are that cultural change is necessary for meaningful school improvement, this involving some form of on-going professional development of teachers, and alterations in the school structures, the end result being a greater focus on student learning (Halsall, 1998, p. 33).

There are many definitions of school culture; the one utilized here is multi-dimensional, based on a review of the literature (Schoen, 2010; Schoen & Teddlie, 2008) in which four dimensions of school culture were identified: the Professional Orientation of the school's faculty, the Organizational Structure of the school, the Quality of the Learning Environment, and the Student-Centered Focus of the supplemental services offered by the school. The discussion at the end of this chapter lumps these dimensions into two types: Aspects of operations that are primary to the work of teachers (Dimension 1. Professional Orientation and Dimension 3. Quality of the Learning Environment), and attributes that are school-level functions typically performed by school staff other than teachers, and to a lesser extent by individual teachers (Dimension 2. Organizational Structure and Dimension 4. Student-Centered Focus).

RESEARCH METHODS

Selection of Schools

Matched Pairs

This study compared the organizational cultures of schools that improved student achievement over a two-year period, with similar schools that were unsuccessful in this endeavor. Thick descriptions of school culture were generated for all six schools (Schoen, 2010), but these will only be discussed here to the extent that they reveal insights relative to supporting the work of teachers from a socio-cultural cognitive constructivist point of view.

Schoen (2010) employed a comparative case research design using the school as the level of analysis. Comparisons were made between matched schools. Matched pairs were identified on the basis of similar context, but maximum difference in the degree of improvement in student achievement was shown over a two-year period. Matching schools was necessary to control extraneous variables, so that the schools that were compared were very similar in all major respects, except the variable of contrast that was the amount of school improvement achieved. Three pairs of schools were formed that had very similar characteristics in the following areas:

1. Same state (further controls for variation in policies and funding);
2. Same school district (further controls for variation in policies and funding);
3. Same community type (urban, suburban, or rural context);
4. Not participating in a structured externally developed improvement initiative;
5. No external experts or consultants were involved with the school;
6. No student selection mechanism was employed that would interfere with the presence of a heterogeneous student body with respect to achievement;
7. Student body poverty level (controls for variations in home life due to poverty effects);
8. Title I status (determines the amount of compensatory funds received from the U.S. Federal Government);
9. Number of principals on-site (including assistant principals);
10. Similar school enrollment; and
11. Same school level (grade configuration: elementary school/middle school/high school).

Purposeful matching ensured that the populations served by the schools were comparable and also served to control for the effects of variables external to the internal operations of the schools studied. External contextual characteristics such as district-level policies, curricula, and community type could impact the school culture differentially; therefore, it was necessary to hold these variables as consistent as possible. Ensuring comparability on these characteristics helped to rule out alternative explanations of differences in school increases in student achievement, thus, allowing more credible assertions that the differences in student achievement were due to internal socio-cultural aspects of school operations.

Extreme Cases Contrasted

Extreme-case sampling (Patton, 1990; 2002) helped to ensure that paired schools exhibited maximum contrast in the variable of contrast – improvement in student achievement over a two-year period. The state generated school accountability index score was used to select extreme cases. The school sampling process involved a double blind strategy in which those involved in data collection and analyses were unaware of the effectiveness status of the schools until after data collection. The use of extreme case sampling enabled researchers to contrast the internal operations of matched schools to ascertain if there were definite differences in the way things were done at improving versus non-improving schools.

Three pairs of matched schools were identified and agreed to participate in the study. Matched schools were similar in most respects. However, there was a large difference in the two-year trend in student test scores. In each pair, one school had scores that were improving, and one school's scores were declining. Therefore, most of the variables other than internal operations were controlled for, enabling us to document aspects of the organizational culture in all schools. In addition to allowing for contrasts within matched pairs, extreme case sampling allowed researchers to compare cultural norms across pairs to identify patterns or commonalities in the cultures of improving versus non-improving schools.

Data Collection

Data collection took place over 15 months and involved 20 data sources per school. The studies of culture in each school were replicated as closely as possible to avoid unintended errors due to variations in data collection methods. The case studies involved the collection and analysis of both qualitative and quantitative data. The mixed method case study approach permitted consideration of a wealth of different types of indicators, which can be important in measuring complex constructs such as school culture, especially when the available research and theory bases are limited.

School cultures were compared along the following dimensions: Professional Orientation, Organizational Structure, Quality of the Learning Environments, and Student-Centered Focus. The use of multiple cases, an approach referred to as embedded multiple case design, allows for the cross comparison of cases on select characteristics (Yin, 1994, pp. 41–52); in this project, descriptions of norms and values in the four dimensions of a school's culture were compared to those of their matched pair. Comparisons of schools were not made across pairs due to incomparable settings, which could possibly have accounted for differences in observations, thereby invalidating the causal value of the study. However, once contrasts within each pair were completed, the results for all three pairs were examined for common patterns of differences between improving and non-improving schools.

*Within School Sampling**Three Levels of Data*

Teddlie and Reynolds (2000, p. 82) called for more complex multi-level analyses of process variables within schools. Consequently, three units of analyses were included in this study: school-level indicators, teacher/class-level indicators, and student/parent-level indicators. [Table 3](#) lists the data types collected at each participant level.

Table 3. Data Types by Level

School	Teacher	Student/Parent
Principal interview, structured open-ended questionnaire	Teacher self-administered survey, fixed response	Parent phone survey, fixed and open-ended response
Informal interviews and observation of counselor, assistant principal, and other school-level staff	Teacher-focus group and self-administered open-ended survey	Student-focus group
Informal observations of school	Random observations for use of authentic pedagogy, stratified by grade, unannounced times	A Day in the Life of a Student, observation and field notes
Document analysis	Semi-structured interviews	

Methods of Collecting Teacher-Level Data

Teachers were randomly selected and observed at random unannounced times at meetings and during instruction over a period of 15 months. This strategy allowed researchers to get a better feel for the typical activities that characterize the way they function within their schools. Classroom observations utilized a rubric based on the standards for authentic pedagogy by Newmann et al. (1996) because this framework strongly embodies the research-based principles of social cognitive constructivism (see literature review). Informal follow-up interviews were sometimes held to solicit an explanation from teachers for why they employed the methods observed.

Observation of meetings and planning sessions helped to ascertain the degree of collegiality, the extent of problem identification and solving, and the general resourcefulness of teachers in dealing with problems they encountered with students. One-on-one interviews about how teachers perceived their role in the school were analyzed and aggregated to understand whether most teachers in the school typified a workforce mentality (e.g., thinking about their work as a job in which they were required to execute well-defined behaviors in a job description) or a professional orientation (e.g., understanding their role as vaguely defined around the core responsibility of

generating adequate cognitive growth in all students). Observation notes were made of teachers' skills in problem identification and their resourcefulness in accessing and utilizing a body of specialized knowledge to accomplish their goals relative to student learning. Teacher focus groups allowed teachers to describe how they handled various situations. These groups shed a great deal of light on the collective values held by the teachers and school staff. Surveys for each of the four dimensions of culture provided teacher perceptions on many aspects of school functions.

Trustworthiness and Credibility

Several steps were taken to increase trustworthiness and add to the overall quality of the inferences drawn in this study (Tashakkori & Teddlie, 1998, pp. 90–93). These include:

Replication of Results

Multiple matched pairs were used to increase the trustworthiness of the findings by allowing for the replication of results. Yin (1994, pp. 45–46) stated that replicated results are considered more compelling, and the study is therefore more robust (see also Herriot & Firestone, 1983). Replicating of findings across cases also allows an opportunity for theory building because the results provide a basis for stating the conditions under which the phenomenon (here, gains in student achievement) is likely to be found and conditions under which it is likely not to be found.

Mixed Method Design

The mixed methods case study approach used in this study allowed for both numeric and verbal data sources to be collected for each dimension. The purpose for the multiple measures is twofold. First, including multiple data points and sources allows researchers to see multiple aspects of a phenomenon, yielding more accurate information. Secondly, and more importantly, it allows for more detailed descriptions of the variables, which is highly desirable in an exploratory study.

Prolonged Engagement

Contact with each school started before the school year started for the students. The bulk of the data was collected at each site in three contiguous weeks on-site. Follow-up visits were made to each school site intermittently as needed over the duration of the 15-month data collection period. This strategy allowed enough time for the researcher to become familiar with the scope of the contextual factors.

LA TEFY SCHOEN

Persistent Observation

At each school, a single teacher was selected as key informant. A strong rapport was established with this teacher, and each time the school was visited the researcher tried to speak with this person. The primary purpose of having a single teacher act as a key informant is to add depth to the descriptions of culture by including subtle details that may surface only through the familiarity of daily informal interactions with an insider to the cultural scene.

Peer Debriefing

Following data collection and prior to the completion of data analyses, debriefing sessions were conducted in which the primary researcher discussed thoughts and impressions with a colleague not involved in data collection for this project. The purpose of this process was to explore aspects of the inquiry that might otherwise never be made explicit. Debriefing is also useful to probe for biases and to assist with interpretations (Lincoln & Guba, 1985, p. 308; Tashakkori & Teddlie, 1998, p. 91).

Member Checks

Whenever possible, faculty members were asked to check interpretations and conclusions drawn by the researcher to confirm that representations are accurate portrayals based on their experience at the school.

Reflexive Journal

A journal is kept alongside of the ethnographic notebook that details information about the circumstances, the context of the situation, methodological decisions, and the events, questions, or comments that arise.

Triangulation

The use of multiple data points allowed data collected in one format to be confirmed or contradicted by data from other sources. The use of triangulation techniques provided a safeguard from the formulation of erroneous inferences.

RESULTS

A wealth of information was collected at each school; consequently, the information for each school was reduced to individual units and categorized by content. This method of content analysis is recommended by Patton (1990, pp. 381–389). Units of information from various data sources were triangulated to condense the data and reduce replication. Each important unit of information was categorized as a school

strength or as a school weakness in terms of whether it contributed to or detracted from overall school effectiveness. These units of categorized information about school functions were listed on Data Reduction Charts. A separate Data Reduction Chart was created for all four dimensions of each school. The Data Reduction Charts summarize key elements of each dimension of the school's culture. At least two different data sources were present for each unit of information displayed on the charts.

Dimension 1: Professional Orientation of the Faculty

The data that most succinctly informed descriptions of operations in Dimension 1 were: 1) the formal principal interview, 2) informal subsequent principal interviews, 3) the teacher focus group, 4) informal conversations with teachers, when the circumstances permitted, and 5) observation of faculty meetings and/or small group planning sessions. These data along with field notes and post observation/interview notes helped researchers understand not only *what* students were doing in classrooms, but *why* the assignments were made and *how* teachers were selecting instructional methods and materials. These data were used to assess the rigor and robustness with which each faculty pursues acquisition of greater knowledge and skills relevant to planning classroom instruction, which is the heart of a Professional Orientation. The Data Reduction Charts in [Table 4](#) display the attributes of professionalism demonstrated by matched Pair A. Even a casual observer can easily tell that teachers' orientations to their work are very different in these schools despite outward appearances of similarity.

Dimension 2: Organizational Structure

Dimension 2 of school culture involves the processes, policies, rules, rituals, routines, traditions, role interpretations, and scheduling patterns used to organize life in schools. Data on these organizational structures included teacher and principal interviews, informal school observations, and information provided on a Sociometric Survey (SS). Graphic representations of the Organizational Structure and Leadership patterns found at each school were created to symbolize the degree of distributive leadership and collegiality in schools. The attributes noted in the leadership and organizational structure at each school included: 1) the numbers and placement of informal leaders, 2) the presence and degree of collegiality of collaborative teams, 3) the relative number of autonomous or social isolate teachers, and 4) the closeness of the principal to members of the faculty (based on SS data, self-report comments in interviews, and observed patterns of interaction). The data revealed that the improving schools tended to be more unified.

Relationships between Teachers and Principal

In all three pairs, the teachers at improving schools were closer to their principal in ideology and practice on a whole host of issues involving organization, management,

Table 4. Data Reduction Charts Dimension 1 – Pair A

School A1 (Non-improving) Professional Orientation Data Reduction Chart

D1 Strengths	D1 Weaknesses
<ul style="list-style-type: none"> – A formal School Improvement Plan (SIP) was developed based on data (unclear how collaborative the process was). – Instructional assistance is available through the Teacher for Instructional Support (TIS). – Some teachers are independently involved in professional communities beyond the school. – Some teachers try to use data to identify students’ needs on their own and modify their instruction accordingly. – Teachers clearly rely on TIS as instructional leader, but TIS confided plans to leave school. 	<ul style="list-style-type: none"> – Few teachers are aware of SIP content except that reading and math scores were low and the school needs to improve on them. – No in-depth on-going programs, interventions, plans, or strategies are being implemented to address documented achievement deficits. – Strong norms of teacher autonomy exist and interfere with meaningful teacher collaborations. – Teacher efficacy to change student achievement is low. – A sense of academic frustration prevails among teachers; some feel the difficult home lives of students override anything that happens at school. – The academic push for students to perform to higher standards is weak. – Veteran teachers are skeptical that new teachers “have what it takes to make it here.” – Faculty meetings deal more with business, not with professional learning. – Staff development is not focused and ongoing. – Teachers are not engaged in self-reflection about their instruction. – Little enthusiasm or positive teacher attitudes are observed. – Frequent expressions of frustration are made. – Many are eager to leave at the end of the day. – Teacher commitment is inconsistent, the turnover is high, with only a few long-timers. – Teachers are not highly engaged in faculty meetings. – Teachers, their aides, and principals are wary of outsiders and newcomers. – There is little talk regarding instruction in teacher conversations.

and communication. This suggests that teachers in improving schools work more closely with principals than their counterparts in non-improving schools. It also suggests greater unity in the faculty is associated with successfully changing mean student achievement within schools. For example, the teachers in improving schools A2, B2, and C2 were observed talking more spontaneously with their principals than the teachers in the paired schools. They frequently approached the principal in the hall

Table 4. (Continued)

School A2 (Improving) Professional Orientation Data Reduction Chart

D1 Strengths	D1 Weaknesses
<ul style="list-style-type: none"> – A formal School Improvement Plan (SIP) was collaboratively developed based on data. – Instructional supports for change are available to teachers through the principal and the outside consultant. – Many teachers are independently involved in professional communities beyond the school. – Teachers frequently engage in joint voluntary professional growth activities. – Teachers frequently share new ideas and instructional methods with each other. – School-wide strategies are used to identify students' needs at the school, grade, teacher, and student-level. – Student achievement data is used to modify instructional programs. – Teachers are aware of SIP content; many programs, interventions, plans, strategies, and ongoing professional development address documented achievement deficits. – A high-level of teacher enthusiasm, commitment, and collaboration exist. – Staff development is focused on a central theme identified through student achievement data. – The focus of staff development is continuous for at least a year. – Teachers have written and received numerous competitive grants to improve instruction. – A strong academic push for students to perform to higher standards prevails. 	<ul style="list-style-type: none"> – Strong norms of teacher autonomy exist and interfere with meaningful teacher collaboration. – Teachers are not engaged in structured self-reflection about instruction.

or at lunch and shared thoughts or current events, and when questioned informally about the principal, they typically held that person a higher regard.

The teachers at schools with high student achievement tended to have more favorable views of their principal; the notable exception to this was school B1 where there was a feud over the leadership style of the new principal. Principal leadership style and a combination of other factors within the organizational structure seem to contribute to the school's improvement status more than principal tenure alone.

Collegiality among Teachers

The interviews revealed that the improving schools were more likely to have close alliances between groups of teachers, and these groups were more likely to be highly collaborative and productive. The non-improving schools had a higher degree of teacher autonomy than the one effective non-improving school. This indicates that teacher collaboration is associated with greater school effectiveness, which is consistent with the body of literature on effective schools; however, the presence of a highly collaborative, highly effective, yet non-improving school suggests that teacher teaming alone is not enough to effect change in student achievement.

Informal Teacher Leadership

It was anticipated that improving schools would have a higher number of teacher leaders than non-improving schools, but this was not the case. However, one difference that was noted in the informal leadership norms was that the teacher leaders at improving schools tended to be more evenly distributed throughout the organization and interacted with a greater number of teachers than the leaders at non-improving schools. At non-improving schools, these individuals tended to work more independently or to limit collaborations to a small group of other teachers, particularly those they found to be like-minded – creating a “cliquish” sort of atmosphere with their own little subculture within the school. While these teachers perform many functions in the school, they do not necessarily feel valued or socially accepted by the other faculty members. This may be because of professional jealousy, differences in values/philosophies, or that they function so differently than their peers that they do not feel comfortable working closely with teachers who embody the mainstream school cultural norms better than they do. The isolation of teacher leaders in non-improving schools is an interesting and unexpected finding. Subcultures among teachers in a school is a topic that should be explored in greater depth with subsequent research.

Stability in the Principalship

Another insight gained had to do with the relationship of leadership, particularly leadership stability, and change. Due to the volume of literature associating principal leadership with school effectiveness, and leadership in general, with organizational change, it was anticipated that instability in the principalship would be associated with a school’s growth status. This seemed to be the case in two of the three pairs studied. The non-improving schools in Pair A and Pair B had both experienced recent and multiple turnovers in their principalship in the years prior to and including the year of the study. However, the non-improving but effective school in Pair C had a stable, well informed principal who was well respected by the faculty.

Conversely, the improving school in Pair B experienced a traumatic midyear change of principal but continued to function effectively. Likewise, the principal in the improving school in Pair A had only been on the job for two years at the time of the study. These observations indicate a weak association, at best, between principal stability/tenure and school improvement.

Dimension 3: Quality of the Learning Environments

Dimension 3 of school culture pertains to the quality of the experiences learners typically have in classrooms across the school. High-quality learning environments are defined as those consistent with the principles of social cognitive constructivism. The most dramatic differences between the learning environments in improving schools, and their matched non-improving schools, was the amount of Higher-Order Thinking going on in the classroom. The students at improving schools were involved in substantially more Higher-Order Thinking. This pattern was true for all three pairs. In non-improving schools, there was less substantive discussion and the students were presented with far fewer challenges and opportunities to figure things out for themselves than were their counter-parts in improving schools.

In general, improving schools had more positive classroom learning environments than other schools including the one high performing but non-improving matched school. Significant differences were also found in the amount of Deep Knowledge and Real World Relevance the students were exposed to in typical classroom activities, factors considered important aspects of authentic pedagogy (Newmann et al., 1996). The students in improving schools also faced fewer distractions detracting from their engagement in learning tasks.

Table 5 shows the Data Reduction Charts for Dimension 3, the Quality of the Learning Environment. The charts display differences in the major attributes of the learning environments of the schools in Pair A; A2 is the improving school. Findings for Pair B were similar, findings for Pair C contrasted less, but the improving school still had more positive qualities in classroom learning environments than its high performing but non-improving matched school. Table 5 displays the huge differences found in the amount of Higher-Order Thinking, Deep Knowledge, Real World Relevance, and the amount of distractions detracting from student engagement in learning tasks, in Pair A.

Dimension 4: Student-Centered Focus

To ascertain what each school was doing to provide individual students with the support necessary for academic success, several sources were consulted. The first data source was the School Improvement Plan (SIP) mandated by the state. A SIP typically lists all externally created programs in which the school participates. It sometimes also outlines procedures or strategies developed by the school in an attempt to address documented weaknesses. School handbooks and websites were also consulted. However, as is always the case with culture, there are many “ways of being and doing” (i.e., cultural norms) that are never formally articulated anywhere. Consequently, the principal was formally interviewed once, and numerous informal conversations were ensued with counselors and various school staff in an attempt to not overlook things the school was doing, or neglecting to do, that impact student success. Likewise, a teacher focus group was held and followed up with many informal conversations. The student interview protocol contained questions about what teachers or the school

Table 5. Data Reduction Charts Dimension 3 – Pair A

School A1 (Non-improving) Quality of the Learning Environments Data Reduction Chart

D3 Strengths	D3 Weaknesses
<p>Instructional resources</p> <ul style="list-style-type: none"> - Classes were well equipped with a wide range of instructional resources. - Instructional resources were in use by students in most of the classes. - Classes are bright and cheerful with informational and motivational displays. - Student lessons in the computer lab are coordinated with content in the regular classroom. - TIS assists with instruction in some classes resulting in more teacher attention for some students. 	<p>Higher-Order Thinking (HOT) vs. Lower-Order Thinking (LOT)</p> <ul style="list-style-type: none"> - Of the classes observed, 57.2% engaged students mostly or only in LOT. - 42.9% engaged students more in LOT than HOT. - No classes observed engaged students only or mostly in HOT. <p>Deep knowledge</p> <ul style="list-style-type: none"> - In 85.8% of classes, knowledge exploration was very thin, superficial, or fragmented. - In 14.3% of observations, knowledge exploration was uneven, shallow at times and deep at others. - In none of the observations was deep exploration of knowledge sustained by most students. <p>Real world relevance</p> <ul style="list-style-type: none"> - In 80% of observations, few or weak connections were made between class activities and their relevance in the real world beyond school. - In 20% of observations, connections between class activities and the importance of the content or skills in the real world were made clear to students. <p>Student engagement</p> <ul style="list-style-type: none"> - In 85.7% of observations, student engagement in learning was passive; students were compliant, but displayed little enthusiasm, interest or motivation. - In 14% of the classes observed, most students participated and remained on-task with moderate amounts of interest and enthusiasm. - In none of the classes were students enthusiastically engrossed in their learning activities, displaying high levels of interest and motivation. <p>Distractions</p> <ul style="list-style-type: none"> - In 14.3% of classrooms, severe distractions persisted and visibly interfered with student learning. - In 71.5% of classes observed, small to moderate numbers of students were distracted by elements in the learning environment. - In none of the classrooms observed were distractions kept to such a minimal level as to have no impact on students' ability to focus on learning.

Table 5. (Continued)

School A1 (Non-improving) Quality of the Learning Environments Data Reduction Chart

D3 Strengths	D3 Weaknesses
	<p>Disciplinary content</p> <ul style="list-style-type: none"> - In 57.2% of classes observed, students could successfully complete the assigned task with little or no understanding of related major concepts, or theories central to the discipline. <p>Disciplinary processes and inquiry</p> <ul style="list-style-type: none"> - In none of the classes observed were students engaged in high to moderate amounts of inquiry to discover new information relevant to topics studied. <p>Audience beyond school</p> <ul style="list-style-type: none"> - In none of the classes observed were the products of learning presented to an audience beyond the class. - In 71.4% of classes, students presented the products of their learning to the teacher only. - In 28.6% of classes, students presented the products of their learning to another student within the class.

School A2 (Improving) Quality of Learning Environment Data Reduction Chart

D3 Strengths	D3 Weaknesses
<p>HOT vs. LOT</p> <ul style="list-style-type: none"> - In 66% of classes observed, students were involved in moderate to high amounts of HOT. <p>Substantive conversation</p> <ul style="list-style-type: none"> - In 66% of observations, students were involved in moderately substantive conversation. <p>Instructional resources</p> <ul style="list-style-type: none"> - Classes were well-equipped, with a wide range of instructional resources. - Instructional resources were in use by students in most of the classes. - Classes are bright and cheerful with informational and motivational displays. - Student lessons in the computer lab are coordinated with content in the regular classroom. <p>Student engagement</p> <ul style="list-style-type: none"> - In 83.3% of observations, student engagement, interest, and enthusiasm for learning activities was high or moderately high. 	<p>HOT vs. LOT</p> <ul style="list-style-type: none"> - In 33.4% of classes observed, students were engaged mostly or only in LOT. <p>Deep knowledge</p> <ul style="list-style-type: none"> - In 50% of classes observed, knowledge exploration was very thin, superficial, or fragmented. <p>Substantive conversation</p> <ul style="list-style-type: none"> - None of the classes observed engaged all of the students in highly substantive conversation. - In 33% of classes observed, students were engaged in very little substantive conversation. <p>Real world relevance</p> <ul style="list-style-type: none"> - In 50% of classes observed, class activities were highly relevant to the real world beyond the school, and students made the connection. <p>Student engagement</p> <ul style="list-style-type: none"> - In 16.7% of the classes observed, most students participated and remained on-task with moderate amounts of interest and enthusiasm.

Table 5. (Continued)

School A2 (Improving) Quality of Learning Environment Data Reduction Chart

D3 Strengths	D3 Weaknesses
<p>HOT vs. LOT</p> <p>Distractions</p> <ul style="list-style-type: none"> - In 50% of classes observed, distractions were kept to a minimal level. <p>Student organization of information</p> <ul style="list-style-type: none"> - In 83.3% of classes observed, the extent to which students were asked to organize, synthesize, interpret, explain, or evaluate in their assignments/assessments was high. <p>Disciplinary processes and inquiry</p> <ul style="list-style-type: none"> - In 66.7% of classes observed, students participated in some form of inquiry process, though not necessarily those central to the field of study. <p>Audience beyond school</p> <ul style="list-style-type: none"> - In 66.7% of classes, students presented products of their learning to students within the class. 	<p>HOT vs. LOT</p> <p>Distractions</p> <ul style="list-style-type: none"> - In 16.7% of the classrooms, distractions were problematic and interfered with student learning. <p>Student organization of information</p> <ul style="list-style-type: none"> - In 16.7% of classes observed, students were not asked to organize information in any substantial way. <p>Audience beyond school</p> <ul style="list-style-type: none"> - In none of the classes observed were the products of learning presented to an audience beyond the school. - In 16.7% of classes, students presented the products of their learning to the teacher only.

does to help them. One very informative qualitative source for Dimension 4 were the comments made by parents to open-ended questions. These data sources were analyzed to complete the descriptions and the Data Reduction Charts for Dimension 4, the Student-Centered Focus. Some of the most striking differences in this pair, as well as in the other two school pairs, were in parental involvement and efforts to offer individualized assistance to students who were in need of greater support. [Table 6](#) compares school norms in Dimension 4 of school culture.

INSIGHTS ABOUT STAFF, SCHOOLS, AND CHANGE

This study documented a strong relationship between the Professional Orientation of the faculty and school improvement. This means that where teachers worked collaboratively to address issues, share resources, solve problems, and plan pro-actively on the basis of their students' needs, the students learned more. A positive relationship was also indicated between authentic pedagogy and student achievement aggregated at the level of the school. In other words, in schools where student scores were improving, the students were more likely to be involved in authentic learning tasks that were interactive, cognitively complex, and valuable beyond school.

The results confirmed the existence and utility of the four dimensions of school culture. Generalizations about patterns of differences in the ways staff at differentially improving schools function also emerged as a result of the cross-pair comparisons. When the differences between pairs were examined across all three pairs, they were remarkably consistent. Similar sets of differences in internal processes between matched

improving and non-improving schools are listed by dimension in [Table 7](#) (p. 29). While these generalized observations accurately summarize many operational factors that are socio-cultural in nature for the schools studied, caution should be taken in applying these generalizations to other settings, since they are based on a limited number of cases and may not hold true across all instances and contexts. They are nonetheless noteworthy and should be explored in greater depth in subsequent research.

Cultural change involves a complex chain of overlapping events that rarely occur sequentially. While the change process looks different at each school, a number of commonalities were observed among the schools studied, which led to the conclusion that the dimensions of culture seem to relate to each other in stable ways. [Figure 1](#) (p. 31) illustrates the patterns of interrelationships that emerged between the dimensions of school culture. These relationships were constant across all cases studied. Arrows denote possible causal relationships. The catalyst for change in all schools was a desire for improved student achievement.

Table 6. Data Reduction Charts Dimension 4 – Pair C

School C1 (Non-improving) Student-Centered Focus Data Reduction Chart

D4 Strengths	D4 Weaknesses
<ul style="list-style-type: none"> – Teachers and the principal genuinely care about the students. – Teachers are conscientious and willing to adapt to the needs of a changed student population. – Teachers recognize the need to individualize instruction for some students. – Student academic recognition is frequent and emphasized. – There have been recent increases in community, corporate and interest group sponsorship. 	<ul style="list-style-type: none"> – Efforts to individualize are inconsistent, not widely executed, and not systematically tracked for effectiveness. – There is little instructional differentiation based on student needs, abilities, experiences, or interests. – There is no systematic plan for analyzing achievement and other data at the level of the individual student. – Parental involvement is low; there is little day-to-day participation, and even less input. – No innovative or out of the ordinary efforts are being made to involve more parents. – Volunteer program needs more structure – training for volunteers, development of a schedule of routine tasks, establishment of routine work schedules, public recognition of parent/community volunteers. – Increased funding is needed for staff development, sustained external support for change, and additional instructional resources for enhanced enrichment programs; grant writing or other alternative funding sources should be explored. – New parent and counseling programs are needed to support the needs of working parents and gifted students.

Table 6. (Continued)

School C2 (Improving) Student-Centered Focus Data Reduction Chart

D4 Strengths	D4 Weaknesses
<ul style="list-style-type: none"> - The reorganization of the Parents, Teachers and Friends Club offers a genuine opportunity for more meaningful and substantial parental involvement. - The parent organization plans to offer paid childcare and meals for night meetings to increase parent attendance at meetings. - Students, their work, and their accomplishments are displayed throughout the school. - Students are publicly recognized on a routine basis; this could be emphasized even more. - Teachers believe in and provide parent education. - Teachers recognize the need to individualize instruction. - The school has a process (HSAT) that allows teachers and the principal to systematically and collectively focus on insuring that the individual needs of struggling students are met. - The school faculty has a strong commitment to making sure the child's life circumstances support his chances for academic success. 	<ul style="list-style-type: none"> - Efforts to individualize are inconsistent and not systematically tracked for effectiveness. - There is a need for increased instructional differentiation, based on documented student needs, abilities, experiences, or interests. - Parents need more venues for input. - Parent education needs to be offered more frequently and at times that allow working parents to participate. - Volunteer program needs more structure – training for volunteers, development of a schedule of routine tasks, establishment of routine work schedules, public recognition of parent/community volunteers. - Greater community and corporate sponsorship is needed. - Increased funding is needed for staff development and planned enhancements. - HSAT process could be expanded to assess the extent to which average and high-grade students are being challenged to reach their potential. - Opportunities for meaningful student leadership need to be expanded.

Observations in this study indicated that change processes typically initiated with the principal in Dimension 2, the Organizational Structure. Factors in Dimension 2, such as the amount and type of leadership, as well as the amount of strategic planning, in turn, have a direct impact on both Dimension 1, the Professional Orientation, and Dimension 4, the Student-Centered Focus. The existing behavioral norms in Dimension 1 both impact and are impacted by Dimension 2. Dimension 1 also directly impacts Dimension 3, the Quality of the Learning Environments. Dimension 3 is impacted by norms and processes in Dimension 4.

The dimension that is impacted by more aspects of the culture than any other is Dimension 3, the Quality of the Learning Environments. It is believed that this dimension most directly impacts student achievement. Since Dimension 3 is impacted by the other three dimensions and it in turn has the most direct impact on student achievement, it can be thought of as a mediating effect resulting in large part from behavioral norms in the other three dimensions of school culture. It is advisable, therefore, that those wishing to improve the Quality of the Learning Environments at their school should begin by introducing changes into Dimension 2, the Organizational Structure, first,

Table 7. Generalizations about Cultural Change at the School Level

Dimension 1 Professional Orientation	Dimension 2 Organizational Structure
<ul style="list-style-type: none"> - Motivated teachers make it happen; passive compliance kills meaningful change. - A collective vision is essential. - Change requires increasing professional knowledge and skills for both teachers and school level administration. - Teachers who reflect and personalize what the change means for the way they perform their work are more common at improving schools. - The social support that occurs with increased collegiality and a unified challenge is crucial to the motivation of teachers to persist with attempts to master more effective instructional practices. - Organizational change requires behavioral change of individual teachers according to a unified philosophy or strategy, consequently, schools with strong informal teacher instructional leadership to assist struggling teachers experience greater success with instructional improvements. - In the process of improving schools, teachers felt more comfortable to learn new methods through trial and error as they were more resourceful; hence problem identification, experimentation, and evaluation should drive decision making. 	<ul style="list-style-type: none"> - The principal is the gatekeeper; school change starts (or ends) with the principal. - Strong inspirational leadership is needed to motivate teachers and transform cultures. - School improvement requires detailed collaborative strategic planning and close monitoring of progress. - Sometimes change requires restructuring schedules and responsibilities; improving schools are more flexible and less rigid in their structures. - Improving schools have effective in-school communication patterns. - Successful schools find the time and money to do what is important. - Well-informed and flexible administrators who ask for teacher input regularly and listen to recommendations have faculties that are more likely to go along with what they ask. - In improving schools, the principal is more likely to be the instructional leader and be seen as a legitimate resource for teachers because of their vision or knowledge of the change initiative and associated classroom practices.
Dimension 3 Quality of the Learning Environment	Dimension 4 Student-Centered Focus
<ul style="list-style-type: none"> - Enthusiasm for learning is more common in improving schools. - Thinking skills are emphasized across the curriculum in improving schools. - There is more interaction and student inquiry in improving schools. - Improving schools and high performing schools are more likely to engage students in authentic learning tasks. - Products of learning are more likely to be published/shared or used in authentic/real world ways with an audience beyond the school. - Teachers in improving schools were less likely to control student talk strictly but monitored student talk better to keep learners focused on the task at hand. - Students in improving schools were more likely to be involved in complex on-going tasks in the classroom that could not be completed in a day or two. - Higher performing schools tended to plan more holistically and integrate subjects/disciplines or assign projects that were evaluated in multiple subject areas. 	<ul style="list-style-type: none"> - Effective programs were more likely to be in place, and in use, to identify, meaningfully support, and monitor the achievement of subgroups and individuals at improving schools. - Improving schools monitor individual student achievement rigorously. - Parents were more likely to be involved in meaningful ways at improving schools. - Improving schools were more accepting and accommodating of individual student differences.

followed by changes to Dimension 1, the Professional Orientation. This study indicates that this is the natural flow of events in the cultural change process.

Dimensions 1 and 3 most directly involve the majority of the day-to-day work of teachers. While teachers are frequently involved in all dimensions of school operations, Dimensions 1 and 3 include planning for instruction and the act of instruction, activities considered primary to the role of teacher, whereas Dimensions 2 and 4 can be thought of as school-level conditions that support the work of teachers in planning and teaching. Though teachers are usually somewhat involved in Dimensions 2 and 4, many of the core responsibilities in these areas are handled by other members of staff.

A key finding of this study was the interdependence of multiple aspects of operations within all schools regardless of improvement status or other tracked variables. For example, in all cases if a school was strong in Dimension 1; it was also at least moderately strong in Dimension 3, confirming the previously documented relationships between teacher planning and collegiality and better classroom learning experiences for students.

Another commonality observed in non-improving schools was an approach to school improvement that I call the layering-on approach. In these schools, rarely did the majority of the faculty seek or acquire in-depth knowledge of the philosophy behind their new program or initiative. Rarely did they show much interest in learning new methods associated with the program or bother to find out why changing the way they do things might help their students. Hence, teachers tended to simply layer the new (policies, programs, curricula, methods, materials) on top of the old ones, rather than genuinely change them.

Metaphorically speaking, this layering-on of the new atop the old can be likened to a cook with a pot of vegetable soup who decides to change the soup to cream of broccoli. Rather than starting from scratch and adding in the appropriate ingredients, the decision is made to simply add broccoli to the existing mix. When this fails to produce the desired effect, a cream sauce is also added to the mix. The result is a conglomerated mess. The appropriate course of action would, of course, be to change the recipe by first removing the old from the pot, then systematically adding back only the ingredients that will yield the desired result. However, few of the schools in this study comprehended this concept.

It is important that schools pursuing substantial improvements understand that change is not simply layering new programs on top of the existing culture and hoping for the best. Change involves taking a long hard look at the norms that define the way a school works, questioning why things are the way they are, and taking deliberate steps to bring the reality of the way things are done into alignment with a unified vision for the future. This means distinguishing the productive norms from the counterproductive. The process of eliminating counterproductive behavior and replacing it with productive behavior is a long, slow process involving a great deal of education, commitment, feedback, and support. Changing human behavior is always difficult, but with the right plan and much determination, it is entirely possible to transform school culture. The starting point is a well-informed principal who believes

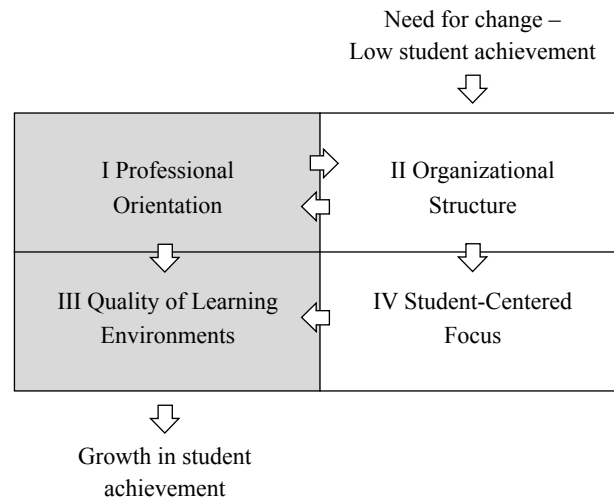


Figure 1. Relationships between the Dimensions of School Culture

in the change initiative, who can bring teachers on board and motivate them to assume a professional orientation in exploring this new initiative at a deep level to ascertain whether and how their students might benefit from it.

HOW CAN WE SUPPORT THE WORK OF TEACHERS?

While it is certainly not a new idea that the quality of students' learning experiences in the classroom affects student achievement, accomplishing and sustaining higher quality learning experiences across entire schools has often proven elusive. This study helps us to put the classroom teacher into the context of the entire school and its operational norms. Teachers are people working in organizations. If we want them to make substantial alterations to their work, then school-level factors, such as a knowledgeable and supportive administration, time to plan, professional development, and interventions for struggling students, should be in place to support the teachers as they learn to approach their work in different ways. The following is a list of recommendations to support the work of teachers:

1. School-level and district-level administrators should be trained in new initiatives before expecting teachers to implement them.
2. Principals need to ensure that teachers have adequate professional development prior to implementation and on-going training related to new initiatives.
3. Teachers need to be provided with time for a regular common planning period, prior to implementation, to explore the initiative and its implications for instruction at a deep-level, so that incongruent practices can be recognized and addressed.

4. Teachers need to guide the implementation process collaboratively and develop mechanisms for monitoring success.
5. Instructional support and leadership should be available to all teachers and should involve individual and group reflection of teachers' experiences in the classroom.
6. Principals and instructional leaders should develop a strong trusting rapport with teachers and be directly involved with teacher planning groups.
7. Teachers should identify a research-based observation instrument, such as the SAPI/A used in this study, and use it to provide peer feedback to one another.
8. Teachers should work regularly in teams, committees, or task forces.
9. The school should provide supplementary programs to support students and their families.
10. Teachers should be proactive in collectively communicating to administrators and parents about other supports they would like to have in place.

Caring and committed professional people change schools. The very best programs, policies, procedures, and plans are ineffective without the intentional efforts of dedicated teachers, administrators, and school staff. Cultural change in schools involves people changing the way they do things and possibly even rethinking their core beliefs about learning and the role of schools. This does not happen overnight; it is a gradual process. Individuals and groups of school staff must collectively evolve and create a different way of being and doing, a process which can take years to complete. However, this study reassures us that it is possible to plan for a better future for our students and to actually transform our schools into more effective places for students to learn.

Successful planned change requires much effort, and the frontline combatants, our teachers, are often our greatest casualties, receiving the blame for all failures. Teachers are but one part, although a very important one, of the equation of a successful school. Teachers charged with improving learning environments are, first and foremost, people being asked to change established behavior patterns in a complex environment. This can be difficult, tricky, and slightly scary. Teachers involved in a change initiative need support in a number of ways. This study demonstrated that at least three other dimensions of school culture impact classroom learning environments. The presence or absence of a strong supportive school culture can make the difference in whether or not our teachers' efforts are fruitful in improving student learning in the classroom.

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ELIZABETH L. HAMMERMAN & DONALD R. HAMMERMAN

2. EXTENDING TEACHERS' WORK TO OUTDOOR LEARNING ENVIRONMENTS

Applying High-Quality Instruction for Meaningful Learning

The term “outdoor education,” which gradually emerged in the United States in the early to mid-1900’s, is associated with the use of natural and human-created areas as environments for learning. The term is interpreted in different ways and used to describe a variety of experiences, each of which focuses on specific goals. Such experiences include school sites, field studies, and resident experiences that address objectives of the school curriculum; camping experiences to enhance social and living skills; and environmental education experiences that focus on problems and issues associated with a quality environment. There are also adventure education programs that aim to develop self-concept, agility, and fitness, as well as programs that focus on an appreciation of nature, recreational pursuits, therapeutic programs for children and adults with disabilities, and the like.

This chapter focuses on outdoor education as it applies to teachers’ work, with particular emphasis on the use of the outdoor environment as an approach with which to achieve more efficient and effective learning of concepts, skills, and dispositions as they relate to the goals and objectives of the school curriculum. A model for high-quality instruction will be offered as a means for creating meaningful learning and extending teachers’ work to non-traditional settings.

OUTDOOR LEARNING ENVIRONMENTS

Unlike traditional classrooms, which are characterized by expository methods of instruction, outdoor environments provide countless opportunities for active learning of social, emotional, and academic objectives in a variety of subject areas through firsthand observation and experience. For example, many outdoor environments provide the settings for inquiry-based instruction. Exploring one’s environment, asking theoretical and operational questions, making observations, engaging in investigations and experimentation, collecting and analyzing data, drawing conclusions, making inferences, and formulating new questions are some of the exciting processes that are practiced through inquiry-based instruction. Outdoor education programs “encourage

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development of openness of thinking and cognitive flexibility by exposing participants to novel ideas, viewpoints, settings, activities, cultures, and divers group members” (Neill, 2008, p. 87). [Table 1](#) shows a number of created and natural environments that provide settings for learning beyond the classroom.

Table 1. Environments for Learning

Created (Built) Learning Environments	Natural Learning Environments
– Zoos and botanic gardens	– Sea shores and tide pools
– Museums	– Ponds, lakes, and shorelines
– Nature centers	– River banks and stream-beds
– Exploratoriums	– Mountains
– Aquariums, oceanariums, and planetariums	– Valleys
– Space centers	– Deserts
– Technology centers	– Road cuts
– Sites with bridges, dams, tunnels, and domes	– Quarries
– Amusement parks	– Fields and forests
– Manufacturing plants	– Nature preserves
– Weather stations	– Rainforests
– Airports	– National, state, and local parks
– TV and radio stations	– Nature preserves
– Government agencies	– School sites
– Cemeteries	
– Farms	
– Recycling centers	
– Water treatment facilities	
– Outdoor education centers	

A RATIONALE FOR TEACHING IN OUTDOOR LEARNING ENVIRONMENTS

The philosophical roots of outdoor education date back to the 16th century, when Czech theologian and educator John Amos Comenius (1592–1670) professed a belief in the extraordinary power of method and the search for psychologically grounded principles of teaching. Comenius (1967, pp. 89, 91) noted:

In spring they may be taken into the garden or into the country, and may be taught the various species of plants, vying with one another to see who can recognize the greater number. ... Nothing, therefore, should be learned for its value at school, but for its use in life, that the information which a scholar has acquired may not vanish as soon he leaves school.

In the 18th century, French philosopher Jean-Jacques Rousseau (1712–1788) preached the importance of healthful physical activity in a child’s education. He professed the benefits of tapping into a child’s natural interests and curiosity and learning from direct

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multi-sensory experience. Swiss educator Johann Heinrich Pestalozzi (1746–1827) taught practical skills through firsthand experience at his farm-home school for boys and girls. His approach to instruction was based on experiential learning, whereby experiences were later used to formulate generalizations and principles. Pestalozzi urged teachers to take students out of the classroom:

Lead your child out into nature, teach him on the hilltops and in the valleys. There he will listen better, and the sense of freedom will give him more strength to overcome difficulties. But, in these hours of freedom let him be taught by nature rather than by you. Let him fully realize that she is the real teacher and that you, with your art, do nothing more than walk quietly at her side (cited in Hammerman, Hammerman, & Hammerman, 2001, p. 225).

The approaches advocated by Comenius, Rousseau, Pestalozzi, and others during those early years offered a base of support for the learning methods in outdoor environments that would follow decades and even centuries later.

The American philosopher, psychologist, and educator John Dewey (1859–1952) was considered to be an acknowledged leader in American educational philosophy and served as the administrator of one of the first laboratory schools in the nation at the University of Chicago in 1886. During his tenure there, he authored two educational treatises: *The School and Society* in 1899 and *The Child and the Curriculum* in 1902 (Dewey, 1950; 1953). Dewey believed that experiences of all kinds should be included in the curriculum and that educators should know how to capitalize on a child's physical, natural, and social surroundings in a way that would result in significant learning experiences. Dewey advocated an active learning environment that was closely linked to community activities and was focused on practical knowledge, both for immediate social use and for future use. These goals were part of the progressive education movement that many U.S. schools established and adopted in the early part of the 20th century. Dewey's concern for a practical, socially responsible life was a key element of the philosophical concept of pragmatism that he explicated in many of his writings.

THE EVOLUTION OF OUTDOOR EDUCATION: A BRIEF HISTORY

Prior to 1930, outdoor education took the form of isolated experiences including "nature study," where science educators used field experiences in teacher education programs, and "camping education," where school personnel began to show interest in the educational potential of summer camping experiences. In his dissertation research, Hammerman (1961) identified a series of periods after 1930 through which outdoor education evolved in the United States. These periods are summarized here in order to identify the major contributions to the field during the developmental years.

The Period of Inception (1930–1939) saw a major breakthrough for outdoor education due to widening recognition among educators of the educational values inherent in the summer camp experience. During this time, key leaders from such fields

as camping education, recreation, physical education, natural science, conservation, and social welfare offered varying points of view to the movement now known as outdoor education. The civic and social values of the camping experience were stressed, but few attempts were made to correlate the outdoor learning activities to the regular school curriculum.

The Period of Experimentation (1940–1952) saw the beginning of school-sponsored camping programs and national workshops that focused on the role of camping in America. Experimentation with out-of-classroom learning at school camps, gardens, farms, and forests indicated a desire to improve traditional education programs through new approaches. Experimental programs sponsored by city and county school districts, universities, and State Departments of Education were initiated in Michigan, New York, California, Ohio, Tennessee, Texas, and Washington. The impact of school camping during this period was characterized by curricula emphasizing conservation education, healthful living, meaningful work experience, socialization, group guidance, and democratic living. By the end of this period, most resident programs were operating during the academic year with a transition from recreational, camp-type programs toward a closer relationship to the existing school curriculum.

The Period of Standardization (1953–1964) was a time of significant growth and development for outdoor education. As early as the 1950's, there was a gradual move away from the camping stereotype toward programs that were more closely related to the school curriculum. Terms such as “outdoor school” and “outdoor laboratory” came to replace the term “school camp.” Newly formed organizations contributed to the formulation of standards for outdoor education.

Significant contributions towards promoting the vision of outdoor education to enhance the core curriculum were made through organizations that were developed during this period. Among these organizations were the Outdoor Education Association, founded by L. B. Sharp in the early 1950's; the California; the Association for Outdoor Education, established in 1954; and the National Outdoor Education Project, headed by Julian W. Smith in 1955.

Topics related to the use of the outdoors to expand teaching and learning were addressed at early conferences. For example, the first National Conference on Outdoor Education was held in Washington, D.C. in May, 1958, with others following shortly thereafter in Illinois and Michigan. Final sessions were devoted to two fundamental issues in outdoor education: teacher and leadership preparation and school programs in outdoor and school camp settings.

Linked to the growth of outdoor education was concern about preparing teachers to extend their work to the outdoors. The first National Conference on Outdoor Teacher Education was held at Northern Illinois University's Lorado Taft Field Campus in September of 1960. The focus of the conference was to prepare teachers to carry suitable portions of the curriculum to the outdoors. Small group sessions were devoted to topics such as the values to be attained through outdoor education; building an outdoor education philosophy for college or university staff; the impact of outdoor

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education on public schools, its curriculum, and its teachers; and the use of resource people in the program.

Materials such as handbooks and manuals were developed to guide teachers in planning for outdoor experiences, since the core curriculum was the focus for the programs of many schools. The efforts put forth by the organizations and pioneers in outdoor education paved the way for the tremendous expansion of organizations and networks that followed well into the 21st century.

The Period of Resurgence and Innovation (1965–1969) was a brief transitional phase during which program emphasis ranged from the development of outdoor recreational skills to ecological studies and from brief, local field experience to cross-country expeditions. The continuing impact of outdoor education on the school sector was reflected in the extensive literature that emerged during that time. An old theme in many outdoor education programs – human-kind's relationship to the environment – gained new impetus during this period, while the relationship between outdoor education and environmental education was also recognized. The exploration of new horizons and expansion of program offerings were the dominant characteristics of the period.

The Period of New Directions (1970–1985) saw the expansion of organizations and numerous sponsored conferences for leaders in outdoor education. The resurgence of interest in using the outdoors as a laboratory for learning and the creation of innovative applications of the concept of outdoor education during the previous period led to an expanding sphere of influence as new directions became established in educational practice. Environmental education became the thrust of many outdoor education programs in the new decade. Adventure education geared towards older youths and young adults emerged as an experience of self-discovery, with the claim that individuals who experience self-discovery, in the wild can transfer lessons of self-awareness, respect for others, and environmental concerns to other aspects of life. The significant trend during this period was the growing effort to network with the variety of agencies, organizations, and associations involved with education in, for, and about the natural environment.

The Period of Diversity and Networking (1986–present) continues to expand and nurture the diversification that characterized the previous period. The spectrum of outdoor education has broadened to include an array of new and innovative programs and approaches to learning, including cultural journalism, urban ecology, adventure education, challenge courses for youth-at-risk, and environmental education, as well as an extension of the school curriculum. The growing diversity and new trends in outdoor education are reflected in the numerous publications during this period. Such contemporary factors as heightened awareness of the environmental degradation of the Earth, social conditions of inner cities, and problems of youth-at-risk coupled with mediocre academic performance on international standardized tests have prompted educators to seriously consider the benefits of using the outdoors as a context for meaningful learning.

THE IMPACT OF ORGANIZATIONS AND NETWORKS
ON PROFESSIONAL DEVELOPMENT

The 1990's saw a dramatic increase in the number of conferences devoted to the impact of experiential and adventure education programs on participants of all ages. Teacher education and professional development efforts were expanded through the many conferences offered by professional organizations that emerged during this period. Annual conferences were held by the American Alliance for Health, Physical Education, Recreation, and Dance; the American Camping Association; the Association for Experiential Education; the Association of Nature Center Administrators; the Council of Outdoor Educators of Ontario; the Coalition for Education in the Outdoors; the Wilderness Education Association, and many others. State organizations numbered in the thousands.

Several networks of agencies, organizations, institutions, centers, and businesses were established that joined forces to support the broad aims of educating in, for, and about the outdoors. Among these was the Coalition for Education in the Outdoors, which is housed at the State University of New York at Cortland and publishes a journal called *Taproot*. This journal features outdoor and environmental news and reviews, research information, a comprehensive list of resources, professional opportunities, and more. Information is available on the web-site maintained by the Coalition for Education in the Outdoors.

The Institute for Global Communications (IGC) has played a formative role in bringing advanced communications technologies to grass-roots organizations around the world that are working for environmental sustainability. EcoNet, billed as the computer network for the planet, is an example of the impact of telecommunications on the broad field of outdoor/environmental education. Its users are able to communicate with individuals and organizations throughout the world. EcoNet has established partnerships with similar networks in Australia, Brazil, Canada, England, Japan, Nicaragua, Russia, Sweden, and Zimbabwe.

RESEARCH SUPPORT FOR OUTDOOR EDUCATION:
TEACHING AND LEARNING

Throughout the Period of Diversity and Networking, it was becoming increasingly difficult for scholars and practitioners to define the term "outdoor education" due to the variety of educational goals, teaching methods, and the diversity of learning environments listed under the heading of outdoor education. Researchers and educators created models to explain the relationships that exist between outdoor experiential learning methods. One such model, offered by Julian Smith, used the term "umbrella" as a metaphor and included terms such as camping education, outdoor education, earth education, environmental education, wilderness education, and experiential education. As the period expanded, additional terms were added to reflect new trends and approaches.

A number of research efforts relate directly to the use of outdoor environments for the purpose of extending teachers' work to enhance the school instructional programs and increase learning. Studies that were designed around student involvement in school camping programs and outdoor education experiences were reviewed.

As early as 1947, L. B. Sharp was involved in an experiment undertaken by the Board of Education of the City of New York. A small-scale design was developed around the involvement of fifth and seventh-grade students in a three-week resident outdoor education program. One of the major questions explored in the research project was: Is educational camping an effective medium for meeting the objectives of education? A wide variety of tests and other measurement techniques were used on a pre/post-test basis that provided objective, semi-objective, and clinical data. Statistically significant gains favored the experimental group in two areas: interest at the fifth-grade level and vocabulary at the seventh-grade level. The experimental group also displayed gains in written expression, increased visual impressions, and artistic ability. The implications from the data were that the experimental groups benefitted in ways that would not have been possible in *indoor* classroom programs.

Cragg (1953) attempted to determine how the development of sixth-grade campers compared to that of non-campers and also to appraise the educational achievements of the camp program in terms of addressing the educational objectives identified by the school. The four areas of development Cragg measured were intellectual development, physical health, social relationships, and emotional development. She concluded that some definite contributions had been made to the educational development of students, most notably in intellectual development. The camp group showed a greater improvement in nature study than students who remained in the classroom. Another notable finding was that the camping experience produced a strong emotional impact in the joy and enthusiasm expressed by the children.

Hollenbeck's (1958) doctoral dissertation studied the educational outcomes of a school camping program. Part of the study involved analyzing pre and post-camp interest inventories. She found that fifth-grade children made significant gains in science interests and fifth-grade boys showed gains in the eight areas of the inventory: art, music, social studies, active play, quiet play, manual arts, home arts, and science.

In 1982, the Orange County (California) Department of Education gathered data on the longitudinal impact of the resident school program on sixth-grade students six years after their participation during the 1975–1976 school year. Around one tenth (13%, i.e., 449 students) responded to a survey pertaining to 10 key areas of potential impact. Some of the key findings were:

- More than half of the students indicated that their interest in the natural sciences increased because of the outdoor school experience.
- Appreciation for the environment increased in 80 percent of the students.
- Approximately three quarters (77%) of the students indicated increased positive feelings about conservation and preservation of wilderness and national forest areas.

- Three categories of personal relationships were impacted in a positive way: closer peer-to-peer positive attitude, cabin leaders as positive role models, and to a minimal extent willingness to accept responsibilities at home as a result of sharing responsibilities at the outdoor school (Hammerman et al., 2001, pp. 204–205).

The State Education and Environment Roundtable (SEER) is a cooperative endeavor of education agencies from 12 states that works to improve student learning by integrating the environment into K–12 curricula and school reform efforts. The members of SEER were interested in the potential of environment-based education programs to improve student learning, change traditional pedagogical paradigms, and influence the way children learn to live successfully in the world around them. With this in mind, they designed a study to identify and describe innovative and successful programs, and analyzed the similarities and differences among them. Other goals were to identify factors that contributed to the success of the programs and the challenges they faced during implementation.

SEER used the term Environment as an Integrating Context (EIC) for learning to define a framework for interdisciplinary, collaborative, student-centered, hands-on, and engaged learning that they believed should form the foundation of environment-based education in America's schools. The EIC-based programs use the environment as a comprehensive focus for learning in the following areas: general and disciplinary knowledge, thinking and problem-solving skills, basic life skills, and understanding one's relationship with the environment – community and natural surroundings.

Evidence gathered from site visits, interviews, and surveys, as well as gains on standardized test scores and grade-point averages from over 60 schools, indicated that students learn more effectively within an environment-based context than within a traditional educational framework. The academic benefits of an EIC-based program included better performance on standardized measures of academic achievement in reading, writing, math, science, and social studies. In addition, benefits were observed in the form of reduced discipline and classroom management, increased engagement and enthusiasm for learning, and greater pride in and ownership of accomplishments. The study concluded that the EIC educational framework significantly improves student performance throughout the curriculum and enriches the overall school experience.

The American Institutes for Research conducted an evaluation to measure the impact of week-long residential outdoor education programs for at-risk sixth-grade students in California (*Effects of Outdoor Education Programs for Children in California*, 2005, pp. iii–vi). The study involved 255 students from four elementary schools who attended three outdoor education programs (outdoor science schools) during a three-month period. The study was designed to compare a treatment group with a control group in order to address the following research questions:

1. How does participation in outdoor education programs impact students' personal and social skills?
2. How does participation in outdoor education programs foster students' stewardship of the environment and appreciation of the importance of the wise use of natural resources?

3. How does the science instruction received through the outdoor program increase students' knowledge and understanding of science concepts?

Quantitative and qualitative data was collected from three rounds of surveys from students and two rounds from parents and teachers, site visits, and interviews. An overview of the study's findings is presented below:

1. *Social and personal skills.* Students and parents were surveyed in order to measure changes across five constructs: conflict resolution, self-esteem, cooperation, leadership, and relationship with a teacher. Teachers rated each student on eight constructs: self-esteem, cooperation, conflict resolution, leadership, relationship with peers, problem solving, motivation to learn, and behavior in class. Teacher ratings provided evidence of a wide range of positive outcomes in social and personal skills related to participation in the outdoor science school. Children who attended the program showed significantly larger gains than the control group in six of the eight constructs.
2. *Knowledge and understanding of science concepts.* Children who attended the outdoor school program significantly raised their science test scores by 27 percent, as measured by a pre-post survey conducted upon their return to school. The increase in science knowledge was maintained six to 10 weeks after participation with no significant loss in science scores.

A Review of Research on Outdoor Learning, commissioned by the National Foundation for Educational Research (NFER), was conducted in response to the growing concern that opportunities for outdoor learning for students in England had decreased substantially in recent years (Rickinson, Dillon, Teamey, Morris, Choi, Sanders, & Benefield, 2004, pp. 5–8). The review critically examined 150 research studies on outdoor learning published in England between 1993 and 2003. Three major types of outdoor learning were studied with primary and secondary students as well as undergraduate learners: field work and outdoor visits, outdoor adventure education, and school grounds/community projects. Research findings related to teachers' work and findings that influence practice are highlighted here:

1. *Impact of fieldwork and visits.* The study found substantial evidence to indicate that fieldwork that is well conceived, adequately planned, well taught, and effectively followed up provides opportunities for students to develop knowledge and skills in ways that enhance classroom experiences. The study also concluded that poor fieldwork is likely to lead to poor learning and that fieldwork can have a positive impact on long-term memory, due to the nature of the setting, and can lead to an improvement in social skills. In addition, the researchers reported that "there can be a reinforcement between the affective and the cognitive, with each influencing the other and providing a bridge to higher order learning" (Rickinson et al., 2004, p. 5).
2. *The impact of outdoor adventure activities.* Evidence suggests that the impact of outdoor adventure programs is greater on attitudes, beliefs and self-perceptions, and interpersonal and social skills than it is on cognitive and physical/behavioral benefits. However, when outdoor adventure programs focused on cognitive and

physical/behavioral measures, benefits were observed in the development of academic skills and improved engagement and achievement. Positive behavior was also promoted, as was improved self-image and fitness.

3. *The impact of school grounds and community projects.* Among the benefits related to the impact of school grounds and community projects were positive gains in science process skills and improved understanding of design and technology-related issues. With regard to the affective domain, the impact of learning in school grounds and community settings included greater confidence, renewed pride in community, stronger motivation to learn, and a greater sense of belonging and responsibility. The settings also had a positive impact on social development and relationships with peers, teachers, and the community.

With regard to thoughtful planning, the study suggests a number of factors that influence learning in outdoor settings and should be considered when thinking about how the quality and depth of outdoor learning might be improved. These factors include: program factors such as structure, duration, and pedagogy; participant factors such as characteristics, interests, and preferences of learners; and factors related to the nature and novelty of the setting.

IMPLICATIONS OF RESEARCH ON TEACHERS' WORK

Two of the many contributions of educational research are that, firstly, it raises new questions and, secondly, it identifies various approaches for teachers to consider as they work toward improving teaching and learning. Positive research findings support and justify curricular approaches that extend beyond traditional models to more student and community-centered models that result in more meaningful learning. The findings from past and recent research studies in outdoor education offer valuable insights into teaching and learning that can and should influence what teachers do and how they do it.

Among the implications for practice that the studies identified are the importance of high quality and meaningful instruction and formative assessment to guide effective learning in outdoor settings. Curriculum and goal-based planning, implementation of thoughtfully designed activities and experiences, follow-up reflection on and application of learning, and on-going assessments to monitor and guide the learning process are components of a model for high-quality teaching and learning that will be the focus of the next section.

DEFINING HIGH-QUALITY INSTRUCTION

High-quality instruction has been the focus of research and a topic of discussion. Four resources that offer overlapping and consistent descriptions of what is "high quality" provide useful information for operationally defining high-quality and meaningful instruction.

I. Carol Tomlinson (1999; 2004) offered indicators of high-quality instruction as they relate to academic diversity. She identified factors that assist teachers in providing

for diverse populations of students. Among the indicators of high-quality curriculum and instruction are the following:

- There is a focus on essential knowledge, understanding, and skills valued by professionals in the field.
- Curriculum and instruction are organized, unified, and sensible to the student.
- Student misconceptions are addressed.
- Instruction enables students to participate in respectful work.
- Students are able to use the learning in important ways.
- Instruction includes cognition and metacognition.
- Instruction and assessment are inseparable.
- Students generate knowledge.

II. In the study entitled *Looking Inside the Classroom: A Study of K–12 Mathematics and Science Education in the United States*, researchers observed more than 350 mathematics and science lessons and rated them on lesson design, lesson implementation, content addressed, and classroom culture (Weiss, Pasley, Smith, Banilower, & Heck, 2003). Assessment levels ranged from Level 1: Ineffective Instruction (passive learning and activity for activity's sake) to Level 5: Exemplary Instruction. Based on the observers' judgments, only 15 percent of the lessons were considered to be of high quality, while 27 percent were rated medium, and 59 percent were considered to be of low quality. Findings at the middle-school level were even more surprising. Only seven percent of science lessons were rated high, while 78 percent were rated low. Such findings send an important message about what teachers teach and, more importantly, how they teach.

Although the study viewed high-quality lessons in the context of mathematics and science, the indicators of effective lessons are relevant to all areas of the curriculum. These indicators are as follows:

- Engage students with worthwhile (mathematics/science) content.
- Create an environment that is conducive to learning.
- Ensure access for all students.
- Use questioning to monitor and promote understanding.
- Help students make sense of the (mathematics/science) content they are learning.

The research also reported that although teachers seem to know and be comfortable with the content of their lessons, their classrooms fell short of providing high-quality mathematics and science education for all students. Intellectual rigor, opportunities for creating meaning, and good use of questions for the development of concepts and skills are just a few of the important components that were found to be missing from classroom instruction.

According to the study, implications for professional development are as follows: Given that both content and methods are linked to student achievement, professional development programs must target goals to improve both the knowledge base of teachers and the skills of their discipline. Confidence and efficacy are needed in order to develop and maintain learning-centered environments.

III. James Stronge (2002) defined effective teaching as a product of good classroom management, organization, effective planning, and a teacher's personal characteristics. He pointed to the importance of the presentation of material and the student's ability to make authentic connections to it. He also identified the following behaviors of effective teachers:

- Use of student questions to guide lessons;
- Use of strategies to promote higher-order thinking;
- Use of a variety of activities and strategies to engage students;
- Monitoring of student engagement in all activities;
- Maintaining a student-centered classroom;
- Providing feedback;
- Designing assignments based on objectives; and
- Implementing elements of effective lessons.

The research-based indicators of effective teaching provide a framework for high-quality instruction that addresses the content standards for which teachers are held accountable and for the provision of a rich program of activities and experiences to maximize learning. Therefore, the indicators of high quality are powerful resources for the work that teachers do. They inform the design or modification of instructional materials – units of instruction and the activities and experiences that encompass it – that may be used to guide the teaching and learning process.

IV. Hammerman (2006a) used a review of national standards documents, literature, and research on effective teaching to identify eight indicators of high-quality teaching, in order to guide the development of curriculum and instructional processes. The review found that high-quality instructional programs:

- address clear and appropriate learning goals,
- build concepts and principles, develop skills, and practice dispositions valued by the scientific community,
- accommodate diversity through a meaningful context,
- include a variety of methods in a stimulating environment that engage and challenge students intellectually with attention to prior learning, misconceptions, and new learning,
- embed strategies that allow students to develop new or modified thinking frames (conceptual change) with links to their own lives, technology, and issues relevant to their community, state, nation, and world,
- develop thinking and problem-solving skills by using questioning, reflection, applications, graphic organizers, and other strategies that help students to make sense of what they are learning,
- incorporate a well-designed assessment system to monitor and guide the learning process and to provide frequent feedback to students about their learning, and
- utilize equipment, materials, and resources to enhance learning and provide a challenging learning environment.

MAKING INSTRUCTION MEANINGFUL

Every teacher is an instructional designer who makes hundreds of decisions related to classroom practices, activities, experiences, materials, and resources. Teachers have access to thousands of instructional activities and commercial products, as well as an endless supply of books, websites, and resources to support teaching and learning. Nevertheless, their efforts often fall short of expectations for high student achievement. The mere availability of instructional materials is not enough to ensure student success. The quality of the lessons that guide the teaching and learning process is a key factor in increasing student achievement.

In order for learning to be meaningful, it must incorporate new information into existing mental frames that comprise the learners' prior knowledge and experiences. Learning is meaningful when it builds on what is known and deepens learners' understanding of concepts by taking them to higher levels of cognition. Meaningful learning is often associated with engaged learning, in which students are actively involved in the instructional process and knowledge is processed and constructed through discussion, debate, mapping, and thinking.

Much has been written about how brain research can inform and guide more effective teaching and learning. Jensen (2000, p. 12) described the extraordinary potential of the human brain and its capacity for learning as follows:

The brain simultaneously operates on many levels of consciousness, processing all at once a world of colors, movements, emotions, shapes smells, sounds, tastes, feelings and more. It assembles patterns, composes meaning, and sorts daily life experience from an extraordinary number of clues. It is so efficient at processing information that nothing in the living or man-made world comes close to matching human learning potential.

Jensen expressed the concern that teaching in a "linear, structured and predictable fashion" inhibits the brain's learning ability and bores and/or frustrates learners.

Within the 12 brain/mind learning principles presented by Caine and Caine (1997), there is a strong emphasis on the ways the brain seeks and creates meaning. Caine and Caine defined meaningful learning as that which includes both *deep* and *felt* meaning. They described deep meaning as "whatever drives us and governs our sense of purpose. It includes all the instincts embedded in our reptilian brain, from survival and territoriality to nesting and flocking. It includes needs for social relationships and an emotionally rich life. And it includes our [...] intellectual and spiritual needs" (ibid., p. 111). Felt meaning is defined as the "coming together of thoughts and ideas and senses and impressions and emotions, something like a chemical reaction" (ibid., p. 113). Therefore, understanding results from the integration of thought with emotion.

Table 2 shows a stark contrast between traditional approaches and student-centered instruction. Statements related to teacher behaviors, students as learners, and the nature of student work are not unlike those described in the literature on engaged learning or observed in classrooms. The indicators provide two lenses through which instruction can be viewed and assessed: Traditional and Student-Centered.

Table 2. A Comparison between Traditional Instruction and Student-Centered Instruction (Modified from Hammerman, 2006b)

Traditional Instruction Teacher Behaviors	Student-Centered Instruction Teacher Behaviors
<ul style="list-style-type: none"> – Expository method dominates; “teach is tell” mentality; test preparation is a major focus – Directs all activities for students; uses a “cook book” – one-right-answer approach – Tells students what they will learn; explains the concepts and relationships; assesses knowledge through weekly tests – Uses same content every year – Uses text for content and verification of concepts – Instruction focused on “right” answers with minimal relevance or application to real world 	<ul style="list-style-type: none"> – Uses a variety of methods and strategies to address goals and standards – Allows students to ask questions and design activities; includes problem, project, and inquiry-based learning; mediates and monitors learning – Facilitates student thinking; allows students to explain concepts; uses “wait time”; provides frequent feedback – Learns with students; revises content/approach – Uses a variety of resources; provides contexts for learning that are relevant and meaningful – Instruction guides students to concept development and applications to lives, community, world
Student as a Learner	Student as a Learner
<ul style="list-style-type: none"> – Listens to lectures and/or takes notes from video or power point presentations – Memorizes terms and facts from text; answers questions at the end of chapters – Follows teacher or worksheet directions with little or no opportunity to deviate – Regards teacher as authority 	<ul style="list-style-type: none"> – Builds understanding through engaged learning and inquiry-based activities – Processes information for meaning through analyzing data, reflective questioning, and using terms and facts to communicate understanding – Has opportunities to design activities or investigations and conduct research to answer questions – Shares responsibility for learning
Nature of Student Work – Prescribed	Nature of Student Work – Varied
<ul style="list-style-type: none"> – Emphasis on notes and worksheets or end of chapter questions – All students complete the same tasks and answer the same questions – Teacher directs all tasks – Shows little/no thinking or reasoning, problem solving, or explanations – Little/no use of visuals to show understanding or relationships 	<ul style="list-style-type: none"> – Emphasis on research, investigations, data, and meaning; students have choices and opportunities to work collaboratively – Tasks vary; investigations and experiences are “real world” with emphasis on data and/or research – Teacher and students direct instruction and share responsibility for learning – Shows evidence of thinking, reasoning, problem solving, and/or explanations – Uses visuals and/or graphic organizers to show understanding and relationships between concepts

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EXTENDING TEACHERS' WORK TOWARD MEANINGFUL INSTRUCTION IN THE OUTDOORS

Outdoors as a Climate for Learning

Researchers have identified the need to provide rich and relaxed environments for learning to occur. Outdoor environments provide a climate similar to what Caine and Caine (1997) called “relaxed alertness” (low threat and high challenge) where students can be free to investigate and explore and/or be inspired and create without the barriers to learning that are often found in the classroom.

Diamond and Hopson (1998) defined an enriched environment for learning as one that:

- is free of stress and pressure,
- provides positive emotional support,
- ensures a nutritious diet,
- provides social interaction, and
- presents opportunities for sensory stimulation through active participation in appropriately challenging activities.

Outdoor environments provide novel and stimulating settings for active participation and sensory stimulation, which are often missing in traditional classroom settings. Through outdoor education experiences, teachers encourage thinking and cognitive flexibility by exposing students to novel ideas, viewpoints, settings, activities, cultures, and diverse group members.

A Model for Student-Centered Instruction

High-quality instruction results through thoughtful planning. Consideration must be given to a variety of important components that comprise a well-developed “blueprint” for instruction. High-quality lessons:

- focus on important concepts and principles, skills, and dispositions,
- provide a context for learning that is interesting and meaningful for students,
- involve numerous investigations and firsthand experiences that follow a learning-cycle model, address misconceptions, and use a variety of tools and technologies to engage learners,
- provide opportunities for students to investigate and explore, collect and record data, develop skills, and/or create products, reflect on experiences, make sense of experiences, and frame knowledge,
- provide frequent interactions between students and teacher, develop critical and creative thinking, formulate thought, and develop a deep understanding of concepts,
- link learning to the lives of students, technology, careers, community, state, national, and world issues, and other subject areas, and
- use a variety of formative assessments for providing feedback and monitoring learning.

Applying the Model to Outdoor Environments

Outdoor environments provide teachers with opportunities to extend their work by applying a wide range of instructional methods and strategies. Such environments are especially suited to multi-sensory experiences and investigations that provide challenges and deepen students' understanding of natural phenomena. Students can assume any number of roles and responsibilities, regardless of whether they are investigating their school grounds or visiting informal science centers. Out-of-school experiences are exciting for students, especially if they have not previously had such opportunities.

Learning is the dynamic process of shaping and reshaping thoughts based on new knowledge and experiences. It is the creative, on-going synthesis of observations, reflections, and information about the physical and social worlds. The process of inquiry defines the context and processes that enable the knower to craft understanding. Inquiry is the careful, on-going questioning of our understanding of the world around us; it is a dynamic, creative endeavor filled with wonder and surprise.

The ability to apply inquiry as a method of teaching is one of the major advantages of teaching in the outdoors. The stimulating environments provide an abundance of living and non-living things with which to engage students in active learning. As a multifaceted method of instruction, inquiry provides opportunities for students to:

- make observations,
- pose questions,
- access and use relevant information,
- plan and carry out data-rich investigations,
- use tools and technologies to collect, analyze, and interpret data,
- propose predictions, answers, and explanations,
- communicate, and
- apply and develop critical thinking, logic, and reasoning skills.

IMPLICATIONS AND CONCLUSIONS

Inquiry and Problem Solving in an Outdoor Laboratory

Inquiry Approach

Inquiry embodies elements of other approaches to learning, such as discovery learning, the exploratory approach, and the leading-question technique. The one basic aim of the inquiry approach is to involve learners in and with experience to the extent that they are able to formulate their own questions and deepen their understanding of concepts and the relationships among concepts. The following is an example of an inquiry-based experience linked to standards and objectives that are common to a middle-school science curriculum.

As an introduction to a unit on energy transfer in living systems, students are able to assume the role of a naturalist and explore the school grounds or a nearby park to

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discover a variety of habitats for local animals. The experience provides them with the following opportunities:

- Make careful observations and map the locations of habitats;
- Describe the habitats for birds, insects, squirrels, and other animals in detail;
- Look for evidence of food at or near the habitat (i.e., observe animals feeding, nut shells near a habitat, or stored food near a site) and infer the diet of local animals;
- Use data that they and other groups have collected to create food chains and food webs; and
- Apply their learning to the exploration of new environments.

Problem-Solving Approach

Students have an endless supply of questions about the natural environment. A problem solving approach can be used to motivate students to uncover and discover the processes, cycles, and patterns found in the natural world. When teachers encourage students to ask operational questions (i.e., questions that can be answered by investigating), they are setting the stage for active learning to occur. Problems may take the form of why or how something occurs, what will happen in certain circumstances, what effect does a human-created or natural disaster have on animals, plants, humans, the environment, and other forms. As students investigate problems, teachers are free to facilitate and monitor the learning process.

Investigating in Informal and Outdoor Environments

Table 3 provides a list of instructional activities for informal centers and outdoor settings. Although the list is by no means complete, it offers a vision for enhancing learning outside the classroom.

Extending Teachers' Work to Outdoor Settings

Through carefully planned and implemented instruction, teachers are able to assume the role of facilitators of learning. In this role, teachers are free to interact with students in small groups or to individually affirm or correct their work, listen to their ideas and explanations, and make sure they are not misinterpreting or misunderstanding concepts or processes. Interaction with students enables teachers to ask higher-level questions, share their thinking with students, and guide them toward successful learning. As a bonus, teachers and students can capitalize on the “teachable moment” as new, exciting, and unexpected opportunities arise.

Following investigations, teacher or student-led discussions may focus on student experience, data and/or products, and conclusions related to the inquiry questions and investigations. Students should not be left on their own to interpret data and experiences, as misconceptions may arise. By asking thoughtful questions, teachers

Table 3. Instructional Activities for Informal Centers and Outdoor Settings

Outdoor and Informal Learning Environments	Sample Engaged Learning Activities
Zoo, aquarium, aviary	<ul style="list-style-type: none"> – Investigate animal habitats – Discover food chains for animals – Observe exhibits and performances to determine characteristics of animals and their abilities to “perform”
Amusement parks	<ul style="list-style-type: none"> – Investigate forces and motion in roller coasters and other rides – Observe and investigate potential energy and kinetic energy, Newton’s Laws of Motion, simple machines, speed and acceleration, gravity, and other concepts firsthand
Natural science museums and displays	<ul style="list-style-type: none"> – Observe specimens and models – Learn about artifacts that relate to science content – Interact with specimens, such as rocks and minerals, animal skulls, pelts, fossils, plants and others – Identify the characteristics of natural materials and artifacts
School-sites, parks, cemeteries, botanic gardens, weather stations, water treatment facilities, outdoor education centers, nature centers, recycling centers, and other informal science centers	<ul style="list-style-type: none"> – Follow self-guided trails that lead to native specimens and natural phenomena – Observe a variety of plants and animals to identify unique features of organisms; observe similarities and differences – Attend performances and video presentations and create graphic organizers to show concepts and relationships between concepts – Engage in firsthand observation and activities, such as hunting for fossils, observing or collecting rocks, investigating cemeteries, planting trees, collecting sap to make maple syrup, investigating a variety of natural phenomena in fields and forests, ponds, lakes, or rivers, mapmaking, orienteering, creative writing, drawing – Observe rock outcrops and geologic features of the landscape – Follow stream beds to learn about weathering, erosion, and deposition – Study the historical markers, epitaphs, and grave stones in a cemetery – Observe the use of technology for identifying weather patterns and conditions – Identify problems and issues that arise due to weather-related forces and factors – Investigate sources of fresh water and the ways water is treated for human consumption – Identify problems and issues related to the availability of fresh water
Technology centers	<ul style="list-style-type: none"> – Observe the role of technology for enhancing data collection and measurement and use in visual displays – Observe technological design – Study relationships between structure and function in technology – Use the tools of technology to solve problems and extend learning – Identify strengths and limitations to technology – Identify “trade-offs” in the use of technology for solving problems
Outdoor structures, such as bridges, tunnels, dams, skyscrapers, and domes	<ul style="list-style-type: none"> – Identify natural materials used in building structures – Study the technological designs and the forces of compression and tension in bridges and domes – Study the shape and construction of: tunnels for bearing weight, dams for controlling the flow of water, and skyscrapers for dealing with forces of weight, wind, earthquakes, and others

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help students reflect on their experiences, make sense of their work, connect learning to prior knowledge to build deeper conceptual understanding, and create meaning through applications to their lives, technology, and/or society.

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EIJA KIMONEN

3. CHANGING AIMS AND VALUES OF OUTDOOR-ORIENTED EDUCATION

*Ideals for Teachers' Work from
the American and Indian Experience*

INTRODUCTION

What were the aims and associated values of outdoor-oriented education in two socially different countries, the United States and India, during the 20th century? This chapter examines this extensive issue. It begins with an analysis of the aims and social goals of this form of education from the standpoint of work and activity education in the two countries. Then it compares the aims and associated value dimensions from the perspective of the educational philosophies, ideologies, and related pedagogical approaches in different periods.

An understanding of educational aims, purposes, values, and their philosophical and historical bases is one of the central elements in the teaching profession (see Shulman, 2004, p. 227). Aims and values, which give outdoor educators direction in terms of what they are hoping to accomplish, are influenced by changing economic, political, and social forces as well as by educational philosophies and theories. This could be interpreted as meaning that the process of teaching in outdoor settings is linked with the broader development of educational policy within a particular social context.

The present study is part of a wider research project, the goal of which is to investigate the interrelationship between education and society during the 20th century (Kimonen, 2013, pp. 48–50). It follows the developmental trends of educational policy within a social context regarding the social, economic, and political factors of national identity. The general purpose is to demonstrate and document the existence of deep-rooted social and educational policies, patterns, and trends. A historico-hermeneutical approach is utilized in the comparative educational method. The methodological decisions are primarily based on the ideas of Kandel, Hans, Ulich, Mallinson, King, Danner, and Betti.

The expression “outdoor-oriented education” refers to the interrelationship between education in school and reality outside of school. Thus, outdoor-oriented education tries to find answers to the ultimate questions about education in school: What is the function of education? What are the contents that education should offer? What are the means that should be used in education? Where should education take place?

The concept of “outdoor education” offers a valuable structural basis for formulating the concept of outdoor-oriented education and providing it with requisite elaboration and nomenclature. According to Donaldson and Donaldson (1958), “[o]utdoor education is education *in, about, and for* the outdoors” (p. 17). It takes place *in* out-of-school settings related to real life, deals with subject matter *about* life out of school, and prepares students *for* life outside of school.

This study regards “outdoor-oriented education” as socially organized, intentional activity aimed at interaction between the person to be educated and the environment in which knowledge, skills, and attitudes are transferred and acquired in order to preserve or change individual and social activities. Outdoor-oriented education is also seen as curriculum-centered teaching and education based on the interaction between theory and practice, taking place *in* settings linked intimately with out-of-school reality, concerning subject matter *about* the reality outside the school, and preparing students *for* dealing with this reality. Additionally, outdoor-oriented education combines the forms of school education connected with the reality outside the school in accordance with the different value objectives of different types of society. Outdoor-oriented education is a superordinate concept that also contains the concepts of outdoor-oriented work and activity education.

This study approaches “outdoor-oriented work and activity education” as forms of school education linked to the reality outside of the school and consistent with the different value objectives prevailing in different societies. “Outdoor-oriented work education” is defined as instruction and education based on the interaction between theory and practice in which the persons to be educated are familiarized with the skills, prevailing procedures, and principles needed in the world of business and commerce. Outdoor-oriented work education is also intentional activity which gives rise to material results. “Outdoor-oriented activity education” is defined as instruction and education based on the interaction between theory and practice, and aimed particularly at initiating series of events and paths of development connected with the physical realities of life. Outdoor-oriented activity education is also intentional activity giving rise to material results as it combines with the performance of work.

The concept of outdoor-oriented education utilized in this study combines the different forms of school education that are linked to the reality outside the school in accordance with the different value objectives constituting the background for different societies. The concept allows us to visualize the complex world of phenomena between education and society in considerable detail. The concepts subsumed within outdoor-oriented education in different societies and reflecting their value objectives include activity education and work education.

The Role of Education in Society: Two Perspectives

Social changes can be seen as complex internal and external dialectical processes that develop in interaction with the educational system. The aims determined for education reflect the changing national and/or international economic, political, and social

views and values. When examining developmental trends and the role of education in societies within this process, these views and values can be seen as consensus or conflict-theoretical orientations. According to Ballantine and Spade (2008, pp. 9, 14), the consensus-oriented functionalist theory postulates that education promotes socio-economic development. The functionalist theory examines the social mission of schools from the perspective of their goals. In society, shared values are essential for maintaining balance. The conflict-theoretical view of social reproduction regards schools as parts of a social superstructure that molds individuals according to the goals of the dominant class. In order to achieve an ideal society, it is necessary to have an educational system that breaks down a circle of reproduction in this manner.

Traditions to Educational Aims

Functionalist and Pragmatist Approaches

The nature of educational aims can be examined in relation to certain different traditions of thought. This chapter interprets the aims of outdoor-oriented education from the perspective provided by the functionalist and pragmatist traditions, as well as through a global approach, based on the framework presented by Rizvi (2007, pp. 65–67, 88).

Durkheim (1956) approaches the aims of education from the standpoint of the functionalist tradition, attaching a central role to a systematic socialization process, through which young people are socialized to a particular society (p. 71). The instrumental aims of education reflect the processes that provide a foundation for society, as the educational system is a historical output constructed by society. A society attempts to reproduce commonly accepted beliefs, norms, and traditions through the school system. Even though school is intended to be developed in compliance with the requirements of the day, an educational system is always influenced by the society's past developmental stages (ibid., pp. 72, 89, 94–95). According to Durkheim, one of the key objectives of a national educational reform is to understand the historical characteristics of society by analyzing them, and only then to reflect on how to develop society by reconstructing the educational system (ibid., pp. 152–153). Following this approach, the aims of education express the social needs of a particular era and location. Society constructs the educational system by promoting and reproducing social ideals (Durkheim, 1977, pp. 11, 14).

If the aims are viewed from the perspective of a pragmatist tradition, in turn, it is understood that education refers to continuing growth, which is a goal in itself. The value of school education can be determined based on how well it can generate willingness to continually grow and provide the means to realize these efforts (Dewey, 1950, p. 62). Dewey suggests that the aim of education is to provide individuals with opportunities to continue their own education. Education is thus both the end and the means. Nonetheless, Dewey admits that although certain aims are also applicable to teachers' practical work, they must be linked to the educational activities in a natural manner so that they are flexible and arise from the circumstances. Moreover, they must be based on activities and needs that are typical of the individual being educated.

Ultimately, it is the teacher who must be able to translate the aim into a method that suits the learning situation (ibid., pp. 117, 121–124, 126).

The functionalist and pragmatist traditions, however, can also be analyzed critically. It has been argued that the pragmatist tradition presents the aims at an overly general level, and that the functionalist interpretation of goals leaves little room for social critique or radical change (Rizvi, 2007, pp. 66–67). Conflict theoreticians have found that functionalism does not recognize the ideological supremacy of the dominating class, which is why society regards its values as natural.

A Global Approach

Education has become a global issue, which is also creating new pressures on educational systems and teachers' work. Rizvi (2007, pp. 64–65, 88) argues that traditional approaches to the aims of education are no longer sufficient, as they are not fully engaged with the new global, transnational economic, political, and cultural interdependencies. Traditional approaches can not be used to develop broader educational outlooks that aim to prepare students to be critical and committed to meet the new challenges, threats, and opportunities of globalization. It has been claimed that the global economy calls for a new kind of employee who is multi-skilled, service-oriented, adaptable to changes in the nature and conditions of work, and able to work in global, multicultural environments. The ability to utilize new information and communication technology is considered highly important.

This chapter examines the aims and values of outdoor-oriented education in the United States and India within the context of social trends. The primary focus in the United States is outdoor-oriented, experiential activity education, and in India outdoor-oriented, vocationally productive work education. The aims of education and their connected social goals are first compared in different periods from the standpoint of society and school-centered outdoor-oriented education. The aims and value dimensions of outdoor-oriented education are then compared in the light of the main currents of educational philosophies, ideologies, and related pedagogical approaches that prevailed in different periods. The aims of education and the value dimensions intertwined in them are analyzed in the United States during the periods of Early Industrialism (from approx. 1820 to 1940) and Late Industrialism (from approx. 1940 onwards), and in India during the periods of Indian Tradition (until the mid-1950's) and Indian Modernization (from the mid-1950's onwards). Finally, the revealed types and degrees of emphasis regarding the aims of education and associated value dimensions are compared briefly from the perspective of the social trends in question.

THE AIMS EMPHASIZED IN SOCIETY AND SCHOOL-CENTERED
OUTDOOR-ORIENTED EDUCATION IN THE CONTEXT OF SOCIAL TRENDS
IN THE UNITED STATES AND INDIA

In the early 20th century, education in the United States was seen as a prerequisite for the country's social development. Teaching was to be integrated with practice, immediate experiences, and real life in the society in order to respond to the challenges of an early industrial society. Later, during the period of Late Industrialism, it was believed that education based on activities could update science and technology in a highly-developed industrial state. In India, education was also regarded as a tool for national development after independence during the period of Indian Tradition. Work education was mandatory for the development of an economically self-sufficient Indian society. The Indian school curriculum also included work, this being based on the desire to accelerate development toward an industrial society during the period of Indian Modernization.

This chapter shows that the aims of outdoor-oriented work and activity education have reflected the social thinking of the time in these two countries. Changes can be perceived in these aims over different periods due to vacillation in the mutual patterns of emphasis and influence between the social, economic, and political factors in society. In terms of the society-centered pattern of outdoor-oriented activity education in the United States, it could be said that the motor and socio-moral aims were particularly emphasized during the period of Early Industrialism, if the focus is on the integration of motor, socio-moral, and intellectual education. Intellectual aims were stressed in the school-centered pattern of outdoor-activity education during the period of Late Industrialism. Reciprocally, with regard to the society-centered pattern of outdoor-oriented work education in India, it is possible to conclude that the physical and socio-moral aims were emphasized during the period of Indian Tradition, specifically in terms of the integration of physical, socio-moral, and intellectual education. Again, the school-centered pattern of outdoor-oriented work education stressed intellectual aims during the period of Indian Modernization.

This kind of research following social trends is possible if the aims are studied from the standpoint of policies (Figure 1). The aims, which are among the policies created far from the point of action, are constituted of intentional principles (referred to here as policy-in-intention) (see Gupa, 1984, pp. 64–65). They are regulated by the goals, aims, and strategies stipulated in the laws and statutes, as well as by the rules and guidelines, formal and informal, of the societies concerned.

Within the society-centered pattern, the primary emphasis was on motor and socio-moral aims when examining outdoor-oriented activity education during American Early Industrialism, and on physical and socio-moral aims when exploring outdoor-oriented work education during Indian Tradition (Table 1, p. 62). In looking at the social practice during the period of Early Industrialism in the 1920's and 1930's, the claim could be made that in a society based on the free-market ideology of liberalism it was essential to have both national economic dependence and individual self-sufficiency.

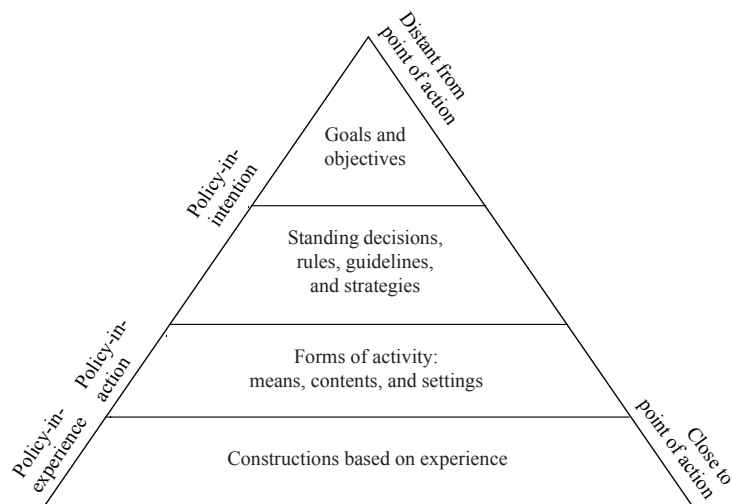


Figure 1. Policy Types and Their Appearances in This Study

Stressing motor and socio-moral aims allowed for a specific effort to educate the real American, a citizen, who has internalized “the American dream,” for the early industrial liberalistic society. The goal was to create a capitalist society that would account for individual needs in which people work in industrial and agricultural production and, increasingly, in the service sector. In similar fashion, during the period of Indian Tradition in the 1940’s and 1950’s, the authorities were willing to pursue a policy of economic self-sufficiency based on decentralization, in which manual work would be performed in handicraft and agricultural production. The goal was a traditional Indian society that considers community needs. In particular, physical and socio-moral aims were to serve as a basis for educating spiritualized, spiritually and morally fortified craftsmen for the pre-industrial agrarian society, which was authorized by traditions. Central components in the social practice were the commitment to family, relatives, and caste, as well as local self-sufficiency and self-reliance.

In the context of the school-centered pattern, intellectual aims were primarily emphasized in outdoor-oriented activity education during the period of American Late Industrialism, and in outdoor-oriented work education during the period of Indian Modernization (Table 1). During the period of Late Industrialism in the 1950’s and 1960’s, the goal was to create a capitalist society that would take individual needs into consideration, one in which people would work in scientifically and technologically advanced, modern industrial and agricultural production, as well as in the service industries. The accent on intellectual aims represented an attempt to train experts for the world’s most scientifically and technologically advanced society. Such a technologically sophisticated industrial society, having its basis in the free-market ideology of liberalism, increasingly emphasized its commitment to international economic policy and related

political and cultural interdependencies. Correspondingly, during the period of Indian Modernization in the 1960's and 1970's, the Government wanted to proceed toward a mixed economic policy based on a planned economy in which mental work would be performed in a scientifically and technologically advanced, modern industry. The goal was a regulated capitalist society that would consider individual needs and be oriented by the principles of a non-dogmatic form of socialism. Stressing intellectual aims was an effort to train intellectually capable experts for a modern industrial society. The central factors in a capitalist society of this type, aspiring as it does to secularism and social equality, can be said to be occupational, organizational, and party commitment, but also commitment to national economic policy and connected foreign cultural and political interdependencies.

Comparisons

Table 1 provides a side-by-side comparison of the different types and degrees of emphasis placed on the aims of outdoor-oriented work and activity education in a social context in the United States and India in different periods, concentrating on society and school-centered outdoor-oriented education. The aims of education and related social goals are considered in the United States during the periods of Early Industrialism (the 1920's and 1930's) and Late Industrialism (the 1950's and 1960's), and in India during the periods of Indian Tradition (the 1940's and 1950's) and Indian Modernization (the 1960's and 1970's).

New Trends and Reforms

The structural adjustment program directed by the World Bank since the 1980's for the purpose of reorganizing the world economy emerged as an unexpected link between social and economic development in both the United States and India. In these two countries, particularly in the early 2000's, the observation was made that the new neoliberal global economy spreading from America to Asian countries called for parallel educational reform in both countries. Consequently, the school-centered aims of outdoor-oriented education were also adapted in order to respond to the conservative demands related to efficiency, standardization, control, and accountability. For instance, the decisions were made in the 1990's to concretely develop the Indian national economy in the same direction as the United States when the country's new liberal economic policy strove to liberate its centrally controlled economy. The goal was now a capitalist society based on an open economy, of which economic and technological renewal would be oriented by the international neoliberal doctrine. Laying stress on intellectual aims allowed for the training of experts for a scientifically and technologically advanced industrial society, in which mental labor would be carried out in global, supranational companies and their information and communication technology-centered environments. In such a capitalist society, which aspired to international competition and economic prosperity, a central role was to be

Table 1. The Aims Emphasized in Society and School-Centered Outdoor-Oriented Education during the Periods of American Early and Late Industrialism and of Indian Tradition and Modernization

Aspect	Early Industrialism (1920's-1930's) Society-Centered Outdoor-Oriented Activity Education	Indian Tradition (1940's-1950's) Society-Centered Outdoor-Oriented Work Education
Aims of education	In the integration of motor, socio-moral, and intellectual education, the emphasis is on motor and socio-moral aims. The aim is to educate a real American, a liberalistic and individualistic citizen, who has internalized "the American dream."	In the integration of physical, socio-moral, and intellectual education, the emphasis is on physical and socio-moral aims. The aim is to educate a spiritually and morally fortified craftsman, a self-reliant and community-oriented citizen, who is committed to truth.
Social goals	<i>A capitalist society.</i> The goal is to develop the early industrial society that follows the ideas of liberalism and free market economy.	<i>A traditional society.</i> The goal is to strengthen the pre-industrial agrarian society that pursues a policy of economic self-sufficiency based on decentralization.
Aspect	Late Industrialism (1950's-1960's) School-Centered Outdoor-Oriented Activity Education	Indian Modernization (1960's-1970's) School-Centered Outdoor-Oriented Work Education
Aims of education	In the integration of motor, socio-moral, and intellectual education, the emphasis is on intellectual aims. The aim is to train a highly developed expert with intellectual resources and technological skills, who is a liberalistic and individualistic citizen familiar with technology.	In the integration of physical, socio-moral, and intellectual education, the emphasis is on intellectual aims. The aim is to train an intellectually capable expert, a secularist democrat, who is an individualistic citizen familiar with technology.
Social goals	<i>A capitalist society.</i> The goal is to achieve a technologically sophisticated industrial society that follows the ideas of liberalism and free-market economy.	<i>A regulated capitalist society.</i> The goal is to create a modern industrial society that follows the ideas of a non-dogmatic form of socialism and a mixed economic policy based on planned economy.

given to commitment to global economic policy and its complex associated political and cultural interdependencies.

The following section explores the aims and values of outdoor-oriented work and activity education in the United States and India from the standpoint of social trends. These aims are studied from the perspectives of the main currents of educational philosophies and ideologies, as well as related pedagogical approaches, by utilizing the categorizations of values presented by Spranger (1966, pp. 109–246), Ahlman (1939, p. 73), Allport, Vernon, and Lindzey (1970, pp. 3–5), and Schwartz (1992, pp.

6–13, 28–29). The key educational aims and the value dimensions intertwined in them are compared in the United States during the periods of Early and Late Industrialism, as well as in India during the periods of Indian Tradition and Modernization.

AIMS AND VALUES OF OUTDOOR-ORIENTED EDUCATION

The Aims and Values of Outdoor-Oriented Education in American Early Industrialism and Indian Tradition

During American Early Industrialism in the 1920's and 1930's, the society-centered pattern of outdoor-oriented activity education emphasized the motor and socio-moral aims that had been designed to educate a real American, a citizen, who has internalized “the American dream,” for the early industrial, liberalistic society (Table 2). The background idea for this type of a developmental stage was to integrate motor, social, and intellectual education, which was also combined with mental and moral consciousness. The goal of the progressive school, rooted in pragmatism, was to educate individuals in a way that took their interests and needs into account while socializing them into the requirements and values of a society during Early Industrialism. In the light of an approach to progressive education based on experimentalism, the observation can be made that outdoor-oriented activity education emphasized the learning experience with active involvement. Pedagogical progressivism was, by nature, a universal pedagogical approach that, in a down-to-earth manner, strove to narrow the gap between education and society. Its purpose was to unite school directly with life, to work and activities in the community; this was done, for example, by training manual skills so that students could utilize their out-of-school experiences at school and, in turn, apply the subject matter learned at school to practice in daily life. This process intended to naturally integrate the curricula of the various subjects and grade levels. The ultimate, socio-ethically value-oriented goal for education was to teach students the ideology of liberal democracy: how to act as members of the embryonic society of the school and in the real life of an early industrial society. The features and aims of pedagogical progressivism are described more thoroughly in the following summary, which is based on Dewey's works (1950; 1953):

According to Dewey (1953), the school itself is to be “a genuine form of active community life, instead of a place set apart in which to learn lessons” (p. 11). Such a progressive school aims at familiarizing the students with skills and courses of action needed in society. Thus, the learning induced by activity is to be based on immediate experiences, proceeding by means of problem solving (Dewey, 1950, p. 192; 1953, pp. 10–11). The instruction process is to combine motor, social, and intellectual education, with an emphasis on mental and moral consciousness (Dewey, 1953, pp. 131–132). In the light of the progressive pedagogical approach, the aims of outdoor-oriented activity education include the following:

- To integrate the curricula of the various subjects and grade levels;
- To teach manual skills;
- To utilize experiences acquired outside the school within school itself;

- To enhance the application of the subject matter learned at school to practice in daily life;
- To prepare for membership of society;
- To teach the ideology of democracy, that is, acting in the embryonic society of the school and in the real life of society; and
- To unite school directly to life, to work and activities in the community (ibid., pp. 11, 27–28, 66–67, 71–76, 80–81).

The reformist implication of pedagogical progressivism, a school camping approach based on nature-closeness, initially had only rare connections to school curricula. In the early days, the purpose of organized and public school camping was to offer students outdoor life experiences under camp conditions. An attempt was made to develop camping skills in order to promote virtues related to nature, but also to the students' character, health, work, love for one's fellow creatures, and citizenship. The nature and aims of organized camping are illustrated in more detail in the following overview, which is based on the publications of Sharp (1941) and Gibson (1939):

Sharp (1941) wrote that "camping is a way of life" that is to be based on the past struggles of the people and on the role of nature in life as a whole. It is to relate to the way people used to live and still do in the open, close to nature. The aim is the development of the whole child involving, in addition to character building, the advancement of aspects associated with physical fitness, spiritual balance, and health (ibid., pp. 4–6). The aims of organized camping include the following:

- To teach the knowledge, skills, and attitudes necessary for simple and healthy life;
- To develop camping skills and leisure activities;
- To teach respect for work, that is, adopting a conscientious attitude towards work and appreciating work as a joy in life;
- To develop character;
- To promote love of nature and one's fellow man;
- To raise national spirit; and
- To offer experiences in the great outdoors (Gibson, 1939, pp. 2, 5–6).

The relatively few public school camps that existed during the period of Early Industrialism tended to offer students real-life situations under camp conditions, in addition to the regular outdoor activities, by observing nature in order to learn about it and understand it better. These were just the preliminary intentions for integrating school camping with school education. Emphasizing the universal values associated with nature and life also represented an aspiration for socio-ethical values related to the individual's inner self, fellow creatures, and national spirit. The following summary expresses the features and aims of education through school camping:

Vinal (1936) pointed out that school camp is "a school of realism where human and natural values" are to be more important than their academic counterparts. "The materials of camp are to be the materials of life." Working "in the laboratory of life" lead to the socialization of the individual (ibid., 424). The aims of public school camping include:

- To integrate camping with school teaching;

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- To teach camping skills and knowledge of nature;
- To enhance initiative and independence;
- To develop social skills;
- To promote national spirit; and
- To provide real life situations under camp conditions
(Sharp, 1935, pp. 26–29; Sharp & Osborne, 1940, pp. 236–237).

During the period of Indian Tradition in the 1940's and 1950's, by comparison, the society-centered pattern of outdoor-oriented work education emphasized the physical and socio-moral aims that endeavored to educate spiritually and morally fortified citizens for a traditional Indian society (Table 2). In this manner, physical, socio-moral, and intellectual education was intentionally integrated. The aim of neo-traditional education, based on the Gandhian tradition in the theory of truth, was to apply universal life values in developing attributes of personal character; that is, character building, in order to train self-sufficient, independent citizens for a traditional society. The ultimate goal associated with socio-ethical values was national reconstruction through Gandhian basic schools. The essential nature and aims of neo-traditional education are concretized in the following description, based on the thoughts of Gandhi (1948; 1950; 1962a; 1962b; 1963):

According to Gandhi (1948), teaching should be linked in its totality to village handicraft production or other lines of work, since a person develops best within a village community in which a balance obtains between individual and social development (pp. 258–259). A school of this type, based on Indian tradition, tries to familiarize students with the vocational activities required in the community, such as spinning, carpentry, and agriculture, in which case in-depth learning of different ways of working and of the phases involved will lead to a higher level of development of the body, mind, and soul (Gandhi, 1962a, p. 11; 1962b, p. 59). Teaching is to progress scientifically, emphasizing the interpretation of the bases of the work processes (Gandhi, 1948, p. 257). In the light of the trend in education based on Gandhi's ideas, the aims of outdoor-oriented work education include the following:

- To correlate the various subjects in the school's curricula around the work;
- To provide vocational training in craft or other local work;
- To make learning without books possible;
- To decrease educational expenses;
- To promote the beneficial use of what is learned at school in practice, in everyday life;
- To teach respect for manual work;
- To abolish the inequality between manual and intellectual work as well as between the workers;
- To increase self-sufficiency, thus doing away with unemployment;
- To promote social development, that is, raising the morals of the nation and working to achieve a democratic social order non-violently; and
- To combine teaching with the village community, its handicraft production and manual occupations
(Gandhi, 1948, pp. 259–260; 1950, pp. 30–31; 1962a, pp. 11–12, 65, 89; 1962b, p. 193; 1963, pp. 36, 44–45).

In the context of an approach to neo-traditional education based on *satyagrahism*, outdoor-oriented work education could be said to draw attention to life-centeredness in pedagogy. This constituted the neo-traditional approach of craft-related education, which was a means of searching for ways to link school education as closely as possible to practice in real-life learning environments. The purpose of craft-related education was to integrate instruction into students' lives and communities, their local productive work and crafts. The aim was to help them utilize what is learned at school in practice, in daily life, in order to promote their self-sufficiency and independence in a pre-industrial agrarian community. The following condensed description of the Zakir Husain Committee Report (1938) illustrates the characteristics and aims of craft education in more detail:

The Zakir Husain Report (1938) argued that teaching should be closely connected with local productive work, since this is the best means of effecting integrated, diversified education. Some local craft such as spinning and weaving, carpentry, agriculture, fruit and vegetable gardening, or other work belonging to the life of the community is to be chosen as the basis for craft education in the school (*Basic National Education: Report of the Zakir Husain Committee and the Detailed Syllabus with a Foreword by Mahatma Gandhi*, 1938, pp. 12–14, 19). The aims of craft education in the basic school include:

- To make a uniform curriculum for the entire school;
- To provide vocational training;
- To reduce educational expenses;
- To teach respect for manual work;
- To break down the prejudice between manual and intellectual workers;
- To increase national self-sufficiency;
- To teach democratic civil action, that is, carrying out responsibilities and using civil rights in a cooperative community;
- To promote social development without violence, that is, working to achieve solidarity between people and democracy in the various areas of culture; and
- To integrate teaching into the child's life – to one's own community, its local productive work and crafts

(*ibid.*, pp. 12–17, 19).

Economic values were also prioritized in education by stressing schools' self-maintaining activities and instruction without books, even though the teachers tried to correlate all of the various subject curricula around work. However, guided by social and traditional values, the most essential thing was the attempt to break down the prejudice between manual and intellectual workers in order to help implement civil rights and duties in a cooperative community. Character building was used as a means for accomplishing the various virtues needed in goal-directed activities, such as courage, resilience, and unselfishness that arise from the universal values. The ultimate end of education related to socio-ethical values was to contribute to societal development without violence in order to reach a democratic social order in which solidarity between humans would be accentuated. The following summary describes the role and aims of craft education in the pursuit of a righteous society:

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The *Handbook for Teachers of Basic Schools* (1958) pointed out that productive, creative, and socially useful work is to be the core of teaching, since the schools are to offer education for life as well as education through life. This would make the achievement of a non-exploitative and non-violent society (ibid., p. 6). The syllabus for post-basic education (1961) accentuated that the purpose of education is to further the construction of a new and just social order, which presupposes the integration of education into the crafts pertaining to the handicraft production and agriculture of the village community (*Report of the Syllabus Committee for Post Basic Education*, 1961, pp. 42, 44). The aims of craft education include the following:

- To integrate teaching in the school's various subjects through the crafts;
- To develop the ability to coordinate sensory activities and apply such experience in real situations;
- To lead to investigate the processes, tools, and arrangements relevant to the craft;
- To enable higher education by continuing to practice the craft in question in a self-reliant manner;
- To help attain a livelihood through the craft after schooling;
- To give the opportunity to become a good guide in the development of the crafts practiced by the community; and
- To advance the development of the school and the community, that is, making the school a center for comprehensive social service and reconstruction for the community, as well as making the latter as self-sufficient and cooperatively functioning as possible, to be an example for the surrounding region

(*Report of the Syllabus Committee for Post Basic Education*, 1961, pp. 43–46; *Syllabus for Basic Schools*, 1956, p. 7).

The Aims and Values of Outdoor-Oriented Education in American Late Industrialism and Indian Modernization until the 1970's

The school-centered pattern of outdoor-oriented education put the primary emphasis on intellectual aims in activity education during American Late Industrialism as well as in work education during Indian Modernization (Table 2). In the United States, the essentialist school, consistent with realism, laid stress on intellectual aims in activity education in accordance with the epoch-making *National Defense Education Act of 1958*. Through these aims, the purpose was to train experts by integrating motor, socio-moral, and intellectual education, for the world's most developed capitalist society of science and technology. Education was harnessed to the international power struggle through an attempt to strengthen the country's political security and supremacy by accentuating intellectual aims, while, in fact, the intention was to promote theoretical values associated with truth, knowledge, and science.

Outdoor education was the earliest approach of the school-centered pattern during the period of Late Industrialism. The following summary of the works of Sharp (1943; 1946; 1947; 1952) and Smith (1956) illustrates the essence and aims of outdoor education in the early years, when this mode of education was gradually becoming school-centered with greater emphasis on intellectual aims:

Sharp (1947) suggested that outdoor education is to advance from school to society in continuously “widening circles,” the activity reaching its peak in the school camp (p. 35). The subject matter that could best be learned outside the classroom should be learned there (Sharp, 1947, pp. 34–35; 1952, pp. 1, 3; Smith, 1956, p. 7). The aims of outdoor education include:

- To integrate the contents of curricula;
- To promote acquisition of knowledge, that is, learning it faster, retaining it longer, and understanding it more deeply;
- To arouse interest in learning;
- To teach the ideology of democracy, that is, respecting one’s fellow man and mastering cooperation skills; and
- To offer immediate learning experiences in natural surroundings and the community

(Sharp, 1943, pp. 363, 367; 1946, p. 192; 1947, pp. 33–34; 1952, pp. 19–22).

The early 1950’s and the mid-1960’s were characterized by the standardization of outdoor education, which also included the uniformity of pedagogical aims (for a closer examination of the period, see Hammerman, Hammerman, & Hammerman, 2001, pp. 239–242). The tendency in this process was the holistic integration of outdoor education into the school curriculum by concretely extending the classroom to form an outdoor laboratory in the natural or cultural environment. The purpose of such an approach to outdoor education was to enrich the curriculum, reinforce teaching, and stimulate learning, thus widening its dimensionality. The theoretical values of education were also prioritized in the spirit of realism so that the accent was on developing problem-solving skills and utilizing all the senses through research-based learning. Instead, less stress was placed on the aims related to universal values, such as enhancing the ability of students to appreciate and understand the natural environment. However, the idealistic goal of education was to develop the ability of students to act as constructive members of a democratic society. The nature and aims of outdoor education are illustrated in more detail in the following summary. It is based on the works of Hugh and Wilson (1965) and Fitzpatrick (1968):

Fitzpatrick (1968) concluded that outdoor education is to utilize the resources beyond the classroom to enhance and enrich teaching and learning (p. 78). Concerning this, Hugh and Wilson (1965) wrote that outdoor education is based on exploratory and discovery learning, which is to proceed by means of problem solving, exploiting all of the senses in observation and perception (pp. 5–6, 8–10). The aims of outdoor education include the following:

- To enrich the curriculum;
- To develop all intellectual, physical, and mental abilities of the individual;
- To stimulate learning;
- To develop knowledge, skills, and attitudes needed for the wise use of leisure time;
- To promote awareness of nature and the human being’s relation to it, that is, appreciating and understanding the natural environment and the relationship between the human being and nature;
- To enhance the abilities of the individual to play a more constructive role in

- society, that is, developing civic-mindedness and promoting democratic human relations and procedures; and
- To offer direct learning experiences beyond the classroom
- (Fitzpatrick, 1968, p. 49).

India entered a parallel phase in the 1960's, giving precedence to work education over the aims connected with theoretical values (Table 2). In accordance with the Kothari Commission Report (1966), the neo-colonial school emphasized intellectual aims in an effort to integrate physical, socio-moral, and intellectual education, within outdoor-oriented work education. The purpose of such a preference was, consistent with dialectical-historical materialism, to train experts for a modern society of secularism and social equality. Specifically, procedural knowledge was rated highly among the aims of neo-colonial work-experience education; that is, knowledge about how to do something, which was a prerequisite for the application of modern technology and science in the production processes. Even though social values were still promoted in teaching, the significance of science and technology-related values, in particular, was now underlined in order to enable students to understand modern technology and its scientific principles. Features and aims of work-experience education are described briefly in the following overview, which covers the Kothari Commission Report (1966) and *The Curriculum for the Ten-Year School* (1975):

According to the Kothari Commission Report (1966), a modern, developed, technology-based society needs intellectually capable workers. For this reason, school curricula are to be supplemented with programs of work experience implemented both inside and outside the school. The productive processes of these programs are to combine industrialization, the application of science and technology (*Report of the Education Commission 1964–66*, 1966, pp. 7–8). *The Curriculum for the Ten-Year School* (1975) aimed at the reformation of teaching using work experience, since the technological development of a modern society presupposes familiarization with changed working skills and processes (p. 18). The aims of work experience include the following:

- To develop the knowledge, skills, and attitudes useful in the productive work of a modern society;
 - To lead to an understanding of the need for and usefulness of modern labor-saving devices and tools and to understand the techniques involved in their use and the underlying scientific principles;
 - To advance social and national integration, that is, to reduce the difference in the appreciation of intellectual and manual work with new technology, thereby reducing class differences, particularly as concerns the elite and the masses; and
 - To offer programs of work experience inside and outside the school
- (*The Curriculum for the Ten-Year School*, 1975, p. 18; *Report of the Education Commission 1964–66*, 1966, pp. 7–8).

Comparisons

Table 2 presents a side-by-side comparison of the different types and degrees of emphasis placed on the aims and values of outdoor-oriented work and activity

Table 2. The Aims and Values Emphasized in Outdoor-Oriented Education during the Periods of American Early and Late Industrialism and of Indian Tradition and Modernization

Aspect	Early Industrialism (1920's–1930's) Society-Centered Outdoor-Oriented Activity Education	Indian Tradition (1940's–1950's) Society-Centered Outdoor-Oriented Work Education
Aims of education	<i>Progressive education based on experimentalism:</i> In the integration of motor, socio-moral, and intellectual education, the emphasis is on motor and socio-moral aims.	<i>Neo-traditional education based on satyagrahism:</i> In the integration of physical, socio-moral, and intellectual education, the emphasis is on physical and socio-moral aims.
Central pedagogical approaches	<i>Education through school camping:</i> The aim is to integrate school education with camping life, while attempting to familiarize students with camping skills and nature.	<i>Craft-related education:</i> The aim is to integrate school education with students' lives and community, while attempting to familiarize them with local productive work and crafts.
Central social value dimensions	<i>A capitalist society based on a free market economy:</i> Socio-ethical and universal values	<i>A traditional society based on a decentralized policy of economic self-sufficiency:</i> Traditional, socio-ethical, and universal values
Aspect	Late Industrialism (1950's–1960's) School-Centered Outdoor-Oriented Activity Education	Indian Modernization (1960's–1970's) School-Centered Outdoor-Oriented Work Education
Aims of education	<i>Essentialist education consistent with realism:</i> In the integration of motor, socio-moral, and intellectual education, the emphasis is on intellectual aims.	<i>Neo-colonial education consistent with dialectical-historical materialism:</i> In the integration of physical, socio-moral, and intellectual education, the emphasis is on intellectual aims.
Central pedagogical approaches	<i>Outdoor education:</i> The aim is to connect school education to the natural or cultural environment, while attempting to develop problem-solving skills and utilize all senses in observation and perception.	<i>Work-experience education:</i> The aim is to connect school education to agricultural or industrial production, while attempting to familiarize students with production processes related to the application of technology and science.
Central social value dimensions	<i>A capitalist society based on a free-market economy:</i> Theoretical values particularly related to science and technology, and values related to power and safety	<i>A regulated capitalist society based on a mixed economic policy:</i> Theoretical values particularly related to science and technology

education in the United States and India during different periods. The comparison is performed in the light of the main currents of educational philosophies, ideologies, and related pedagogical approaches, the primary research focus being society and school-centered outdoor-oriented education. The central aims of education and

associated value dimensions are examined in the United States during the periods of Early Industrialism (the 1920's and 1930's) and Late Industrialism (the 1950's and 1960's), and in India during the periods of Indian Tradition (the 1940's and 1950's) and Indian Modernization (the 1960's and 1970's).

*The Aims and Values of Outdoor-Oriented Education in
American Late Industrialism and Indian Modernization since the 1970's*

Since the 1970's, the intellectual aims of outdoor-oriented education in India and the United States were increasingly connected to the promotion of theoretical values, as shown by the prevailing developmental pattern of school-centered outdoor-oriented education (Table 3). At the time, India again demonstrated an aspiration to detach itself from the tradition of a colonial educational philosophy and develop its own national educational thought. In the post-colonial school, in accordance with the Patel Committee Report (1977), the authorities made an attempt to integrate work with instruction by applying scientific principles to the work processes, particularly in the community's physical and social environments. The familiar neo-traditional work education was, arguably, now being developed intentionally in a more academic direction in the spirit of rationalism, while being more effectively embedded in the instruction of natural sciences and other academic subjects. The ultimate contributor to this syncretistic view was the political decision that India needed economic and technological reform in order to overcome the problems of underdevelopment.

This post-colonial pedagogical approach to socially useful productive work emphasized theoretical values associated with intellectual aims, while trying to develop the ability of students to understand the needs of a technology-based society as well as their problem-solving skills at the various stages of the learning process. Socially desirable values, attitudes, and beliefs were put forward, particularly in social service and community work programs. However, it was most noteworthy that, guided by the theoretical values, the teachers tried to resolve the problems of the community surrounding the school, as well as those of its members, in order to narrow the gap between education and work, school and community, or between the well-off and underprivileged community members. Simultaneously, fostering the virtues arising from rationalism and an empirical, scientific attitude in students was seen as desirable. The following description of the Patel Committee Report (1977) explains the characteristics and aims of socially useful productive work in detail:

The Patel Committee Report (1977) proposed that socially useful productive work aims at understanding the needs of a progressive, technology-based society. The learning process is to proceed by means of problem solving that, at different stages, makes use of observation, enquiry, experimentation, and practice (*Report of the Review Committee on the Curriculum for the Ten-Year School*, 1977, pp. 11, 13). The aims of socially useful productive work include:

- To guide the planning, analysis, and detailed preparation of every phase of work;

- To help understand the scientific principles and processes connected with various forms and settings of work in different physical and social environments;
 - To lead to the use of developed tools and materials, and to acquire modern techniques;
 - To promote equal opportunities for work and learning, that is, narrowing the gap between education and work, removing isolation between school and the rest of the community, and building a connection between affluent and disadvantaged members of the community; and
 - To offer economic and social programs inside and outside the classroom
- (*ibid.*, pp. 11–13).

Post-colonial work education was also relevant to the Indian education of the early 2000's that had a Hindu nationalist orientation, which sought for means to adapt to neoliberal social change and the associated globalization efforts. In essence, the development was linked to the view that economic growth was possible with the help of multinational enterprises and the technological innovations these possessed. Emphasizing economic values allowed for enhancement of the usefulness of education and an increase in national prosperity.

The course of development in the United States was comparable to that in India with regard to the school-centered aims of outdoor-oriented education (Table 3). In the United States, the development had been nurtured since the 1960's by the era of environmental awakening, which engendered public awareness of the degeneration of the environment and its ecological balance. At about the same time, concern started to grow about the withdrawal of American youth from the social and political life in their communities. Consequently, an ecological dimension was more strongly included in the intellectual aims of outdoor-oriented activity education from the 1970's onward, represented by environmental education; and respectively, a social dimension since the 1990's, manifested as service-learning. The aims of both of these approaches had been linked to the promotion of theoretical values, particularly through the improvement of students' rational problem-solving skills. The aims of outdoor-oriented education shifted in an increasingly academic direction by the values sustained by the neo-essentialist school, which relied on the philosophical tradition of realism. This policy emphasized national, standardized objectives for learning, as well as assessment criteria that made it possible to test the achievement of these objectives. An alternative such as this was advocated by the conservative consensus that provided the background for the need to enhance the accountability of schools in order to increase economic productivity in a neoliberal society. The intention was to support individual achievement in society, whereby such values of self-assertion as success, capability, and ambition were considered important. Here, economic values were also given priority, as education was intentionally used as a tool to build a society with a competitive edge.

Environmental education as a multi-dimensionally directed approach geared teaching towards an entirely new, radical dimension, as the perspective of environmental awareness was integrated into outdoor-oriented pedagogy. The aim was to promote the awareness of students about the environmental problems caused by economic

growth and to train their skills in resolving these complex problems. This meant an overall effort to encourage the attitudes towards environmental responsibility in students by familiarizing them with the basics of ecology. The features and aims of environmental education are described briefly in the following summary based on the *National Environmental Education Act 1990* and the *John H. Chafee Environmental Education Act of 1999*:

According to the *National Environmental Education Act 1990* and the *John H. Chafee Environmental Education Act of 1999*, environmental engineering may make possible the development of an advanced scientific and technical education, with the objective of training effective capabilities in problem solving in the area of complex environmental issues (*National Environmental Education Act 1990*, 1991, pp. 827–828; *John H. Chafee Environmental Education Act of 1999*, 2000, pp. 9–10). The aims of environmental education include:

- To develop the skills needed in solving environmental problems;
- To promote awareness of environmental problems and their origins, that is, acquiring an understanding of natural and cultural environments as well as the ability to comprehend the threats environmental problems pose on them; and
- To provide environmental education programs in the classroom and in the environment outside the classroom

(*National Environmental Education Act 1990*, 1991, pp. 827–829; *John H. Chafee Environmental Education Act of 1999*, 2000, pp. 8–12).

The service-learning approach appears to be flexible in relation to the other American approaches, as it could be connected to environmental or adventure education programs. These would include attempting to implement such processes as identifying the needs of the members in the community surrounding the school and resolving their problems. The readiness to achieve change and self-direction were new value dimensions, which were aspired to attain by developing students' metacognitive faculties in order to enhance resolving community problems. The following summary expresses the essential features and aims of service-learning:

According to the *National and Community Service Act of 1990*, service-learning is aimed at meeting the needs of the community surrounding the school. A learning process based on active participation is to be integrated into the academic curriculum of the school (*ibid.*, p. 5). The report of the National Commission on Service-Learning [2002] described that school-based service-learning is to contain community service combined with curriculum-based learning, including the appropriate academic content and standards. The learning process is to proceed through problem solving, utilizing critical, reflective thinking in each phase of the process (*Learning in Deed: The Power of Service-Learning for American Schools*, [2002], pp. 15, 17). The aims of school-based service-learning include the following:

- To develop the knowledge, skills, and attitudes necessary to define the community needs, and to meet and solve the problems of the community;
- To enrich learning;
- To enhance metacognitive abilities, that is, developing skills pertaining to problem solving, thinking, and cooperating;

- To strengthen students and their community, that is, teaching students civic responsibility, thus guiding them to benefit their community as needed; and
 - To provide service-learning programs in school and in the community outside the school
- (ibid., pp. 15–17).

Comparisons

Table 3 presents a side-by-side comparison of the different types and degrees of emphasis placed on the aims and associated values of outdoor-oriented work and activity education in the United States and India. The comparison is performed in the context of the main currents of educational philosophies, ideologies, and related pedagogical approaches, with a primary research focus on school-centered outdoor-oriented education. The central aims of education and associated value dimensions are examined during the period of Late Industrialism in the United States and of Indian Modernization in India, since the 1970's.

The following summary briefly reflects on the aims and values of outdoor-oriented education in the United States and India. The essential types and degrees of emphasis placed on educational aims are initially compared in the light of the factors of national identity from the perspective of social trends. Finally, the discussion compares the educational aims and associated value dimensions within a social context.

HOW ARE THE AIMS AND VALUES OF OUTDOOR-ORIENTED WORK AND ACTIVITY EDUCATION EMPHASIZED IN THE SOCIAL CONTEXTS OF THE UNITED STATES AND INDIA?

This study shows that the aims of outdoor-oriented education in the United States and India have reflected the social thinking of the time. Based on the analysis of outdoor-oriented, experiential activity education in the United States and outdoor-oriented, vocationally productive work education in India, the claim could be made that the essence of both American activity education and Indian work education is integrated with goal-directed sub-components, whose mutual patterns of emphasis demonstrate changes following social trends. According to the study, vacillation in the mutual patterns of emphasis regarding the goal-directed sub-components is linked to broader social change in both countries, this being further connected with vacillation in the patterns of emphasis and influence with regard to the social, economic, and political factors in society (cf. Mallinson, 1980, p. 272). In this dialectical process, goal-directed activities within the school institution also affect each of the factors in society, which, in turn, affect each other and the goals of the school institution (Table 4, p. 76). Based on the study, development in the countries in question has proceeded toward emphasizing school-centered intellectual aims, when, through outdoor-oriented work and activity education, efforts were made to train experts for an advanced society in which mental work is performed in modern production. Simultaneously there have

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Table 3. The Aims and Values Emphasized in Outdoor-Oriented Education during the Periods of American Late Industrialism and of Indian Modernization since the 1970's

Aspect	Late Industrialism (since the 1970's) School-Centered Outdoor-Oriented Activity Education	Indian Modernization (since the 1970's) School-Centered Outdoor-Oriented Work Education
Aims of education	<i>Neo-essentialist education consistent with realism:</i> In the integration of motor, socio-moral, and intellectual education, the emphasis is on intellectual aims.	<i>Post-colonial education consistent with rationalism:</i> In the integration of physical, socio-moral, and intellectual education, the emphasis is on intellectual aims.
Central pedagogical approaches	<i>Environmental education:</i> The aim is to connect school education with the natural and built environments, while attempting to train the skills needed to efficiently resolve environmental problems and seeking to understand the basics of ecology. The purpose is to raise environmental awareness. <i>Service-learning:</i> The aim is to connect school education with the surrounding community, while attempting to promote the metacognitive faculties needed to resolve community problems. The purpose is to strengthen civic responsibility.	<i>Socially useful productive work:</i> The aim is to connect school education with the community's physical and social environments, while attempting to develop problem-solving skills at the various stages of the learning process and seeking to comprehend the scientific principles and processes of work. The purpose is to understand the technological needs of society.
Central social value dimensions	<i>A capitalist society based on free-market economy:</i> Theoretical values, particularly related to science and technology, economic values, and values related to achievement	<i>A regulated capitalist society based on mixed economic policy; and, since the 1990's, a capitalist society based on open economy:</i> Theoretical values, particularly related to science and technology, and economic values

been signs of individualism superseding communality, as well as of interdependence superseding self-sufficiency and self-reliance.

Table 4 presents a side-by-side comparison of the different types and degrees of emphasis placed on the factors of national identity and their implications for the sub-components of educational aims in the United States and India in different periods, particularly in the context of outdoor-oriented education.

According to this study, variation in the patterns of emphasis of the sub-components of the aims of outdoor-oriented education is connected with the manner in which the patterns of emphasis and influence of the social, economic, and political factors of a society are accentuated in the United States and India during the course of time. Furthermore, this dialectical process has been linked to changes in the different types and degrees of emphasis placed on central social value dimensions in the countries in question (Figure 2). This section briefly analyzes the aims of outdoor-oriented education

Table 4. *The Aims Emphasized in Outdoor-Oriented Education in a Changing Social Context in the United States and India in Different Periods*

Aspect	Early Industrialism (1920's–1930's)	Indian Tradition (1940's–1950's)
Social context	In the integration of social, economic, and political factors within national identity, social factors are emphasized.	In the integration of social, economic, and political factors within national identity, social and political factors are emphasized.
Implications for the aims of education	<i>Progressive education based on experimentalism</i> : In the integration of motor, socio-moral, and intellectual education, the emphasis is on society-centered motor and socio-moral aims.	<i>Neo-traditional education based on satyagrahism</i> : In the integration of physical, socio-moral, and intellectual education, the emphasis is on society-centered physical and socio-moral aims.
Aspect	Late Industrialism (1950's–1960's)	Indian Modernization (1960's–1970's)
Social context	In the integration of social, economic, and political factors within national identity, political factors are emphasized.	In the integration of social, economic, and political factors within national identity, economic factors are emphasized.
Implications for the aims of education	<i>Essentialist education consistent with realism</i> : In the integration of motor, socio-moral, and intellectual education, the emphasis is on school-centered intellectual aims.	<i>Neo-colonial education consistent with dialectical-historical materialism</i> : In the integration of physical, socio-moral, and intellectual education, the emphasis is on school-centered intellectual aims.
Aspect	Late Industrialism (since the late 1970's)	Indian Modernization (since the late 1970's)
Social context	In the integration of social, economic, and political factors within national identity, economic factors are emphasized.	In the integration of social, economic, and political factors within national identity, economic factors are emphasized.
Implications for the aims of education	<i>Neo-essentialist education consistent with realism</i> : In the integration of motor, socio-moral, and intellectual education, the emphasis is on school-centered intellectual aims.	<i>Post-colonial education consistent with rationalism</i> : In the integration of physical, socio-moral, and intellectual education, the emphasis is on school-centered intellectual aims.

from the viewpoint of social value dimensions by applying the theory presented by Schwartz (1992, p. 45) on the universal structure of values.

American Early Industrialism and Indian Tradition emphasized the significance of socio-ethical and universal values, characterized by community-centeredness, practicality, and the ideal transformation of reality. American Late Industrialism and Indian Modernization, reciprocally, made progress in stressing science and technology-related values. The tendency included an increasingly individualistic and theoretical

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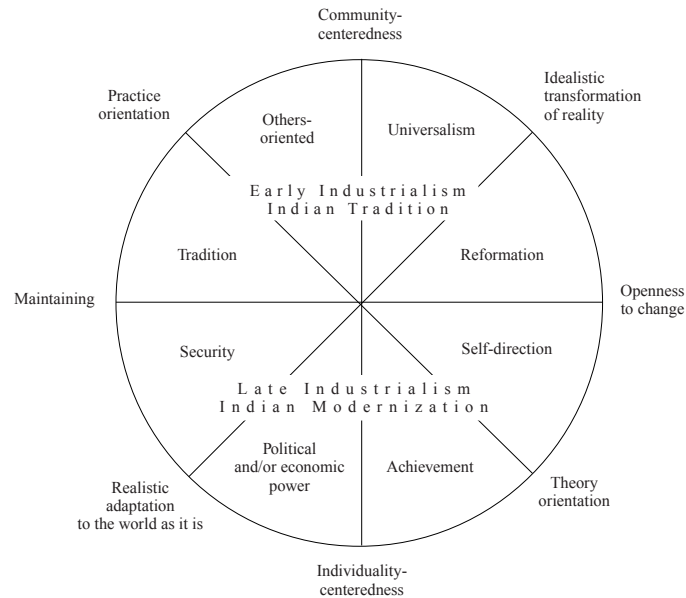


Figure 2. *The Social Value Dimensions Intertwined in the Aims of Outdoor-Oriented Education, Applying the Theory on the Universal Values Categories by Schwartz (1992, p. 45)*

value orientation and a more realistic adaptation to reality. In both of the countries, such a shift resulted from the firm belief in the need for a national economic-political change. During the Cold War period the United States relied on values connected with power and security, this resulting in education being harnessed to international competition and power struggle. Independent India, guided by theoretical values, sought a technological reform in order to overcome the problems of underdevelopment. Later, at the beginning of the 2000's, both countries were willing to adapt to neoliberal social change and the associated globalization efforts. By emphasizing economic values, the two countries made an effort to increase the utility of both education and national prosperity. Figure 2 examines the social value dimensions intertwined in outdoor-oriented education by applying the theory on the universal structure of values presented by Schwartz (1992, p. 45).

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RAIMO NEVALAINEN & EIJA KIMONEN

4. PROFESSIONAL ORIENTATIONS AND COMPETENCES OF TEACHERS IN A SCHOOL AND COMMUNITY CONTEXT

*Social Participation in the
Process of Community Education*

INTRODUCTION

Background and Objectives of the Study

This study is part of a larger composite of comparative education research projects, in which the impacts of school change processes on school culture and the teaching profession have been examined in a variety of ways. The present study utilizes results produced within the following research projects: The Finnish research group participated in the project Teacher Quality organized by the OECD/CERI from 1992 to 1994, and further in the project Teachers and Students as Active Learners from 1994 to 1995 (Kimonen & Nevalainen, 1993; 2001a; 2002; 2005). At the same time, work was begun on a joint project between the Universities of York and Jyväskylä on Curriculum Change in Primary Schools in England and Finland, which lasted from 1993 to 1997 (Kimonen & Nevalainen, 2000; 2001b). A follow-up study, the York-Jyväskylä Teacher Professionalism project, was also carried out by these two universities from 2001 to 2004 (Nevalainen & Kimonen, 2009a).

Finally, in 2005, a research unit in comparative education, the Research into International Comparison of Educational Innovations (RICEI) Project, was established at the University of Jyväskylä. The RICEI Project addresses the character of educational innovations in the context of development and change. Its central aim is to apply research results to school education and teacher education. The RICEI Project study, *Teachers and Their Communities*, investigates the teaching profession within the school change process from the perspective of teachers' pedagogical and dispositional competences, particularly within the framework of community education (Nevalainen, 1995; Nevalainen & Kimonen, 2009b). The aim of this chapter is to analyze Finnish rural teachers' social participation in the community education process and the professional competences needed in this process. The study also provides information on the approaches of community education and their application to teaching.

Teachers' Professional Orientations and Competences

Towards an Extended Orientation

Teachers' professional orientations have been characterized in a variety of ways. One may present a twofold categorization into a *restricted* and an *extended* professional orientation (see Hoyle & John, 1995, p. 123). The restricted orientation represents the autonomously operating teachers whose principal interest lies in the everyday challenges of teaching in their own classrooms. Essential in this orientation is the conveyance of the different subject contents to the students (Kubow & Fossum, 2007, p. 211). The extended orientation is associated with teachers who view teacher's responsibility as something that extends beyond classroom activities, also including cooperation with colleagues and the members of the surrounding community (see Hoyle & John, 1995, p. 123). In such a school culture, the teacher emphasizes professional cooperation and wants to be engaged at the school and community levels (see Nevalainen & Kimonen, 2009a; 2009b).

In addition to the aforementioned dichotomy, teachers' professional orientations have been categorized by using the terms classical, flexible, practical, extended, complex, and principled (Goodson & Hargreaves, 2003, pp. 128–132; Hargreaves & Goodson, 1996, pp. 4–19). The concept of principled professionalism, in particular, represents teachers who actively contribute to the surrounding community.

Pedagogical and Dispositional Competence

Professional competence is a multifaceted and changing concept. According to Ruohotie (2003), competence can be defined as an individual property that causally explains the effectiveness that has been specified using certain criteria or success in assignments and working situations. The various competences can include motives, traits, conceptions of the self, attitudes, values, knowledge as well as cognitive and practical skills (ibid., p. 5). Leino and Leino (1997, p. 119) argue that the assessment and systematic development of competences is extremely difficult because the factors defining competence are emphasized differently during the teacher's various phases of development. Usually, emphasis is placed on assessing the teacher's information material and operational competences, whereas person-based competence is hardly considered at all.

In the changing conditions during which a person's professional career evolves, occupation-specific knowledge expires rapidly and the employee is expected to be increasingly flexible. According to Ruohotie (2002, p. 6), the term key competences refers to the employee's ability to complete changing assignments successfully. Key competences further the achievement of many important objectives, the mastery of different tasks, and the ability to operate in new situations. The competences in question:

- enable people to acquire specialized abilities quickly and effectively,
- are more abstract than occupation-specific qualifications,
- enable people to react rapidly to changes relevant to their job, and

- enable people to have control over their career development.

Ruohotie (2002, p. 9; 2003, p. 9) divides the key competences of experts into the following three groups:

- Occupation-specific knowledge and abilities: the complexity of knowledge and the depth of understanding;
- General abilities for working life: cognitive, social, and electronic communicative abilities, creativity, and innovativeness, leadership skill with respect to people and job assignments; and
- Self-regulatory abilities that promote professional development: the abilities to organize and regulate individual learning, and to successfully deal with study-related difficulties.

Teacher competence is generally defined “as the ability of a teacher to deal adequately with the demands of the teaching profession using an integrated set of knowledge, skills and attitudes as manifested in both the performance of the teacher and reflection on his or her performance” (Nijveldt, Beijaard, Brekelmans, Verloop, & Wubbels, 2005, p. 90). According to Reiman and Johnson (2003, p. 5), a teacher’s professional competence is bipartite, consisting of pedagogical and dispositional components. Pedagogical competence includes the teacher’s knowledge of the subject to be taught as well as knowledge of the learners. Other elements of pedagogical competence include effective planning, implementation and evaluation of teaching as well as class management. Teacher professional dispositions are defined as characteristics of a teacher that represent trends in the teacher’s interpretations, comprehension, and judgment of operation. Dispositions are values, commitments and professional ethics that have an impact on beliefs, attitudes, and behaviors (see Hodkinson, 2009, pp. 160–161). A teacher’s ethical and reflective judgment, relationship skills (ability to communicate, management of conflict situations), tolerance of ambiguity, as well as attentiveness and curiosity are, according to Reiman and Johnson (2003, p. 11), components of professional competence. The concept of teacher competence refers here to the subjective, experienced meaning structures that teachers connect to their pedagogical and dispositional competence.

Social Participation

Approaches to Social Participation

Social participation can be seen as participation based on interaction between group members. It is typically long-lasting, continuous, goal-oriented, cumulative, and voluntary. The objectives of participation are instrumental and/or expressive. As different social sciences frameworks for participation, we can distinguish the perspectives of consensus, conflict, and regulated conflict (see Nevalainen, 1995, p. 39).

The factors influencing participation can be categorized as background and process variables. The main background variables linked to participation are the participant’s basic education, income level, social position, age, gender, and place of residence. The

accumulation of participation means that individuals who are active in one sector are also active in other sectors. When the *structures* of participation have been examined, it has been noted that participation is more common among people with a higher educational and income level and social position (see, e.g., Desjardins, 2011, p. 208).

The study of participation as a *process* focuses on interaction; in particular, on the participants' needs and motives for participation as well as their obstacles to it. The needs for participation can be divided into objective and subjective as well as into experienced and substantiated needs. Based on its motivation, social participation can further be categorized either as expressive or instrumental. The obstacles to participation cover all of the conditions or concepts that make participation more difficult or prevent it (see, e.g., Rubenson, 2011, p. 216). There have been attempts to structure participation through participation models and to present hypotheses about the factors that influence the phenomenon and their interaction. The models are usually based on a specific psychological, economic, or sociological theory, or on logic (Nevalainen, 1995, p. 40; see also Desjardins, 2011, p. 208).

Teachers' Social Participation

In this study teachers' social participation refers to teachers' involvement in work-related social groups during their working hours, both within and outside of the school premises. On the other hand, it also refers to teachers' afterwork participation in organizations and communities based on voluntary membership, which can take place within or outside of the school. The concept is viewed particularly from the perspective of teachers in small rural schools. During working hours, teachers' social participation is concretized as instruction implemented outside of the school, through which the teachers offer their students opportunities to join networks such as the production and cultural systems of society. In the rural communities, instruction outside of the school can be implemented in various forms, above all within the school's immediate surroundings. However, the role played by teachers in organizing extracurricular activities within the school premises has decreased (see, e.g., Kalaoja & Pietarinen, 2009, p. 111). Studies demonstrate that the degree to which teachers participate in various activities is connected – in addition to personality, versatility, enthusiasm, and residence elsewhere – to the traditions established between the school and the community, and to the community's lifestyle (Kalaoja, 1988a, pp. 118, 141–142; 1988b, pp. 113–114, 116; Karlberg-Granlund, 2009, pp. 130–134; Kilpeläinen, 2010, pp. 91–95).

*Community Education as an Activation and Participation Process**Approaches to Community Education*

Community education is commonly applied in various parts of the world, particularly in Britain, Ireland, and the United States, in order to solve different problems that communities face (see, e.g., Connolly, 2011; Field, 2011; Hunt, 2005, pp. 133–135; Moore, Gallagher, & Bagin, 2012). Even though community education is still quite an unknown concept and mode of action in Finland, the problems resulting from societal change processes have also launched corresponding community research and development projects here.

This study views community education as a communal activation and participation process based on collaboration. It encompasses the recognition, development, and utilization of all available human, financial, and physical resources. Community education is a tool used to satisfy the community members' perceived informational and social needs in a coordinated manner. The aim is to promote development in the community and mental growth in its members, and to raise their awareness of the developmental needs present in the community as well as in society.

We can distinguish universal, reformist, and radical trends in the development of community education. The community-school-oriented approach, that initiated in the United States in the 1930's, is called universal community education. The concept was re-evaluated in the 1970's, as community education was also expected to have a more profound content than participation in different community education programs. This new trend is called reformist community education. In England this trend began in the 1960's, in connection with the publishing of the Plowden Committee Report, which drew great media attention. The radical orientation of community education was instigated by the innovative ideas regarding adult education and the communal development projects in the late 1960's and early 1970's.

The Role of the Educator in Community Education

A wide variety of roles has been attached to the educator in the aforementioned three versions of community education. The school-centered universal community education, the reformist movement highlighting processes, and the awareness-raising radical version of community education, all differ from one another with respect to the emphasis of the educator's role. In the American universal version of community education, the educator's role is based on progressive educational ideas as well as on the life-centered community school movement that began in the 1930's and 1940's (Kimonen, 2013, p. 70). The life-centered community school movement extended the educator's role further toward the community, with the focus on improving the living conditions there. Minzey and LeTarte (1979, p. 181) claim that this process emphasized the significance of the educator's individual traits, such as enterprise, initiative, and self-directedness.

According to the reconstructionist educational ideas that underlie reformist community education, education must alter the prevailing social and financial structures in order to make the world a better place to live in. The theory of reconstructionism requires the educator to promote processes enhancing social transformation. These can be such as:

- To recognize societal problems by critically analyzing the prevailing conditions;

Table 1. Approaches to Community Education (Martin, 1987, p. 24)

Feature	Universal Model	Reformist Model	Radical Model
Implicit model of community	Consensus	Pluralism	Conflict
Premise	Homogeneity and basic harmony of interests	Heterogeneity and inter-group competition	Class structure, inequality, and powerlessness
Strategy	Universal non-selective provisor for all age and social groups	Selective intervention to assist disadvantaged people and deprived areas	Issue-based education, equal opportunities, and social action
Background of educational philosophy	Pragmatism and progressive education	Pragmatism and reconstructionism	Paolo Freire and deschoolers
Dominant themes	Lifelong learning Integrated provision Openness and access Decomartmentalization Rationalization Coordination Voluntarism Neutrality Cooperation	Positive discrimination Decentralization Participation Social relevance Home-school links Pre-schooling and play Informal adult education Self-help Partnership	Redistribution and equal opportunities Community action power Redefinition of priorities Local control Political education Learning networks Structural analysis Solidarity and collaboration
Role of the educator	Life-centered community education extends the educator's role toward the community, with focus on improving the living conditions in the community.	Process-centered community education emphasizes the educator's role in accelerating, facilitating, and coordinating the community education process through the recognition of problems and needs within the community and through the identification of its resources.	The process of awareness-raising is closely related to the radical community education. The educator often assumes the role of an animator who aims to enhance awareness among the community residents regarding local problems and try to help them solve these problems.

- To promote human growth and development by trying to analyze and solve social problems; and
- To be actively involved in the initiation of social changes and reforms (Gutek, 2009, pp. 371, 375, 384–387).

Process-centered, reformist community education requires that the educator have a broad understanding of the concept of education and familiarity with the educational system. The educator is in charge of accelerating, facilitating, and coordinating the community education process through the recognition of problems and needs within the community and through the identification of its resources. A role of this type can often be best realized in small communities such as villages, where interaction between the inhabitants as well as a strong communal identity is typical (Minzey & LeTarte, 1979, pp. 53–55).

Poster (1982, pp. 4–6; 1990, pp. 20–28) considers that the educator is responsible for providing the community with opportunities to define local problems and needs, and for exploring alternative solutions to problems and means to satisfy perceived needs. It is also essential to utilize the community members' own resources or request outside help in order to generate relevant activities in the community. On the other hand, the educator must encourage the community to self-directedness and collaboration.

Radical community education has been influenced by Ivan Illich's (1972) ideas related to learning networks. Furthermore, Paulo Freire's (1970) pedagogy of the oppressed and the closely related process of awareness-raising have had an impact on the movement. In radical community education, the educator often assumes the role of an animator who enhances awareness among the community residents regarding local problems, assisting them in developing such knowledge and skills that could help them solve these problems (Brookfield, 1990, pp. 177–178).

Knowledge of what society expects from the school and the teacher is needed in developing the school as well as teacher education. The research data can also be utilized to promote spontaneous community development work at the local level, as well as mental growth in the community members. The central features of the aforementioned approaches to community education are presented in [Table 1](#).

METHODS

Research Material

The research material consists of:

- data acquired through qualitative case studies (Kimonen & Nevalainen, 1993; 2000; 2001a; 2001b; 2002; 2005; Nevalainen & Kimonen, 2009a), these being used to piece together for the dimensions related to teachers' pedagogical competences and professional dispositions in a dynamic school culture, and
- empirical research data collected from teachers using a questionnaire (Nevalainen, 1995; Nevalainen & Kimonen, 2009b), aiming to examine teachers' professional orientations from the perspective of community education.

Qualitative Studies

The Teacher Quality, Active Learning, and Curriculum Change research projects were carried out by analyzing documents, using the method of observation, and interviewing teachers. These studies were implemented between 1993 and 1995 in six English schools and six Finnish schools. The participating schools were referred to by pseudonyms. The research methods and samples are described in detail in the final project reports (Kimonen & Nevalainen, 1993; 2000; 2001b; 2002; Webb & Vulliamy with Häkkinen, Hämäläinen, Kimonen, Nevalainen, & Nikki, 1997, pp. 3–7). For the Teacher Professionalism research project, all those teachers who were still teaching in their original schools in 2001 were re-interviewed, as were some teachers included in the original sample who were working as teachers elsewhere and had moved on to other professions, or retired. The comparative sample included a total of 24 teachers from England and 13 teachers from Finland (see Webb, Vulliamy, Hämäläinen, Sarja, Kimonen, & Nevalainen, 2004, pp. 87–89). In addition, one new teacher at Ranta-Sointula school was interviewed. Semi-structured thematic interviews were utilized in the study, focusing on the following research problem:

- What pedagogical competences and professional dispositions does the changing school culture require of teachers?

Quantitative Study

The quantitative study aimed at throwing light on the social participation of teachers in the community education process particularly from the perspective of small rural schools (see Nevalainen, 1995; Nevalainen & Kimonen, 2009b). Another objective was to describe the connections of several background factors to participation, as well as to explore the most essential correlations between the process factors and participation. The main research problems were:

- What is the community education process like in a community that is located in a sparsely populated Finnish area?
- How do teachers in small rural schools participate in the community education process?
- What are the process factors of teacher participation like?

The research data was collected using a questionnaire. The population consisted of class teachers working at small comprehensive schools in sparsely populated areas. Stratified sampling was used to select 220 teachers from the population. The questionnaire was returned by a total of 165 teachers (75%). The study was implemented by proceeding from statistical methods, which yielded detailed data, to a method that provided information that was as general as possible. This information was then processed utilizing factor analysis. This resulted in the indication of correlations between certain process factors. Selective regression analysis was also utilized to calculate various explanatory models.

RESULTS

*Professional Dimensions in a Changing School Culture**The Dimensions of Pedagogical Competence*

The York-Jyväskylä Teacher Professionalism project described the pedagogical and dispositional competences expected of teachers in a changing school culture in England and Finland. The study indicates that among the pedagogical competences needed at the pre-active phase of the teaching process, teachers in both of the countries emphasized good mastery of the subject, particularly in mother tongue and mathematics. The teachers in small schools placed primary emphasis on the ability to plan the instruction effectively. The Finnish participants found the inclusion approach problematic due to their own insufficient knowledge and abilities, whereas their English colleagues regarded the dominating role of tests, even at the planning stage, as a problem. As regards the competences needed at the interactive phase of teaching, the teachers in both of the countries found it vital to be able to create good relations with students and to listen and communicate in pedagogical situations. The ability to utilize information technology in teaching was also regarded as important. According to the Finnish teachers, essential at the post-active stage was the ability to evaluate their own learning and activities. Nevertheless, they also found genuine self-evaluations of different levels in school development work to be difficult. The teachers in England felt that the pressure caused by the external control of teaching was problematic (Nevalainen & Kimonen, 2009a, pp. 133–138).

The Dimensions of Dispositional Competence

Dispositional competences represent teachers' capabilities to act in their profession and as members of the work community. Ethical and moral dispositions provide a basis for professional competences. In the countries targeted by the Teacher Professionalism project, teachers regarded respecting, loving, liking, and caring for children as vital ethical and moral values associated with the teaching profession. An essential quality required in the work community is social competence. Teachers must also have strong self-confidence and a lot of energy, and be ready for personal commitment. On the other hand, they must be increasingly capable of receiving critique on their work and handling it in a constructive manner. It is also substantial to be able to accept the changes taking place in education, and to reflect on their significance for one's own work. The characteristics of modern professionalism in teaching include enthusiasm and engagement in continuous learning and upgrading of skills. Teachers' professionalism can be developed through school-specific continuing education and research on one's own work. In order to maintain their professional competence, teachers must be ready for lifelong learning as well as for research into students' learning and their own teaching (Nevalainen & Kimonen, 2009a, pp. 138–141).

Teachers' Orientations at School and in the Community

The Dimensions of Teachers' Social Participation

Rural schools commonly serve as community learning and activity centers for residents of all ages, offering them opportunities for participation beyond school education in accordance with the residents' needs and interests. This is also a central feature of the universal approach to community education. In addition to promoting the community residents' mental and social growth, the activities implemented at schools focused on improving the living conditions in the villages. The village community's activity was reflected in the number of occasions and festivities organized at the schools. In the remote village communities, the school's role as the venue for participation was particularly emphasized.

Participation at School

The study addressed the ways in which teachers at a small rural school participate in the community education process at work and in leisure, both at school and in the community. Based on the performed factor analysis, we can distinguish five dimensions for teachers' participation at school:

- Participation in the Activities of Different Communities;
- Participation in Work-Related Activities;
- Participation in Parish and Village Activities;
- Participation in Recreational and Decision-Making Activities; and
- Participation in School Club Activities.

Teachers' work at a small school is holistic. Rural school teachers face a variety of requirements that urban teachers will never encounter. Work-related participation within the school building consisted of teaching and the school's own club activity. Nearly all of the teachers reported being involved in implementing the school's own festivities and parents' evenings. Most of them also organized open-school day. Approximately a fifth of the teachers were directing sports clubs at the school, and more than a tenth was overseeing after-school clubs with mixed activities. Participation in directing other clubs was not common.

Within the school premises, the teachers participated after their working hours in activities organized by the municipality, parish, adult education center, village and different organizations, associations and clubs. Among these communities, the activities organized by parishes and villages constituted a dimension of its own. Around half of the teachers participated in the events arranged by parishes at the school. Fewer than half of the teachers attended religious events. Over half of them went to village festivities and village committee events. Approximately a third participated in the evening parties and bring-and-buy sales organized by the villagers. The dimension of Recreational and Decision-Making Activities occupied an emphasized role in teachers' participation within the school premises. The most popular non-work-related activity within the school building were competitions and sports events, in which two thirds of the teachers participated. Based on participation activeness, the most popular forms of

activity, in addition to the competitions and sports events, were the events organized by the village committee. These were actively frequented by approximately a fifth of the teachers; and a tenth acted as organizers of these events. The village activities were mainly based on voluntary and uncommitted participation.

The key background factors affecting participation were the teacher's gender, position, grade, job title, education, domicile, place of birth, and age, as well as the village community's activity. The degree of active participation within the school premises seemed to concentrate particularly on permanent, male head teachers, who were usually born in the countryside, lived at the school or in its close vicinity, and were teaching the upper grades. Teachers who were living at the school were highly likely to participate in the parish and village activities as well as in recreational and decision-making activities. They were more active here than the teachers living in larger centers and cities. Age usually correlated negatively with participation within the school premises, except for participation in parish and village activities. Such participation gradually became more common as the teachers aged. The activity of the village community also demonstrated a positive correlation with this dimension. The teacher's activity also played a crucial role in making the school a village community center. On the other hand, the activity of both schools and teachers also reflected on the vitality of the village community.

Participation in the Community

Teachers' participation within the community can be categorized under five dimensions based on factor analysis:

- Work-Related Communal Orientation Activities;
- Work-Related and Leisure Sports and Cultural Activities;
- Afterwork Participation in Societal Activities;
- Afterwork Participation in Contact Activities; and
- Afterwork Participation in Village Activities.

The teaching sessions delivered outside of the school reflect the quality and extent to which the local curriculum is implemented. A teacher in a small school actually has excellent opportunities to implement parts of the curriculum outside of the school, particularly in its close vicinity (see Kalaoja, 1990b, pp. 67–69, 98; Kilpeläinen, 2010, pp. 73, 165; Kimonen & Nevalainen, 1993, pp. 99–102; 2002, pp. 59–60; Peltonen, 2010, pp. 117–123). The study showed that this kind of outdoor education was common and took place in various settings. Its most popular form was the nature trip: almost all teachers reported having taken such field trips with their classes. The most common settings for introduction to working life were farms. Libraries were utilized in teaching by 80 percent of the teachers. Around three fourths of them visited museums and theaters with their students. Concerts and music events were part of teaching for two thirds of the teachers, and art exhibitions for over half of them. It was common for rural schools to have connections to the parish as well. Visits to other schools in the region were popular. Most of the teachers in small schools utilized nearby physical exercise and sports facilities, as well as sports events, in instruction.

The most active participants in outdoor education were young teachers who held permanent positions. Those with a broader education than the master's degree required of teachers tended to participate more actively with students outside of the school. The male teachers of grades 3–6 used communal sports offerings during working hours more frequently than the teachers of grades 1–2.

The Afterwork Societal Activities in which teachers participated consisted of involvement in municipal positions of trust (approx. 1/3 of the teachers) and political organizations (nearly 1/5). The most popular way of joining contact networks was participation in the study circles of adult education centers, in which around half of the teachers were involved. Around a fourth of them frequented parish clubs and nearly a fifth crafts clubs. The factor of Participation in Sports and Cultural Activities included both work-related and leisure activities. More than a third of the teachers was involved in sports club activities in their free time. More than a fourth was members of orchestras and/or choirs. Participation in the village activities was also rather common: approximately half of the teachers took part in village meetings and village committee activities at least once a school year. Fewer than a tenth of them actively attended village meetings.

The Afterwork Societal Activities in which teachers participated were connected to the number of students at the school as well as to the village community's activity. In particular, the teachers who lived at the school were more active in societal activities than those living elsewhere. The number of students and the activeness of villagers also correlated positively with the teachers' participation in contact activities. However, participation in contact activities declined as they aged. Sports and cultural activities as well as village activities were most actively attended by the upper-grade male head teachers. Living at the school increased participation in village activities. The results are in line with those yielded by previous studies on rural schools (see, e.g., Kalaoja, 1988a, pp. 118, 141–142; 1988b, pp. 99–106, 113–114, 116; Kilpeläinen, 2010, pp. 75–77; Tantarimäki, 2010, pp. 154–156).

The research data indicates that the social role of teachers at school has become more community-oriented (see, e.g., Hargreaves & Shirley, 2009, pp. 71–72, 77–79). The teachers at the schools under study had several tasks related to curricular activities. In these activities implemented outside of the school – oriented toward working life, nature, and culture – they were performing a role related to teaching and education. In particular, the head teachers were also involved in extracurricular activities. They were engaged in various decision-making and contact activities in their own village and municipality. In these duties the teachers performed a variety of social roles, these including serving as developers of the village community, organizers of leisure activities, and as societal opinion leaders.

The Dimensions of the Process Factors Affecting Teachers' Social Participation

The following four key process factors in teacher social participation were identified: the experienced needs and motives for participation, the obstacles to participation, and the conceptions of community education. The dimensions of these process factors are presented in Table 2, and their most central features are examined in the following from the perspective of experienced needs for participation and the conceptions of community education.

Table 2. The Dimensions of Social Participation Process Factors for Teachers in Small Rural Schools

Process Factors	Dimensions of the Process Factors
Needs for Participation	<ul style="list-style-type: none"> - Production and Education, at Work - Culture, at Work - Parish and Sports, at Work and in Leisure - Decision-Making, in Leisure - Contacts, in Leisure
Motives for Participation	<ul style="list-style-type: none"> - Instrumental Motives - Expressive Motives - External Motives
Obstacles to Participation	<ul style="list-style-type: none"> - Obstacles Related to Accessibility - Obstacles Related to Ageing - Obstacles Related to Time and Attitude - Obstacles Related to Situation in Life
Conceptions of Community Education	<ul style="list-style-type: none"> - Animator-Minded Teacher - Community-Centered School - School as Village Center - Communal Passivity - Community Resources and Needs - Participation Expectations - Community-Oriented Teacher

Experienced Needs for Participation

Teacher willingness to participate with the students in community-oriented curricular activities during working hours constituted three needs categories. The first dimension of the factor was specified as Production and Education, the second as Culture, and the third as Parish and Sports. The Production and Education factor showed high loading on extramural educational items, aimed at familiarization with the world of work and with nature. Nearly all of the teachers in small rural schools wanted to go on nature trips and study visits to workplaces, companies, and farms with their class. The factor called Culture consisted of outdoor educational items reflecting the teacher's willingness to

take the class to cultural destinations that supported the curriculum. Almost all of the teachers wanted to visit museums, neighboring schools, libraries, theaters, concerts, and art exhibitions. The Parish and Sports factor represented the teacher's readiness to visit the parish house and utilize local sports and physical exercise opportunities with the students: approximately 90 percent were willing to participate in this sector. In this factor, the teacher's need to be involved in sports club activities unrelated to school also received a high loading.

The teachers experienced needs to join the various forms of social activity available in their community after their working hours formed two dimensions, specified as Decision-Making and Contacts. The Decision-Making factor showed the highest loading on items reflecting the needs felt by teachers to participate in municipal duties of trust, in political organizations, and in village committees and meetings. Approximately two thirds of the respondents were willing to participate in village meetings and committees. Less than half of them wanted to be engaged in municipal positions of trust, and approximately a fourth wanted to be involved in political activities. The Contacts factor had a high loading on hobby activities within the community, such as arts, crafts and film clubs, and amateur theaters. This factor also showed a high loading on the willingness to visit students' homes and participate in the study circles of adult education centers. The majority of teachers (90%) wanted to visit students' homes, and two thirds were willing to attend the study circles. Half of the respondents showed interest in sports clubs, crafts classes, orchestra, and choir activities. Over 40 percent wanted to participate in arts clubs, and a third in parish clubs, amateur theaters, and film clubs.

The needs teachers experienced for participation were connected to the following individual background factors: the teacher's gender, position, grade level, type of employment relation, qualification, and age. Male teachers in upper grades felt a stronger need than their female counterparts to integrate their instruction with local cultural services and the opportunities offered by parishes and community sports facilities. As teachers aged, their need to extend their teaching toward production systems outside of the school, to other schools, cultural systems, and local sports facilities evenly decreased. The same holds true for their need to join community contact activities after school hours.

In their leisure time, particularly the male head teachers of upper grades were willing to be involved in community decision-making. This need correlated positively with the school's distance from the center and the number of village activities. As the distance and number of village activities increased, so did the teachers' need to influence local decisions.

Teachers' Conceptions of the Constituents of Community Education

Teachers' conceptions of the main constituents of community education were generally positive when examining small rural schools. Approximately two thirds of them found that teachers should participate in the village community's activities. The role of the teacher would thus also include encouraging the community members to solve

problems in the village community and to contribute to local development. Nearly all of the teachers were clearly in favor of the idea of a community-oriented school. They found collaboration between the school and the village useful. Almost all of the respondents emphasized the significance of the school premises, equipment, and services for the entire village community. The participation of the villagers in the school's activities would thus also contribute to children's school education. A majority of the teachers considered the school to be the center of village cooperation. Almost all of them stressed the central ideas of community education regarding the utilization of all environmental resources in teaching and the significance of local needs in creating the curriculum. Approximately 80 percent also felt that the village community members expected them to participate in community activities.

Seven dimensions could be distinguished within the community education conceptions of teachers at small rural schools. The first of these dimensions, Animator-Minded Teacher, showed a high loading on items that represent teachers' active efforts to "animate" or vitalize the surrounding village community and contribute to its progress. The second factor dimension, called Community-Oriented School, reflects the teachers' ideas of a community-centered school. The item according to which the villagers should participate in the school's activities had the highest loading. The third factor dimension, School as Village Center, is closely connected to the second factor dimension. The highest loadings were shown by the conceptions representing the school's role in the village community as a leisure center, meeting point, cultural and cooperation center, and as a promoter of village identity and community spirit. The fourth factor dimension represented the teachers' conceptions of Communal Passivity. Here the item with the highest loading was the one that emphasized teaching and education as the most important mission of the school. The fifth factor dimension showed the highest loading on conceptions that stressed the pedagogical utilization of all the resources available in the environment and the consideration of local needs in the school curriculum. This dimension was specified as Community Resources and Needs. The sixth dimension is called Participation Expectations. It represents the teachers' ideas regarding the expectations that they believe the villagers impose on a teacher in a small rural school. The seventh factor dimension was termed the Community-Oriented Teacher. The strongest loading on this dimension was shown by items related to the rural teacher's extramural role, with ideas of the teacher as a liaison person, cultural leader, and promoter of community spirit in the village.

The head teachers who were living at the village schools or in their vicinity emphasized most strongly teacher activities as animators in the village community and their active orientation to the village community. Such attitudes grew stronger in the teachers as they became older. The teachers' views of the school as a village center also correlated with age. The teachers felt that the expectations towards them in terms of participation increased as they became older and more experienced. In particular, the teachers living at or close to the school pointed out the villagers' strong participation expectations towards them.

The Most Essential Prerequisites for Teacher Participation

The links between the different variable groups were also examined in the study. The aim was to identify the principal background and process factors associated with teachers' social participation, so as to create a holistic picture of their role in the community education process.

Creating Conditions for Operation and Community Development in Relation to the Process Factors

The study demonstrated that the central process factors for teachers' social participation were the experienced needs for participation to which the other process and background factors were linked. The experienced needs for participation determine which forms of participation the teacher regards as important. The participation is actualized if the teacher has identified specific goals and believes in being able to attain the goals through participation. Participation is the result of a nuanced process in which the teacher evaluates his or her individual role in the operating environment (see Cross, 1988, pp. 124–131).

The teaching profession as such naturally implies social participation. The role played by teachers characteristically involves interaction in different groups at school and outside. The social participation of these teachers was mainly based on instrumental and expressive motives, but the sense of duty was also one of the reasons for participation. Among the needs for participation, the need to extend teaching to local production and education, similarly as the need to join contact systems, were target-oriented and planned actions. The teachers' willingness to undertake study trips with their students to local cultural destinations, on the other hand, was linked both to instrumental and expressive participation motives: these needs were a mixture of utilitarian and pleasure purposes. Based on the correlation analysis, the needs categories emphasizing the instrumental viewpoint were linked to the local opportunities for participation, the community's expectations of the teacher, the teacher's external motives, and experiences of obstacles related to ageing.

The expressive motives were emphasized in the willingness demonstrated by teachers to orientate their teaching to the parish and to utilize local sports services. In leisure activities the expressive motives were accentuated in their readiness to participate in parish and sports club activities, as well as in their need to participate in decision-making within municipal administration, political organizations, and village committees. The emphasis on expressiveness in these needs categories represents the readiness of the teachers to interact with the community residents. In this process, it is possible to attain immediate satisfaction through constructive activities and positive experiences. Within the obstacles to participation experienced by the teachers, the needs categories highlighting expressiveness were linked to accessibility, ageing, and life situation obstacles. As regards the teachers' conceptions of community education, the following demonstrated a correlation relation to the needs categories: the animator-minded teacher, the community-oriented teacher, the community-oriented school, and the school as center of the village.

Different Conceptions of Community Education and the Teacher's Role

The conceptions of community education reflected the teachers' ideas of their own role and their efforts to orient themselves to the community at work and in leisure. The conceptions of the teacher's role formed three dimensions. A tenth of the teachers emphasized conceptions that represent Communal Passivity, according to which primary school teachers' activities should be restricted to instruction at school. The Community-Oriented Teacher's conceptions emphasized the ambition to create operating conditions for all the community members at the school, which functions as the center of the village community. Around 45 percent of the teachers stressed this view. Developing the village and assisting the residents in attaining common developmental goals and to solve problems, instead, is central in the conceptions related to the Animator-Minded Teacher, these having been stressed by 48 percent of the respondents. Almost similar results have been obtained in the previous studies that have mapped the conceptions of teachers working in small schools (see Birchette, 1982, pp. 82–84; Kalaoja, 1988b, pp. 81–86, 113; 1990a, pp. 91–93).

The social participation of teachers is central in both of the dimensions describing teachers' activities in the village community. Participation also plays an important role as a mode of learning, as instruction is strongly orientated to outdoor activities. Teachers in the role of animator typically utilize all the local resources in instruction. In addition, they are characterized by an active ambition to revitalize the surrounding community and by collaboration with the school's interest groups. Local needs are also taken into consideration in the school's activities. When the role of the teacher as an animator is examined from the perspective of Warden's (1980, pp. 382–385) community education process typology, it can be associated with features from every class in the typology, but its focus is yet on experiencing the process as communal problem-solving and as mental and social growth. The activities of community-oriented teachers, on the other hand, demonstrate that they experience the community education process predominantly as mental and social growth within the community, implying that teachers occupy an important cultural and social role in unifying the village community. Table 3 presents the views held by Finnish rural teachers of the animator-minded teacher and the community-oriented teacher. It also presents their relations to other conceptions of community education based on correlation between the factors.

The Significance of Teachers' Social Participation

Teachers at small rural schools are involved in a variety of activities in their communities. The activities at school and outside of it constitute a multifaceted entity, which is influenced by several factors related to the teacher's personality and needs. On the other hand, individual teachers are always bound to the context in which they operate. The practices and culture of the school and village have a significant impact on the shaping of a teacher's role. The expectations that the community members impose on the school and its teachers are also important factors determining the orientation of activities.

Table 3. The Connections between the Animator-Minded/Community-Oriented Teacher's Activities and the Other Dimensions of Community Education Conceptions

Animator-Minded Teacher	Community-Oriented Teacher
<ul style="list-style-type: none"> - Developing the village community - Assisting in communal problem solving - Assisting the community members to attain the village's developmental goals - Active efforts to animate the village community - Utilization in teaching of all resources available in the environment - Consideration of local needs in school activities - Community-centered school - Collaboration with the school's interest groups 	<ul style="list-style-type: none"> - Enhancing an action-based approach - Assisting in the coordination of communal activities - Creating operational conditions for all community members - A crucial social and cultural role in unifying the community - The community members expect the teacher to participate - The school as village center - The school premises and tools are utilized in multiple ways

The dimensions of participation characterize the activities of Finnish village school teachers within the community education process. Participation within the school reflected the features of universal and reformist community education quite well, whereas participation in the community additionally entailed some features of radical community education (see Brookfield, 1990, pp. 176–178; Gulliford, 1991, pp. 40–41). The small schools were centers that served the village communities' members of various ages. The opportunities offered by the environment were utilized in a variety of ways in instruction. The teachers' participation in village activities also reflected their willingness to create participation opportunities for the community members, as well as the aim to develop the village community (see, e.g., Kalaoja, 2010a, pp. 178–179). In such active communities that fostered self-directedness and collaboration, and in which there was intense interaction between the community members, teachers occupied a crucial role as people who united and animated the community.

IMPLICATIONS AND CONCLUSIONS

Implications and Conclusions for the Orientations to Teacher Professionalism

The aim of the Teacher Professionalism study was to investigate the pedagogical and dispositional competences required of the teacher in an ever-changing school culture. In the following paragraphs the competences of the teachers who participated in the comparative Teacher Professionalism follow-up study are examined from the perspective of the orientations to teacher professionalism.

Restricted Professionalism

In this restricted orientation, teachers are primarily concerned with the day-to-day aspects of teaching, that is to say, in teachers carrying out their duties in an autonomous manner in the classroom (Kubow & Fossum, 2007, p. 211). The central issue is the delivery of subject content, which requires that the teacher be thoroughly familiar with the subject matter and curriculum. This aspect was emphasized by some of the teachers, both Finnish and English.

Classical Professionalism

The objective of this orientation is to develop and clarify the knowledge base and scientific principles required for teaching. On the basis of the research, it tries to classify and collect the practical information that is necessary in teaching. This is described as technical, scientific, or theoretical terms (Goodson & Hargreaves, 2003, p. 128). Of the pedagogical competences linked to this orientation, the teachers who participated in the study emphasized the skills of planning effective teaching, of classroom management, the organization of teaching and work, and of communicating in pedagogical situation, as well as the ability to evaluate students' learning.

Practical Professionalism

This orientation aims at achieving harmony between the teacher's practical knowledge and understanding. Central here is the effort to capture a teacher's experience. In teaching, concrete experiences assume a central role when the essence of expertise is described (ibid., pp. 129, 130–131). The information that arises from everyday responsibilities and situations that a teacher acquires from activities such as curriculum planning, subject matter, learning settings, and the learner's parents creates a basis for the teacher's personal practical knowledge. The reflection on the experience and activities that teachers practice before, during, and after teaching is an essential component of this approach. According to Goodson and Hargreaves (2003, pp. 130–131), practical professionalism could also pose a threat to a teacher's professionalism if narrower and more technical definitions of professionalism oust the established one. Not all of the teacher's practical knowledge is useful from the perspective of education or society. Terry Locke has suggested that if professional development concentrating on the teacher's ego is specifically built on the basis of solipsism, the school's broader social functions might be forgotten. Practical knowledge based on experience can narrow the concept of the teacher's job, thus weakening the associated moral responsibility or professional understanding. The danger also exists that professionalism based solely on experience-centered learning will dissociate the teacher from the information provided by universities and lead to the erosion of professionalism (see Locke, 2001, p. 5). Finnish teachers operating in a school culture that emphasizes teachers' opportunities to exert their influence and professional *empowerment*, regarded the following qualities

as important in a teacher: reflective skills, the ability to self-evaluate the individual's own activities, and the utilization of self-knowledge in order to benefit from personal strengths.

Flexible Professionalism

This orientation is characterized by the practical expertise emerging from the day-to-day realities of the classrooms and the community. The approach may well reinforce a narrow view of teaching and add to the attempts of those outside the profession to direct and control the thinking of teachers (Hargreaves & Goodson, 1996, p. 10; Kubow & Fossum, 2007, p. 212). The English teachers operating under accountability school cultures based on *policy-oriented* professionalism tended to emphasize issues such as the ability teachers have to allocate the amount of time used to plan, evaluate, and report on teaching, their acceptance of criticism, as well as their ability to be able to function flexibly in the ever-changing working environment.

Extended Professionalism

This orientation highlighted collaboration between teachers, students, colleagues, parents, and other interest groups associated with the school. Extended professionalism may become "distended professionalism" if the teacher is burdened with ever-increasing new areas of responsibility (Hargreaves & Goodson, 1996, p. 17). According to this orientation, teachers put special emphasis on the significance of social competence in teaching and in the working community. An area experienced as problematic by Finnish teachers was the application of inclusion and the genuine utilization of schools' self-evaluations in their developmental work. The English teachers, in turn, experienced difficulty in the external pressures caused by the strict control of their work.

Complex Professionalism

This orientation depicts the escalating degree of complexity of teachers' work (ibid., p. 18). In the globalizing and increasingly complex world, teachers must demonstrate competences in areas such as those requiring cooperation, problem solving, and thinking (Kubow & Fossum, 2007, p. 212). The challenges and demands placed on teachers' work have undergone a radical increase both in Finland and England. According to the respondents, teachers' central pedagogical competence was the mastery of different teaching methods and applying continuously developing information technology to their teaching. In Finland, teaching methods that rely on active learning were seen to be a particularly challenging aspect. Furthermore, work associated with immigrant students and multiculturalism demands that teachers have a wide variety of new professional competences.

Principled Professionalism

If de-professionalizing professionalism is to be avoided, it will be necessary to study the possibility of combining the practice of teaching to the theoretical studies and research methods that can be used to interpret teaching practice with a greater sensitivity. Goodson and Hargreaves (2003, p. 132) call this the approach of the postmodern age principled professionalism, and they see it as consisting of the following components:

- The teacher's opportunities to engage with the moral and social purposes and values of what teachers teach;
- The opportunities open to teachers to exercise discretionary judgment concerning the issues of teaching, curriculum, and care that affect their students;
- The teachers commitment to working with colleagues in collaborative cultures of help and support as a way of using shared expertise to solve the ongoing problems of professional practice;
- Occupational heteronomy, whereby teachers work authoritatively, yet openly and collaboratively with other partners in the wider community;
- A commitment on the part of teachers to the active care of learners that, from the perspective of professionalism, means acknowledgment and embrace of the emotional and cognitive dimensions of teaching as well as recognition of the skills and dispositions that are essential to committed and effective caring;
- A self-directed search and struggle for continuous learning related to one's own expertise and standards of practice; and
- The creation and recognition of high task complexity in teaching.

The teachers, both in England and Finland, felt that it was important to establish and further develop good relations in the interactive phase of the teaching process. In the follow-up study, the attributes of a modern professional teacher were enthusiasm, engagement, participation in continual learning, and the constant upgrading of skills.

*Implications and Conclusions for School Education
and Teacher Education*

Finland's national educational policy has promoted educational practices based on universal community education. The central principles of the curriculum reforms implemented in Finland in the 1990's and 2000's promoted a school culture that emphasizes self-directed management of learning as well as general flexibility and interaction within school activities. The Finns have wanted to develop schools into learning centers that actively take advantage of the resources offered by the various interest groups. In this process, the teacher is in charge of acting as the agent of change (see Kimonen & Nevalainen, 2005). According to Korpinen (2010, pp. 23–25), the small rural school in Finland provides a learning environment with an abundance of opportunity for activities of various kinds. Small schools offer a favorable environment for pedagogical innovation of many kinds, with modern technology providing opportunities for distance learning, for instance, through network pedagogy. Teachers'

work in the small school is an example of the new teaching that centers on diverse cooperation between the school, the parents, and other interest groups. The small rural school is also an open learning center for all the inhabitants of the village, in which people of different ages can pursue their hobbies and studies.

The methods of work based on community education have many positive influences on the school culture and the surrounding community. According to Nevalainen (1995, pp. 289–290), the implementation of these methods in the daily life of Finnish schools requires further development of the following areas of the school teaching and learning practices:

1. *Learning through participation.* All curricula should emphasize life-centered environmental issues. The educational aims of the school should be planned jointly, with the participation of students and their parents. In schoolwork, outdoor projects in small groups based on cooperative learning should be increased. The students must be shown how to access information from various sources using various methods.
2. *School as the learning and activity center of the community.* School facilities should be used in activities that meet the needs of community members of all ages, this including evenings and weekends. The activities must be based on initiative, cooperative, and voluntary action.
3. *Strengthening the cooperation process of the school and the community.* Schoolwork must create organic relations with all the interest groups in the surrounding community. Outcomes of schoolwork must also be utilized in areas other than learning facilitation. Teachers can, if they want, act as animators in helping the members of the community to achieve their common goals and to solve problems.
4. *Participation and activeness of parents and other villagers.* The activities taking place in schools and communities must be planned and evaluated in voluntary teams, so that needs can be met and compromises in problem situations can be reached. Likewise, the teachers can actively work to maintain the school by cooperating with the members of the community while, at the same time, breathing life into the neighborhood.
5. *Arranging activities based on the needs of the villagers in the school and village.* Community members of various ages should have the opportunity to get involved in mapping communal needs and identifying the resources that can satisfy the manifested needs. Teachers could coordinate these activities, if they are willing to do so.
6. *Creating learning networks and using resources.* All human, physical, and financial resources of the learning networks of the community must be used in education. Various groups within the community can utilize the learning networks to develop various partnerships based on cooperation.

Teachers are expected to be able to independently reflect on their own work. The ability to ponder over professional issues is crucially important to village school teachers as well, in order for the school to survive and evolve. Teachers must

become holistically conscious of the factors influencing school activities and be able to critically analyze their own teaching. Furthermore, they must become aware of the school's role and of their own role in developing the community. Independent reflection skills are particularly important in the work of a teacher in a small rural school, also due to the small size of the work community and the small number of adult contacts (see Kilpeläinen, 2010, p. 125). It is consequently an important mission for teacher education to develop such forms of teaching that offer the teacher students an opportunity to build well-functioning thought and action patterns. Guided by their own theories in practice, the students connect these patterns with different learning and teaching theories that they can later utilize in teaching. In the continuous construction of action patterns, it is essential to consider and critically reflect on the experiences gained in hands-on teaching. The aim is to apply transformative learning to adopt strategies needed to change school practices. The supervised teaching practice should not remain as mere training that takes place in the classroom, but the future teachers should rather familiarize themselves extensively with the contextual factors of school and community (see, e.g., Kalaoja, 1991, pp. 119–121; Kalaoja & Pietarinen, 2009, pp. 109–116; Kalaoja & Pikkarainen, 1993, pp. 147–156; Kimonen & Nevalainen, 2002, pp. 127–129). Boyle-Baise and McIntyre (2008, pp. 324–325) propose a useful framework for community-oriented teacher education presented in [Table 4](#).

Today, teacher education familiarizes teacher students with teaching in combined classes at small rural schools only minimally during the field practice period. Over 60 percent of the teachers in this study felt that teacher education in its present state best serves the needs of large urban schools. More than half (53%) of them found that the teacher education had not sufficiently prepared them for teaching in small schools (see, e.g., Kalaoja, 1991, pp. 22, 77; 2010b, pp. 271–277; Kalaoja, Pikkarainen, Karjalainen, Lauriala, Pohjonen, Siitonen, & Sivula, 1992, pp. 102, 108).

Class teacher education should also provide the opportunity for specialization in teaching at small rural schools. This view was supported by 68 percent of the teachers who participated in this study. In addition to the traditional teaching practice, students could be more broadly introduced to the role of school in the community and to the special characteristics of a village community. At the different stages of the specialization studies, the following subareas would be essential:

1. *Orientation*. The context, resources, and processes of rural schools and communities should be made familiar through literature, visits, and orientating practice periods. During the orientation periods, partner networks between the Department of Teacher Education and the teachers in certain small schools should be created, and these teachers' experiences of implementing a community-oriented curriculum should be utilized. A research project plan should also be drafted during the orientation stage.
2. *Study and research*. Teachers' work and activities at village schools should be broadly acquainted with through both theoretical studies and hands-on experience. The operation of small schools should be viewed from the perspective of the activities in the surrounding communities as well as from the perspective of

- teacher and student activities in the class, school, and outside of the school. The learning networks of village schools should also be mapped.
3. *Field practice.* During the practice, students should act as teachers at small schools. This would familiarize them extensively with the village school and community context and culture, as well as with the school's operating principles and practices. Teacher students should also participate in extracurricular work, thereby establishing and maintaining learning networks and collaborating with the school's interest groups.
 4. *Reflection and evaluation.* The teaching practice must be critically assessed through self-evaluations, and reflected on in small groups and seminars. The opportunities to develop small schools must also be considered.

Table 4. *A Framework for Community-Oriented Teacher Education*
(Adapted from Boyle-Baise & McIntyre, 2008, p. 325)

Aspect	Professional Dimensions	Development Approach	School's Role
Teacher professional development	<p><i>Teachers with heart:</i> Teachers need to regard school communities as their communities.</p> <p><i>Teachers with connections:</i> Teachers should connect with local interest groups and universities.</p> <p><i>Teachers with knowledge:</i> Teachers should seek community knowledge as well as subject matter expertise.</p>	<p>Future teachers should learn from synergy of university-related and community-oriented activities. They should learn to teach innovatively. They need to gain wisdom of practice from accomplished teachers.</p>	<p><i>School renewal:</i> The history of lighted schools and community schools should light the way for community-oriented teacher education.</p> <p><i>School partnership:</i> Links should be made between schools and universities. Connections need to be made with community organizations too.</p>
Community development	<p>Teachers might participate in local committees with peers and community people to address issues related to school.</p>	<p>Citizens should be able to use "their" buildings for adult education and community meetings. They also should shoulder some of the responsibility for assisting schools, thus taking part in the education of "their" children.</p>	<p>Schools should serve as an anchor for the community, and, possibly, act as an advocate in regard to local concerns.</p>
Student development	<p>Teachers need to connect with students as members of families and communities. Local issues should shape curriculum, involving students deeply in constructive learning.</p>	<p>Student development should remain at the core of the educational enterprise. Thus education should include academic achievement, cultural awareness, and ethnic identification, as well as health and general well-being.</p>	<p>A community focus needs to be perceived as supportive of student learning. Parents, elders, and local leaders should serve on integral school positions. Community participation in the student teaching "triad" seems like an excellent place to begin.</p>

The continuing education provided for teachers in small village schools has been regarded as inappropriate in terms of content and methods (Kalaoja, 1991, pp. 102–106, 113; 2010b, pp. 271–274). More than half of the study participants (52%) had not received enough continuing education relating to small schools. The teachers were very willing to utilize various kinds of destinations outside of the school in their teaching. Their needs to join local contact and decision-making systems were also quite manifold; in particular they willingly participated in the study circles of adult education centers and in village committees. Teacher students should have access to the knowledge and skills needed in these activities as early as in basic teacher education, but also in continuing education. Moreover, the information provided by case studies about the successful practices used at schools that occupy a role as centers of their village community must be disseminated in teachers' continuing education. As the teachers of remote rural schools have relatively few contacts with other adults and teachers, more opportunities should be made available to them for reflection in small groups of local teachers on their experiences with the process of change that is transforming schools into community learning and activity centers.

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PART TWO

**EXAMINING
THE CHANGING NATURE
OF TEACHERS' WORK**

RAIMO NEVALAINEN & EIJA KIMONEN

5. THE TEACHER AS AN IMPLEMENTER OF CURRICULUM CHANGE

*A Case-Study Analysis of
Small Rural Schools in Finland*

INTRODUCTION

The purpose of this chapter is to describe curriculum change as seen in a small rural school in Finland. The aim is to study the effect of the changes on curriculum policies and pedagogical practices. The examination will utilize previously published empirical research. In-depth analysis will compare the research data to data obtained from qualitative case studies. Two small schools had been selected as the subject of the latter studies.

This chapter will present parts of three comparative research projects carried out at the University of Jyväskylä in Finland:

1. A joint research project on Teacher Quality initiated by OECD/CERI;
2. A joint research project on Active Learning organized by OECD/CERI; and
3. A research project on Curriculum Change in England and Finland jointly carried out by the Department of Educational Studies, University of York and the Department of Teacher Education, University of Jyväskylä

(see Kimonen & Nevalainen, 1993; 2000; 2001; 2002; 2005).

The York-Finnish Curriculum Change project included document analysis, observation, and teacher interviews at six English and six Finnish schools during the period 1994–1996. Pseudonyms were used for the names of the schools. Each interview was fully transcribed and the Finnish interviews were translated into English for the comparative study. The analysis was carried out using a process of category generation and saturation that is based on the constant comparison method developed by Glaser and Strauss (1967). The methodologies used for the project as well as the school samples have been described in greater detail in the final report for the study (Webb & Vulliamy with Häkkinen, Hämäläinen, Kimonen, Nevalainen, & Nikki, 1997, pp. 3–7; Webb, Vulliamy, Hämäläinen, Sarja, Kimonen, & Nevalainen, 2004, pp. 87–89).

CURRICULUM REFORMS IN FINLAND

In Finland the basis of a national comprehensive school curriculum was established at the beginning of the 1970's. The curriculum reforms in the Finnish comprehensive school during the 1970's and 1980's were based on a centralized planning and decision-making process. Structural planning for the comprehensive school was set in motion as early as in the 1950's, but it was not until 1965–1966 that a thorough comprehensive curriculum began to be drafted. A detailed curriculum was presented in the committee report on the national curricular guidelines for comprehensive schools, published in two volumes in 1970 (Malinen, 1985, p. 26; 1992, p. 15). This rather exhaustive report comprised some 700 pages. The first section set the overall objectives for the comprehensive school, while the second section was concerned exclusively with subject-specific syllabuses. The original aim was for the curriculum reform to be implemented flexibly with emphasis on the conditions prevailing locally (*Peruskoulun opetussuunnitelmakomitean mietintö I*, 1970, p. 57). Due to the National Board of Education's restrictive regulations (1972), this reform soon came under governmental control (Malinen, 1992, p. 16). In practice, it was the Committee Reports of 1970 and the subsequently appended subject syllabuses published by the National Board of Education that shaped regional and school curricula in Finland.

The position of the curriculum in the activities of the school was strengthened and clarified in the new school legislation of 1985. Local government authorities now had many more opportunities than before to make decisions affecting their own curricula. At the same time, they now had an ever more clearly defined responsibility for formulating and developing the curriculum. Efforts were made to increase the educational options for the local government authorities as well as for schools.

The basis of the local curricula was the national *Framework Curriculum for the Comprehensive School* of 1985 (*Peruskoulun opetussuunnitelman perusteet*, 1985). In comparison to the Committee Reports of 1970, this curriculum was noticeably more concise, amounting to some 300 pages. The Framework Curriculum of 1985 was a national curriculum, the content of which could also be used as such within the formulation of the local curricula. The local government authorities had the opportunity to supplement the national curriculum to conform to the prevailing conditions (Malinen, 1992, p. 34).

New curriculum guidelines for comprehensive schools were issued in the fall of 1994. They replaced the 1985 curriculum with its detailed specification of content and central control of curriculum organization (see Norris, Aspland, MacDonald, Schostak, & Zamorski, 1996, p. 27). To help promote greater local flexibility in the curriculum, the National Board of Education devised a scheme for "aquarium schools" to be located throughout the country. Beginning in 1992, certain experimental schools were selected and charged with devising their own school-based curricula according to new curricular guidelines (Sahlberg, 2011, p. 36).

The *Framework Curriculum for the Comprehensive School* of 1994 incorporated a 1993 revised allocation of lesson hours according to subject, and spelled out certain guidelines, both for curriculum development and for the organization and management

of schools. Emphasis was placed on schools developing their own curricula and involving teachers and parents in this process. Other innovations included an advocacy of thematic project approaches to teaching, the requirement for a written school mission policy and a stress on joint curriculum planning by teachers together with the necessity for schools to engage in procedures for self-evaluation (Webb et al., 1997, p. 10; see also Webb, Vulliamy, Häkkinen, & Hämäläinen, 1998, pp. 542–543).

The 1994 curricular reforms represent, in theory at least, a very radical departure from previous practice. They suggest a transition from teachers teaching a nationally prescribed subject-based curriculum to schools devising, with parental involvement, school-based community-oriented curricula emphasizing integrated project work and active-learning pedagogies. The reasons for such a dramatic shift are complex. At one level, the reforms can be seen partly as a continuation of an increasing recognition of problems of the overloaded, centrally prescribed national curriculum introduced in the early 1970's, coupled with moves toward decentralization of decision making from the national to the municipal level. Discussion with educationists and policy makers in Finland also suggests that such reforms were to a considerable extent “ideas driven” by progressive educators who had gained prominence at the national level in organizations such as the National Board of Education. This new generation of educational policy makers had been influenced by constructivist theories of learning and experience of progressive primary practice in countries such as England. However, educational reforms do not occur in a vacuum and it seems likely that a further influence was the changing economic and political climate in the Finland of the 1990's, in which tensions became more explicit between the desire for localized democracy and an incipient managerialism with an ethic of cost efficiency and accountability (Webb et al., 1997, p. 11; see also Laukkanen, 1995, pp. 24–25; Norris et al., 1996, pp. 14–17).

A comprehensive legislative reform governing basic and secondary education came into force in January 1999. The new legislation has substantially increased the independent decision-making power of municipalities and institutions (*Finland*, 2007, p. 2). According to Sahlberg (2011, p. 39), a new flexibility within the education system enabled schools to learn from one another, and thus, make the best practices universal by adopting innovative approaches to organize schooling. However, the new basic principles of the *National Core Curriculum for Basic Education 2004* have increased the external control of the teacher's professional activity utilizing the descriptions of good learner performance (*Perusopetuksen opetussuunnitelman perusteet 2004*, 2004, p. 260).

According to Halinen (2008), the municipalities are obligated to draw up a local curriculum that is based on the National Core Curriculum. In most cases, the municipal authorities delegate considerable power to schools. Every school has a school-specific curriculum on the basis of which schools compose their annual working plan, teachers' working plans, as well as individual study plans for students when needed. Teachers and other school staff are deeply involved in the process of planning the school curriculum, as described by Halinen (2008, p. 225):

When teachers discuss together issues relating to the curriculum, they have to think about all the basic things influencing their teaching and students' learning. Teachers decide on how to organise support for those with learning difficulties, how to organise multicultural education and special needs education, and student guidance and counselling, and how to take care of students' well-being. They plan cooperation between home and school, and draw up the knowledge strategy for their school.

SMALL RURAL SCHOOLS IN FINLAND

Quantitative Development

Small schools have traditionally existed in the sparsely-populated Finnish countryside. In the beginning of the 1990's, approximately 60 percent (2,239) of Finnish lower-level schools (3,729 in all) were small schools with 1–3 teacher posts. In the 1992–1993 school year there were 50 one-teacher lower-level schools (1%), 1,352 (36%) two-teacher schools, and 837 (22%) three-teacher schools (*Tilastotietoja peruskouluasteen kouluista*, 1994, p. 8). The number of small schools has, however, varied according to social, cultural, and economic conditions. The quantitative development of schools has been connected to both social and educational policy, this regulating the number of schools. Since the 1960's, the network of schools has clearly grown smaller. Altogether 241 lower-level schools were closed during the 1980's (*Koulutus: Education in Finland*, 1991, p. 33). The rate of school closure continued to increase between 1990 and 2008, when a total of 1,478 lower-level comprehensive schools, most of them small, were phased out. During the period between 1990 and 2008 in Finland, an average of 70 small schools a year were either shut down or merged with another school. Of the schools giving basic education from grade 1 to grade 6 in 2008, around 30 percent were two or three-teacher schools, where teaching mainly took place in the form of combined grades (*Koulutustilastot 2008; Peruskoulut 1990–2008*, 2009).

The most significant reason for the closure of schools has been the dramatic decrease in the number of students. During recent years, economic factors have also become significant in the decision to close schools. It is apparent that the Finnish educational system of the future will continue to be under pressure to radically cut back the school network and increase the unit size of schools (Kalaoja & Pietarinen, 2009, p. 110; *Koulutus Suomessa*, 1998, pp. 14–15). The rapid decrease in the number of small rural schools is also a typical feature in other industrialized countries. The modernization of society and a vigorous migration from the countryside have led to an increase in student numbers in the urban lower-level comprehensive schools. In 1997, the average number of students in lower-level comprehensive schools in Finland was 111. In the beginning of the 1990's the average size of a lower-level school was fewer than 100 students. At that time the average number of students in rural schools was 62 and in urban schools 211. In 1997 more than half (56%) of comprehensive school students attended school in towns; approximately a fifth (19%) in densely populated rural areas, and over a fourth (26%) in the more outlying rural areas (*Koulutus Suomessa*, 1998, pp. 15, 18). This course of development has increased during the initial years of the

21st century, since the Finnish school system has undergone a powerful consolidation with the continuing decrease of the number of schools (Korpinen, 2010, pp. 17–19).

Qualitative Development

The qualitative development of a small rural school can be studied from the point of view of the school's context, resources, processes, and products. In Finland attempts have been made to solve the contextual problems of small rural schools by means such as enriching the life of the surrounding villages and developing their activities. An important developmental goal in the countryside has been to strengthen the interaction between the school and the surrounding community. The cultural, material, and economic resources of small schools have been developed by training teachers, repairing school buildings, writing teaching materials that offer differentiation in combined grades, increasing the financial support for school transport, and enhancing resources by applying the time-resource quota system in each individual school. Attempts have been made to solve the process-based problems related to teaching by developing students' independent working skills, applying the period system in teaching, and by implementing outdoor education. Furthermore, the curricula of combined grades have been developed, for example, by unifying the teaching of different grades and by emphasizing the use of local subject material in teaching. An important part has been played by increased cooperation between the school and the home, and through collaboration between small schools (Kalaoja, 1990a, pp. 1–3, 91–102; 1990b, pp. 93–110; Kalaoja & Pietarinen, 2009, pp. 111–112; Korpinen, 2009, p. 9). The differences in school achievement in Finland have for decades been particularly small. Research has shown the results in small schools to differ little from those in large ones (Peltonen, 2010a, p. 67).

According to Korpinen (2010, pp. 23–25), the small rural school in Finland has provided a learning environment with an abundance of opportunity for activities of various kinds. Small schools have offered a favorable environment for pedagogical innovation of many kinds, with modern technology providing opportunities for distance learning, for instance through network pedagogy. Teachers' work in the small school is an example of the new teaching centering on diverse cooperation between the school, the parents and other interest groups. The small rural school is also an open learning center for all the inhabitants of the village where people of different ages can pursue their hobbies and studies.

Below we will briefly describe two small rural schools in Finland, their physical, material, and human resources.

Two Small Rural Schools

Suvila School

Until its closure, Suvila Lower-Level Comprehensive School was located in Central Finland in a municipality of some 5,500 inhabitants. During the fieldwork for the

study in the 1990's, about half of the working population earned their living in trade, transport, and other service sectors. About a quarter worked in agriculture and forestry and a quarter in industry and in the building sector. Eight lower-level comprehensive schools, six of them two-teacher schools, operated in the municipality. One of the small schools was under threat of closure. In addition, the municipality had an upper-level comprehensive school, an upper secondary school, and a special school. In the late 1990's, the village community surrounding Suvila School consisted of 200 inhabitants, of whom the majority earned their livelihood in farming, forestry, and the log house building industry. The village no longer had a retail store or post office, but the municipal mobile library came to the village once a week. The inhabitants of the village community had taken initiatives to improve their living conditions through local activities. Such activities involved regular social collaboration. A Village Committee had also been formed. The school was the only common meeting place in the village. The inhabitants of the village community actively used the school for their hobbies and meetings. Consequently, the school often enjoyed support from the local community, including maintenance of outdoor sports facilities and equipment, participation in outings and school camps, and visits to the school by specialists in various fields of work.

The case-study school building was constructed in 1922 and renovated in 1989. Teaching facilities, equipment, and learning materials were both modern and appropriate. The school had three classrooms, a kitchen, dining room, staff room, and a number of social facilities. Since the school had no special gymnasium, indoor sports were taught in the school's largest classroom and in the sports hall at the municipal center. A small separate building in the vicinity of the school had been restored for the teaching of handicrafts. The school grounds included a sports field, a store for games equipment, and a covered space for playing. It was possible to teach, for example, nature study and outdoor sports in the school grounds.

There were two class teachers, as well as a peripatetic English teacher and a peripatetic special teacher. One class teacher was the head of the school. In addition to the teachers, there were two teacher aides and a subsidiary worker who acted as cook, cleaner, and caretaker. The School Board was composed of six members, a teacher, and five parents. A public health nurse visited the school once a month. The school had 27 students who were divided into two basic teaching groups. These combined grades comprised of eight students from grades 1–2, and 19 students from grades 3–6, respectively. The teaching staff was well qualified. The principal of the school, Kalle, had graduated from a three-year teacher-training course and subsequently he had completed his Master of Education degree. The other teacher, Tiina, had graduated from a modern five-year teacher-training program, leading to her degree of Master of Education. After their basic training the teachers had regularly taken part in teachers' in-service training.

Ranta-Sointula School

Ranta-Sointula Lower-Level Comprehensive School is located in a remote village in Central Finland. During the fieldwork for the study in the 1990's, the municipality had about 5,000 inhabitants. Some 50 percent of the population was employed in the service sector. Approximately a third was in farming and forestry and a sixth in industry. There were 10 lower-level schools in the municipality, eight of which employed two teachers. Two of the small schools were under threat of closure due to a decrease in the number of students. There were an upper-level comprehensive school, an upper secondary school, and a special school in the municipality. Ranta-Sointula School was located in a village that had a population of 350 at the time. The majority of the village people earned their livelihood in farming and forestry. In addition to the school, there was a chapel and camping center, owned by the church, and a small grocery store with postal services in the village. The village had access to services provided by a mobile municipal library. The members of the village community had taken initiatives to improve their living conditions through local activities. The village had a Village Committee chaired by the principal of Ranta-Sointula School. The Committee also dealt with matters pertaining to the case-study school, as the school was under threat of closure, due to decreased municipal and governmental funding. The driving force behind the local activity was the concern over the possible closure of the school with its consequences to the population structure and the interaction of the villagers. The inhabitants of the village community used the school actively for hobbies and meetings. In fact, the school, refurbished with help provided by the locals, was the only rent-free venue in the village.

The case-study school building was erected on a very beautiful lake site in 1910. At the time of the school visit in the 1990's, it had been renovated, and teaching facilities, equipment, and learning materials were up-to-date and appropriate. There were two classrooms, a handiwork shop, a gymnasium, a kitchen, a staff room, and a number of social facilities in the school. The school grounds included a sports field, a playhouse, and a sheltered area for games. There was another sports field and a beach by the lakeside. The immediate surroundings of the school also offered many possibilities for teaching biology and outdoor sports. Because of the large size of the school district, almost all students of Ranta-Sointula School were transported there by taxi, the daily journeys otherwise being too long.

There were two class teachers and a peripatetic English teacher in the school. Whenever necessary, the school was also visited by a peripatetic special teacher. A subsidiary worker who acted as a caretaker and a cleaner was involved in the daily work of the school. The School Board consisted of seven members and six substitutes, the principal being the secretary of the board. There were 24 students in the school, divided into two basic teaching groups. These combined grades had been formed from six students from grades 1–2, and 14 students from grades 3–6. Preschool was attended by four children. The human resources in the school were very good from the standpoint of the teachers' educational level. The principal of the school, Liisa,

had graduated from a four-year teacher training college. She had been working as a teacher for 15 years. Both the other teacher, Olli, and his substitute teacher, Tuomo, graduated from a modern teacher training program lasting some five years, leading to the degree of Master of Education.

Changing Financing Systems

The teachers in small schools have been responsible for managing the budget of the school. At the beginning of 1993, a new financing system with an impact on the financial resources of schools was launched in Finland. According to this system, the educational and cultural sectors received financial support in the form of project-specific state grants, the amount being determined in terms of the national total cost per a student. At the municipal level, the state grant was seen as a special lesson hour quota index, that is, the lesson hour quota per student. At the lower level of the comprehensive school the lesson hour quota has been determined according to the number of teaching posts, which in turn was determined on the basis of the school's student numbers (Laukkanen, 1995, pp. 25–27; Pirhonen, 1993, p. 17). For example, at Suvila School, 28.5 hours of the weekly lesson hour quota could be used for each teaching post, amounting to a total of 57 hours per week in the whole school. The Municipal Board of Education was given a certain amount of money and it made a general plan for its expenditure. The Board allocated the funds to the schools, which then independently decided on their particular use. It was believed that the new system of the time could be favorable to the preservation of small schools (see also Pirhonen, 1993, pp. 13, 17, 20). The weak economic situation in the Finnish municipalities was, however, reflected dramatically in school budgets. The teachers were required to manage on a budget that was continually being cut. The aid to small rural schools was abolished in Finland in 2006 when the basis for state subsidies changed. This change accelerated more than ever the closing down of small schools (Korpinen, 2010, p. 17). For example, the budget of Suvila School (1993) showed us that the school's largest expense item consisted of the salaries and social security expenses of the teachers and other staff. These made up about 80 percent of the annual expenditure. Approximately a fifth of the expenses was directed towards maintaining the premises as well as purchasing school materials and necessary services. Student transportation formed the greatest service cost, comprising of about seven percent of the school's annual expenditures.

IMPLEMENTATION OF CURRICULUM CHANGE
IN RURAL SCHOOLS

Management of Change

Curriculum development in Finland has been successful, especially in schools with a tradition of rich innovation. Management and teachers' cooperation skills have been seen as central factors contributing to a successful outcome. Additionally, teachers' personal interest in their professional development has been a prerequisite for success. It is possible that successful curriculum work has also further encouraged school development (Syrjäläinen, 1994, p. 57; see also Vulliamy, 1996, pp. 34–35; Webb, 1996, p. 32). According to Fullan (1993, p. 20), school reform is a never-ending process of change, characterized by complexity, dynamism, and unpredictability. Various phases in educational change can be distinguished (see Fullan, 2001, pp. 51–52). For example, Suvila School had been following its own curriculum since 1992. The school-based curriculum was revised during spring 1994 to correspond to the new national curriculum. The teachers in Suvila School suggested that the process of change from a traditional school to a school applying the principles of progressive pedagogics started at the end of the 1980's. The change proceeded in phases, by means of the experiences gained by the teachers in their practice and of discussions held about these experiences. During the first phase of the change, the teachers began working with topic units lasting from one to two weeks. At the same time, they dismantled the system of teaching based on contact hours. During the second phase, the teachers increasingly stressed the need for activity-oriented learning in their teaching. The duration of the topic units was extended, in order to allow more time for the students' own project work and to allow them to go into greater depth. During the third phase, the teachers extended the school day, so that school started and ended at the same time every day. In the words of one teacher:

We've been making this change bit by bit, the whole time. We've not made any sudden changes. One of the most important changes was that I broke the 45-minute teaching system and built larger systems. ... First came the construction of project units. At first, the units were shorter, a week or two. ... Then I extended the periods to make activity-oriented learning possible, and so that we could deal with things more deeply. ... Students were given time for their own project work. The final product is something I've tried to deepen all the time. The activity-oriented learning revealed that the Finnish school practice does not make this system possible. That's when we gave up this school day that is tied to a strict number of hours. (Kalle, male teacher)

Educational change for its part presented the teachers of Ranta-Sointula School with insurmountable problems concerning the curriculum development process. According to previous research (Syrjäläinen, 1994, pp. 50–56), Finnish teachers have often experienced curriculum development as problematic. In many schools the work could have been easier had the obstacles been recognized in advance. The teachers felt that seeing the general trends, as well as the reflection of the school values and the nature of general education, are quite difficult. Many teachers complained about

the strenuousness of curriculum planning and the lack of time, because the work was done mainly after normal working hours. The main barrier to curriculum development is the teachers' resistance to change. For example, the teachers in Ranta-Sointula School were openly critical regarding the effective implementation of the new school-based curriculum. The principal felt that the construction of the school curriculum was especially hindered by the transfer of one of the teachers leaving only one, the prevailing lack of teacher cooperation, and the general curriculum development in the municipality. Moreover, she was no longer interested in in-service training. Some parents also expressed the wish that the school should concentrate more on the traditional teaching of basic skills. They felt that the teachers' responsibility is to teach the students the core subjects. In addition, the economic situation in Finland was worsening, and, in her opinion, it made many decisions in the school more difficult. The teachers said:

I have been slowed down by the fact that the previous male teacher left and we had a totally different view of the future. ... It ended right there. I was really desperate, what should I do now. ... We were getting on with the curriculum work very well. Then there was some talk about the curricula varying a lot, because other schools were not doing anything. There even were teachers who were against it. Then we decided to help the schools all together. (Liisa, female teacher)

I personally have a certain idea about the new curriculum: I am cynical about it. I can barely do the job. ... It is only my opinion that there is no big change. ... My contribution to the curriculum in this school has been to copy the subject contents of the Vesala School Curriculum from the *Teacher's Journal*, leaving something out. Rewriting it. And there we have it. (Tuomo, male substitute teacher)

Basic Features of Instructional Organization

The work of a teacher in a small rural school is comprehensive in nature. This work requires them to take responsibility for administrative duties such as budgeting, the planning of activities and contacts with school administrators, and attending meetings of the School Board and the teaching staff. Teachers are required to be familiar with matters related to maintenance of the school building and to student welfare. They must also be capable of functioning as the head of the school. In addition to scheduled teaching, teachers' work includes responsibilities such as morning assemblies, supervision during breaks and school meals, and collaboration between the school and the home (Kimonen & Nevalainen, 1993, p. 94; see also Galton & Patrick, 1990, p. 167; Vulliamy, 1996, pp. 26–34; Vulliamy & Webb, 1995, p. 40). For example, the teachers at Suvila explained that they planned the activities of school together at the beginning of the semester and this plan of action was mapped out in more detail in the form of weekly plans. The principal presented to the School Board the work plans for the school year and the budget proposals that had been drafted cooperatively. Similarly, the students' parents had taken part in the planning of school work.

We have a planning day in the fall and in the spring. It has consisted of putting together the curriculum these last couple of years. ... The way we run the school, the way we organize free time and work, that's our business. We are given a budget framework and the school head is responsible for its implementation. Before school starts in the fall, we work for at least a day. The budget gets done when it's time for it. We make the orders for textbooks and materials together around this time in spring. ... Statutory decisions are made in a certain order. Decisions concerning practical activities are very informal. In other words, it's all very flexible and easy. (Kalle, male teacher)

Towards a New Organization of Teaching and Learning

One of the most powerful direct influences of the innovative visions of a school is that exerted on the organization of teaching and learning. This link can be clearly seen in the description of Suvila School (see also, e.g., Hopkins, 2007, pp. 20–21). A key policy for Suvila School was to emphasize the interaction between the school and the surrounding society, allowing students to learn from their own environment. The acquisition, processing, and application of knowledge, as well as the production of new knowledge, were also underlined. Cooperative work and respect for student diversity were major elements in the school's approach. To give an example from the Suvila School Curriculum of 1994, it can be seen that the teachers first describe the underlying values of the school, its modus operandi, and the primary objectives of the activity, according to the given contemporary guidelines. The contents of the curriculum consist of four major parts:

1. The individual curriculum of a student constructed together with the teacher, student, and parents, revised annually and containing the emphasis areas to which special attention is paid with this student;
2. The curriculum for the basic subjects, containing the topics in mathematics, mother tongue (Finnish), and the first foreign language (English);
3. Environment-oriented subject matter, containing the theme units of environmental and nature studies, history, and religion; and
4. Syllabus for arts and crafts subjects, containing the core contents of music, art education, physical education, and handicrafts.

Finally, the curriculum briefly discusses the teaching and evaluation methods used by the teachers.

The school year in Suvila School was divided into teaching periods of approximately six weeks each, according to various themes. The contents of modern subjects, such as biology, geography, religion, and history, were studied as theme units. At the end of the theme unit, instrumental subjects were taught intensively for one week. Part of the instruction in Finnish and in practical and aesthetic subjects took place in the form of workshops. Every seventh week, students could select a workshop. Video, cookery, music, art, or computer workshops were among those offered by the school.

The school day began with morning exercises in the schoolyard, followed by a morning assembly for all students held in the largest classroom. The first work period of the day lasted approximately one and a half hours. The school's lower

grades (grades 1–2) worked as a separate group. At the same time, students in the upper grades (grades 3–6) had an individual study period of mathematics, Finnish, or English. After the first work period all students participated in outdoor exercises, this followed by lunch. After lunch, the first two grades had a storytelling hour, during which they could also rest. At the same time, the students of the upper grades worked on their projects or in different workshops. During the afternoon work period all students continued with their projects or studied practical or esthetic subjects. They also had a light snack in the afternoon.

Below we will examine the curriculum of Suvila School more closely from the point of view of policy implementation. We will focus on the process of project work within the combined grades.

The Project Method in a Combined Grade

In project work, a teacher functions primarily as an instructor and work supervisor. Skills and knowledge are based on the students' active work and participation in problem solving (see, e.g., Gutek, 2009, pp. 347–349). In the project work of Suvila School, the students studied and concentrated on certain topics, which changed every five weeks. Usually they worked in groups made up of students of different ages. Both teachers supervised them during the work. As one teacher described:

Even today I have felt like 'a supply wagon'. I go around instructing where to find information, take these books. Here you have the tools for this. 'The wagon' goes asking what they would need. That's the way I feel. In a way, I am responsible for the material, that it is available. ... The role of the student is to dig and to be curious, seek information, collect it, choose, and modify it so that there is a product of a new kind. ... To collect information and share it with others. In a way they learn themselves, and also teach someone else. Being a responsible worker is one of the roles. In that one particular group they are responsible for their own tasks. (Tiina, female teacher)

In the following we will describe the different phases of the project work that was undertaken in Suvila School during our research period in 1994. We observed the final week of a three-week study period, when students were completing their final product developed from the topic of communication. The project work included three phases:

1. Motivation and orientation;
2. Cooperation: planning, practicing, producing, and differentiation; and
3. Evaluation.

The purpose of the week's project was for students to prepare a commercial and a bulletin cooperatively. The teacher introduced the students to the topic on Monday and then student groups planned and carried out their work. The outcomes of the project work were evaluated on Friday at the end of the school week.

Motivation and Orientation. Initially all students gathered in the largest classroom of the school. They were seated at their desks in groups of five, each group including students from different grade levels. The teacher announced to the students that the purpose of the final week of the communication topic was to plan and prepare,

as a group, a video commercial for a product invented by the students themselves. Motivation for the project work was generated by watching television commercials. After the viewing, the essential features of the commercials were discussed as a class. The teacher also explained the aims, schedule, organization, and the necessary equipment for the work:

This week we are going to compose the final product of the communication topic. It includes two tasks, which will be done in groups. ... First of all, the group creates a commercial. That commercial is recorded on video tape. The group must decide by itself what the product is that you are going to advertise. ... You must invent some product and after that make an advertisement that is suitable for the product, so that you could get them sold, scores of them. To refresh your memory, let's see a few commercials. ... Tomorrow's lesson can be used for preparing the props. Today we'll prepare the commercial to the point where later on you don't have to do anything else except maybe bring some clothes you need in the performance from home. ... On Wednesday we'll start shooting right away. Now, what we'll do is this: three groups will start with this video, since we only have one video camera. ... The two remaining groups will start with the video on Wednesday. ... Those who start with the video will think it over bit by bit. You make a plan about the plot, and the product you intend to advertise must also be seen in this plan. (Kalle, male teacher)

As a temporally differentiated final product, students had to draft a bulletin during the week, whose purpose was to inform future first-graders about affairs related to the school, or to offer information about the opportunities provided by the village to new inhabitants moving into the area. The text for the bulletin was to be planned as a group work task and typed out on a computer. The teacher emphasized the importance of successful task allocation in the working of the groups:

The bulletin is to be made using a publishing program ... on the computer, but empty spaces are left for the pictures, and they are drawn in pencil. When you assign duties in the group, you should decide on the division of work, so that those who write the texts and those who draw the pictures are different ones. ... On Friday everybody's work can be specified, when we look at the input of each person. (Kalle, male teacher)

Two groups of students started to work on the commercial and three groups on the bulletin. We observed more closely the project work of two groups involved in producing a video commercial. In the following we will examine the planning, practice, and production phases of the project work in groups A and B, as they are labeled here.

Cooperation: Planning. After the orientation phase, students started the planning of the commercial in small groups. Observation group A consisted of a student from the sixth grade (girl), two students from the fourth grade (boy and girl), and two students from the first grade (boy and girl). The sixth-grader acted as chairperson and she also recorded the proposals made by the group members. Most of the ideas for planning were presented by the chairperson or the fourth-grade girl in the group. The youngest students mainly listened and gave only a few ideas. The chairperson directed the discussion and frequently went to show the outcome to the teacher. The teacher

gave feedback and encouraged the students to continue with their work. As planning proceeded, the students discussed the clothes they would wear in the commercial. The teacher also gave suggestions for clothing.

Girl, 6th grade: Do you have any summery skirts with flowers, for example?
Girl, 1st grade: I don't, but I have flowery shorts.

Girl, 6th grade: Well, bring the pants ... Where are we going to do it? We must solve these problems, so that we can start practicing. It ought to be summery ... Let's show it to the teacher and say that ...

Observation group B included a student from the sixth grade (girl), two students from the third grade (boy and girl), and a student from the first grade (boy). In this group, too, the sixth-grader acted as leader. At first the students could not agree on the topic of the commercial. The third-graders of the group suggested different alternatives, which the chairperson, however, did not accept. The youngest member of the group sat rather quietly, went along with the others, and accepted ideas from the other group members. Finally, the chairperson of the group decided on the topic of the commercial independently. The students then made a concise plan of the commercial on paper and showed their plan to the teacher.

Boy, 3rd grade: Nothing suits you, see ... OK, everything suits us that you say. We must get this done somehow. You make a suggestion, you haven't yet proposed anything.

Girl, 6th grade: You go on.

Boy, 3rd grade: I already have, but nothing is good enough for you.

Girl, 6th grade: I can't think ... Now we'll make a toothpaste commercial. Say what you like, but we'll make it about toothpaste.

Cooperation: Practicing and Producing. After the planning phase, the students began the practicing and producing of the commercial in their groups. The students in observation group A first practiced without the video recorder. By this stage, the group members' roles had already become differentiated. On the second research day the students continued the dramatization. The older girls of the group also prepared props and sets needed for the commercial. The youngest members, however, sat fairly passively. When the necessary paraphernalia was ready, the group started to practice, using the video recorder. During the filming process, the teacher gave the students instructions about the use of the recorder and ensured that the events were on the videotape. After the filming, the students cleared up the space, dismantled the sets, and returned their role costumes to their appropriate places.

Girl, 6th grade: I got those sodas in the picture all right. Matti, you don't have to turn the camera. Just film the kiosk. Now the camera is at the spot where you can start filming. This red starts the recording.

Teacher: Remember now to speak up. Leena, check the distance. Remember the breaks between the shootings.

Boy, 4th grade: Where does it shut off?

Girl, 6th grade: Same place as you turned it on.

Teacher: Leena, give a sign when the filming can start.

THE TEACHER AS AN IMPLEMENTER OF CURRICULUM CHANGE

The students in observation group B also worked on their commercial. The group leader guided the activity of her group in a dominant manner. The youngest members participated in the rehearsal and production of the commercial by taking on roles, but they did not actively solve the problems that emerged. The students were also dependent on the teacher's guidance.

Girl, 6th grade: You come a little closer at this point. You don't have to move. I can take a close-up with the camera ... The first one comes as practice and we won't film until the second time. This cord is not long enough. Now this thing went off ... Go and get the teacher.

Cooperation: Differentiation. The observation groups started the planning of the bulletin after the commercials were completed. The students in group A began by voting on the subject of the work. They then discussed the content, illustration, and method for realizing the bulletin. In the group they also allocated the necessary tasks. The project work was carried out on the last day of the week, the students drawing pictures and writing the text using the computer desktop publishing program. When problems emerged, the students, however, relied on the teacher's assistance.

Girl, 6th grade: Which one do we take? The one for the first-graders or the story about the village? Who wants to do it for the first-graders, put up your hand? Who wants to do the village thing, put up your hands?

Girl, 6th grade: Let's do it about the village. The majority won.

Boy, 1st grade: I could draw some pictures. Are they drawn by computer or by hand?

Girl, 6th grade: They are drawn by hand ... What are we going to write here? Let's go and ask the teacher how this is done. Wait a bit, I will go ...

The students in group B eagerly discussed the content and illustration of the bulletin, and all group members presented their opinions. The group leader still behaved in a dominating manner, but the group had the clear common objective of succeeding in their task. They did not require the teacher's help this time.

Girl, 6th grade: Hey! We must write about the school. The village has a fine small school. Boy, 3rd grade: Write like this. The village has a good school and 50 different families. Your children will surely be happy in a small school!

Girl, 6th grade: You mustn't fool about.

Boy, 1st grade: We should get this finished, so that we can go to the computer. I thought of the idea that there are fine views in the summer and lots of other things.

Evaluation. On the final day of the school week, the students came together to evaluate the outcomes of the project work. The teacher led the discussion. First the class viewed the commercials produced by the students. The students were instructed to observe how the commercials affected them. After the viewing, the teacher asked the students which product they could especially remember. He also asked about the difficulties that had arisen from the activity and drew conclusions regarding the significance of the commercials and the methods they employed. Students reported that it had been difficult to estimate the duration of the commercial. Acting had also been problematic.

In addition, the special effects used in commercials and the truthfulness of commercials were briefly discussed.

The bulletins were also evaluated. They were posted on the blackboard and the problems that had emerged in their construction were recalled. Finally, the pictures were examined, and there was a brief discussion as to what attracts an individual's attention when looking at such bulletins.

During the joint compilation of the project work, the teacher directed the discussion through questions although only the oldest students participated actively in the discussion. The teacher provided the students with positive feedback. Later on, however, he gave a more critical evaluation of the activity and outcomes of each student in written evaluations that were entered into their personal notebooks. Both students and parents were also able to evaluate the student's working process and its results in the notebooks.

Your movie analysis was carefully done. The summary of TV-monitoring is clear. Your commercial (Chap Soda Water) has variety and is effective (although perhaps too long). It seems that there wasn't enough time for preparing the bulletin. On the whole, your group was successful in its work. You acted as a responsible group leader. (Teacher assessment in the notebook of a 6th grade student, girl)

Challenges and Obstacles in Project Work

In the above we have examined teacher and student roles in the orientation, cooperation, and evaluation phases of the project work in Suvila School. Furthermore, we have discussed problems that emerged in the activity. The essential tasks of the teacher in the orientation phase were student motivation and instruction giving. During the cooperation phase he actively gave advice and patiently guided the activity of the small groups. During the evaluation phase the teacher examined the products with the students. Later on he also wrote feedback notes on student outcomes and their work. The project work that was carried out in small groups provided students with an opportunity for active interaction with one another and for jointly solving problems that arose from the tasks (see, e.g., Kyriacou, 2009, p. 148). On the basis of our observation, the most problematic element in the cooperation of the groups was the scarcity of negotiation and conciliation skills in conflict situations. The passivity of the youngest group members, especially in the planning of the work, was a recurring characteristic. Frustration was also felt towards the youngest, the most passive, and the most dominating group members. A general feature was the occurrence of problems in the processing of information. The students selected, grouped, classified, and interpreted information in a rather modest way. Furthermore, they did not form or test their hypotheses, easily accepting the first solution that came up, all this resulting in a routine and conventional report (see Watts, 1991, pp. 41–42). Simultaneous mastery of the social and cognitive goals set for small group work is certainly a difficult challenge for students in the active learning process of project work. However, projects offer them a unique opportunity to develop skills and abilities, such as problem solving, social and communication skills, and therefore the learning potential of projects is

significant. The other teacher, Tiina, described her own experiences concerning the weaknesses and strengths of project work as follows:

One of the weaknesses in project work that I've been very worried about up until now is the chance that there's someone avoiding all work after all. Just this sense of responsibility. ... First I doubted whether the basic concepts get cleared up. Now I am wondering what the basic concepts are that should be learned. After all, how important are the contents, if they pick up the process and find the facts. This is one of my fears – maybe it's already gone. ... Then, another problem, and what I fear, is that some students have poor intellectual resources. We should of course keep on practicing more. The problem is, as their work is so heterogeneous, the learning of note taking techniques, so that it wouldn't consist of just copying. ... Can we make progress in the acquisition of knowledge. So that they'd be able to assimilate it into their own concept map, adding it to what's been already learned. Or is it something detached, so that they cannot find the place where this and that fact belongs. ... Also, I fear that this system has now been taken so far that when a coworker comes from some other place, I feel the anxiety and pressure from the colleagues from other schools in a certain way ... It is no easy task driving in this kind of a system. ... There's no roof to knowledge, there's no limit to the load of work. You can learn as much as you like. I think that this comes very close to the real-life quest for knowledge. ... All those things come up somehow: looking for information, finding it, selecting, and producing it. The same processes come up that are met in ordinary everyday life, if we are doing some studying of our own. (Tiina, female teacher)

Maintaining a Traditional Organization of Teaching and Learning

The significance of a curriculum as a guideline for teaching has often been proved to be rather modest. Teaching has mostly been guided by instructional materials (Atjonen, 1993, p. 172). With the development of school-based curricula in the 1990's, the role of the curriculum as an instrument of planning teaching has become more important (Jauhiainen, 1995, p. 109; Kosunen, 1994, p. 284). Nevertheless, in Ranta-Sointula School the textbooks still strongly directed the development of the school-based curriculum. Subject-centered aims and contents were thus based on the textbooks. As the Ranta-Sointula School Curriculum of 1995 makes clear, in-depth skills of the lower-level school syllabus were emphasized in teaching. Consolidation of the student's social skills, a healthy way of life, and love of nature were seen as additional aims. While, according to the curriculum, the goal is a good and self-disciplined life, the aims and contents of each subject are presented very briefly, grade by grade. The curriculum superficially lists the teaching methods and the various operational forms of the school. The structure of subject contents is based on the national *Framework Curriculum for the Comprehensive School* of 1994. We can easily conclude that the curriculum is clearly subject-centered.

The teaching followed the work schedule originally based on the distribution of lesson hours according to the Framework Curricula for the Comprehensive School of 1985 and 1994 (*Peruskoulun opetussuunnitelman perusteet*, 1985; 1994). The schedule clearly listed all the subjects studied in each combined grade. The school day began

with a morning assembly for all students in the largest classroom. Subsequently the school's lower grades (grades 1–2) usually went to their own class. Then the school day generally proceeded in lessons of 45 minutes from one subject to the next, with the lessons separated by recesses of 15 minutes. After the second lesson all students had lunch.

Below we will examine more closely the combined grade curriculum of Ranta-Sointula School, from the point of view of policy implementation.

The Traditional Teaching Process in a Combined Grade

In teaching combined grades, the teacher teaches two or more grades simultaneously. In mathematics, Finnish, and English students follow the syllabus set for their own grade level. In orientative subjects, such as history, religion, and environmental and nature studies, an alternating course system is utilized. In this system the subjects are taught in yearly alternating cycles (see *Peruskoulun opetussuunnitelman perusteet*, 1985, p. 43).

In both combined grades of Ranta-Sointula School, the teaching process primarily proceeded according to a model based on similar, traditional pedagogics (see also Kalaoja, 2010a, pp. 102–104). In the teaching of the above grades, presentation by the teacher alternated with independent work by the students. The teacher disseminated information, supervised, and controlled. The most important items of audiovisual equipment were the blackboard and chalk. After the teacher-centered phase, common to the whole group, the students worked independently according to the guidelines presented by the teacher. The students were accustomed to quiet and diligent work. No disturbances took place, even though the teacher might have gone out of the classroom. It is possible that this kind of combined grade instruction based on the teacher's control will not allow real development in the learner's responsibility and initiative. Liisa, the principal, described teaching in her combined grade 1 and 2:

In mathematics one grade practices the sums we have already dealt with, doing extra exercises and other practical applications, playing shopping, or calculating with puzzle cards. During this time the other grade is instructed in a new task. They will do the sums on the blackboard and I will supervise them. When they have mastered the task, they will continue practicing on their own, and I will start instructing the first group. Or they will act as teachers and they will show the examples to the others. In other subjects we will check the homework first, if there was any. Then we prepare the next topic as group work, reading or looking it up in the book. (Liisa, female teacher)

The other teacher at the school taught the students of grades 3–6. The students of grades 3 and 4, and the students of grades 5 and 6, respectively, formed two teaching groups. While the teacher was teaching grades 3 and 4, the students of grades 5 and 6 worked individually. After this phase, the learning in the upper grades was teacher-directed, and the lower grades worked independently, according to the instructions given by the teacher. Tuomo, working as the substitute teacher, described his teaching:

The class is divided into two groups. One group (grades 3–4) works individually and the other (grades 5–6) is taught. In fact, we are carrying out the same principle, trying

to divide the lesson into two. One half is instructed and the other studies silently. We made the division so that when grades 5–6 are being instructed in history, grades 3–4 are doing religion. It has been quite a lesson in religion for 3–4, individual reading and an extensive, too extensive, actually, making of summaries. Reading a chapter, drawing a picture based on it, and making a summary. Sometimes I have helped by underlining what to write where, for instance, ‘Jacob was walking in the desert,’ and so on. (Tuomo, male substitute teacher)

In the following we will describe the pedagogical practices that were undertaken in Ranta-Sointula School during our research period. The teaching was mostly teacher-directed and subject-centered; for example, in biology and environmental and nature studies, the focus was on one particular topic. In the environmental and nature study lesson, grades 1–2 were dealing with electricity. The students were seated in the classroom at their own desks. The class included two students from the first grade and four students from the second grade. In addition, the class was attended by four preschool children. At the beginning the teacher distributed a leaflet about electricity to the students. Then she wrote the topic of the lesson on the blackboard, sat down, and started to read while the students followed the text in their own leaflets.

Let’s print the title here in capital letters. Now listen to me for a while. Let’s look at the electricity book from the beginning. ... Who’s that singing and making a noise? ... Let me read a bit, so we’ll get this book read sooner. (Liisa, female teacher)

The teacher also asked about the students’ experiences with electricity. She told them about the new streetlights to be installed on the street leading to the school, and about a recycling bin for batteries to be placed in the schoolyard. Only a part of the class participated in the discussion. Then the teacher announced that the students had to do one exercise from the book individually. Next to the electric appliances, there were pictures of traffic lights that the student was to color in appropriately, depending on whether the student was allowed to use the appliance or not.

Take a red, a yellow, and a green! Now work each on your own and color with the right color here. Hey, you weren’t listening to me and now you don’t know what to do. The order of colors is this. ... You can’t use an electric mixer. So you’ve got to put red. (Liisa, female teacher)

The teacher supervised the students on an individual basis. At the end of the lesson she checked the exercise and assigned homework.

Challenges and Problems in Teaching a Combined Grade

Numerous problems related to teaching arrangements, learning materials, and teachers’ work have been detected in the teaching of combined grades (see Peltonen, 2010b, p. 112). The simultaneous teaching of four groups of differing class levels in a lesson of 45 minutes will, according to the teachers in the research reports, result in hastiness of teaching, superficiality and disjointedness, disintegration of the teacher’s personality, a jigsaw puzzle of teaching, and fragmentary instruction. In addition, teachers often find differentiation difficult in combined grade teaching. Especially problematic is

the individual guidance of students with learning disabilities. Although a peripatetic special teacher visits the small schools when necessary, the supply of special services is often insufficient (Kalaoja, 1990b, pp. 49, 99–100, 102, 108). For example, the class teachers in Ranta-Sointula School argued that the most problematic aspect was the teaching of grades 3–6, where the combining and comprehensive integration of instrumental and modern subjects in particular was considered very difficult. To summarize, the teaching of combined grades presupposes that the teacher has very good organizational skills, ingenuity, flexibility, tolerance of uncertainty, and the skill to attend to the individual needs of every student (see Kimonen & Nevalainen, 1993, p. 97). The small student groups in the case-study school above would, however, provide a good starting point for this.

It really bothered me when I looked into that integrated teaching business and tried it out in grades 3 to 6. ... How on earth can I work with it in 3 to 6 when it is so different there? They have geography and biology and all those sorts of things there. ... I have to say that 3 to 6 is a difficult combination. What happens is that mathematics suffers particularly in 5 to 6. We should rescue mathematics ... (Liisa, female teacher)

PERSPECTIVES ON TEACHER PROFESSIONAL DEVELOPMENT

In teacher education, teaching in combined grades of rural schools is dealt with only briefly during the practice teaching. According to many researchers in the field, the innovations in combined grade teaching have no significant impact on current Finnish teacher education (see, e.g., Kalaoja & Pietarinen, 2009, p. 112; Peltonen, 2008, p. 61; Simola, 1998, p. 344). Around the time of our school visits in the 1990's, over 60 percent of the Finnish teachers in small schools felt that teacher education is better suited to the needs of large urban schools. More than half of them said that their education was not adequate for the tasks of a small school teacher (Nevalainen, 1995, p. 292). Additionally, the in-service training for small rural schools at the time was considered unsuitable in content and method. According to Kalaoja (1991, pp. 102–106, 113), approximately half of the teachers in small schools (56 in all) required more in-service training in teaching arts and handicraft in combined grades and about a quarter in teaching in combined grades in general. Moreover, the teachers expressed a desire to know more about the special features and evaluation of different subjects and diverse approaches to the philosophy of teaching. According to Nevalainen (1995, p. 294), approximately half of the teachers in small schools felt that they had not received sufficient in-service training for their work. For example, the teachers in Ranta-Sointula School said that among other responsibilities they had to familiarize themselves with budgeting, since hardly any attention was devoted to this area in pre-service or in-service training.

The budget is drawn up on a trial-and-error basis because we have so little money. My school has the smallest budget of all two-teacher schools in this municipality. ... It is important for a teacher to be able to get by with less, use all the creative talent, and collect material. (Liisa, female teacher)

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The principal in Suvila School had participated in a two-year consultant and work supervisor training program initiated by the Continuing Education Center of the University of Jyväskylä and had attended a curriculum seminar organized by the National Board of Education. He explained that he regularly read educational books and journals. Other literature had likewise inspired his work. In contrast, the materials provided by the National Board of Education had not furnished him with ideas. The teacher had also accessed some information through discussion with other teachers, students' parents, and board members. Furthermore, he had been an agent of change primarily through reporting to the teachers, locally and through the whole province, about his own experiences and observations in implementing a school-based curriculum.

Curriculum change involves a remodeling of teaching materials (Fullan, 2001, p. 39). Therefore, innovations such as new communication technologies are being developed to provide modern educational opportunities for students in rural schools (see Vahtivuori-Hänninen & Kynäslähti, 2012, pp. 240–243). This, in turn, challenge the professional development of the teacher. The peripatetic English teacher of Ranta-Sointula School, for example, had participated in the development of distance education in small schools in the area, the so-called Telematics Teaching Experiment. Since fall 1995 English had been taught as distance education by a language teacher of the Jyväskylä Teacher Training School once a week utilizing a computer network. The aim of the experiment was to teach other languages in addition to English later on. However, Ranta-Sointula School was not involved in this experiment.

RELATIONSHIPS WITH LOCAL COMMUNITIES

Teachers in small schools have effective opportunities for implementing the curriculum outside the school. Outdoor education presupposes many kinds of skills and knowledge on the part of the teachers. They have to be able to answer such questions as: why, where, what, and how can we teach outside the school? Teachers should realize which natural, industrial, or cultural aspects of the community they could exploit in their teaching in addition to being familiar with the various teaching methods of outdoor education such as study visits, study trips, and school camps (see Hammerman, Hammerman, & Hammerman, 2001, pp. 24, 27–29; Kimonen, 2013, pp. 277–292).

The teachers in Suvila and Ranta-Sointula were acquainted with the opportunities offered by the environment around the school. In their teaching they used different outdoor education methods and targets. The activities were also closely connected with the educational principles of the school. The teaching process in outdoor education was generally initiated by work in the classroom. When they arrived at their destination, students usually wrote notes, interviewed specialists, and collected samples. Presentations and assessments generally took place in the classroom. When studying outside the school, the students, however, mainly observed the environment rather than participated in the activities of the village community, for example, by helping the older people or publishing the village newspaper. As one teacher said:

They ask questions and look around. When we visited the cowshed, it was about the time they were finishing the milking and the cows were feeding and being led outside. ... The students fed the cows. They had to be brave enough to walk along the feeding aisle. (Kalle, male teacher)

The ideal process of outdoor education proceeds according to the child's developmental level in small stages from the familiar to the unfamiliar (see Hammerman et al., 2001, pp. 21–22; Kimonen, 2013, pp. 93–123). The students in the case-study schools had made short trips into the school grounds, to their own village and their own municipality. Only rarely had the trips and school camps taken place outside the local province. The students mainly studied nature, agriculture, and local production plants. They usually worked in groups that had been formed from students of different ages and, in this case, the responsibilities and study tasks related to study were differentiated according to the developmental level of the student. As described by the teachers:

We go out to visit production plants and the log factory area, and a couple of small industrial halls. There is a great variety of agriculture. ... All kinds of ecotypes can be found here. We have a nature trail over there, behind the factory. ... We walk in nature quite a lot. (Kalle, male teacher)

We went to see the neighboring village and what happens there. ... We made visits to businesses. There was a sheep farm that we visited. They showed us how to get wool from a sheep and yarn from the wool and then sweaters from the wool. From there we went to a box factory where they made all sorts of boxes. The man in the box factory also raised dogs. He told us about raising dogs. In the neighborhood there was also a dried flower producer and the fields were full of flowers. Then we went to the store room and we saw how they were left to dry upside down. We went to a fish smokehouse where we could see a fishing trawler. After that we went to a summer cottage and to the sauna. (Liisa, female teacher)

The aim of the new curriculum is to change the school into a learning center that is in close contact with interest groups from the local community. The closest of these groups is the parents. According to Kalaoja (1988, pp. 105–106), the teachers of small schools most typically contacted homes by telephone, visits, or then at school festivals, village festivals, occasional encounters in the village, and at parents' meetings. Almost half of the rural teachers visited the homes of their students. Approximately a sixth of the teachers said that they met parents at village community hobby clubs or societies. The principals were more active in making contact than the other teachers. For example, the observations on Ranta-Sointula School cooperation with the students' homes followed the trends perceived in the previous studies on small schools. The various modes of cooperation between the case-study school and the homes included weekly newsletters, discussions with parents, visits to students' homes, and parents' meetings. Teachers also met the parents at school in meetings, courses, festivals, theme units, hobby groups, socials, and occasional encounters.

We haven't had many parents' meetings. Everyone on the School Board is a parent of a child in our school, and so are the substitutes. They all know about these things. They

get the weekly newsletter delivered. We ring each other up from time to time. If there are some visitors at the school the parents are welcome, too, to meet them. ... We spend a lot of time together. Well, I am the Chair of the Village Committee. So once a month we meet with the same parents there. Some of them I meet almost daily. (Liisa, female teacher)

A long tradition of collaboration exists between people living in rural Finland. Many official and administrative districts have been formed on the basis of villages, such as school and postal districts and districts for municipal planning and voting. Such cooperation has often centered on rural schools. The school has a stimulating effect on the village community socially, culturally, and intellectually. Activities arranged in schools unite the village and its inhabitants. The dynamics of the village is reflected in the activeness of the school (Nevalainen, 1995, pp. 266–270; Nevalainen & Kimonen, 2011, p. 54). Nevalainen (1995, pp. 224–226, 267) reported that about 80 percent of small school teachers in Finland regarded the school as the center of cultural, spare time, and community activities in the village. The school also created the identity of the village and a cooperative spirit. The involvement of the teacher was a central factor in the development of the school into the center of the village community, as has been the case with the Ranta-Sointula School. The facilities and equipment of the school were also used efficiently in the evenings and during weekends. The diverse use of the school building for the villagers' leisure time activities had taken place without problems, according to the teachers. Since the school had mainly been repaired using voluntary work, responsibility was taken for its maintenance as well. The many activities of the parents and other inhabitants in the village presupposed that the teacher is cooperative, adaptable, and open.

Yes, the school keeps this kind of a small village together. If it disappeared, a lot would also change. Then there would have to be some other place to hold these village meetings and other things. Many other things would die along with the school. For example the hobbies that have been arranged in the school. (Student's mother)

I haven't heard of anyone complaining. Even the cleaning lady can arrange to do her work at a convenient time, when she knows the program. And we could still fit in some stimulating activities for the older people after school. After the taxi has taken the students home, the senior citizens could come in to have one of their meetings. The village people have fixed up the school building precisely so that it could be used. (Liisa, female teacher)

The school is working hard for the benefit of villagers. They can come freely and they can use it for different activities. The village paper is published here. ... They think that the school is really important for them. They will do everything to keep it going. (English teacher, male)

The survival of a small rural school even during economically unstable times presupposes that the teachers have the ability to see their own work as a social task. Beyond working together in schools, teachers are sometimes called upon to contribute to their communities (see Kilpeläinen, 2010, pp. 91–94). Finnish teachers may have an important role in community integration and activity, especially in cooperative village communities, by displaying their own initiative in abundant interaction among

the inhabitants (Nevalainen & Kimonen, 2011, p. 54). For example, the principal of Ranta-Sointula School had several honorary positions through which she had aimed to develop her own village and school. The head belonged to committees with the goal of decreasing the isolation of the village and of increasing the number of inhabitants. Activities had, for instance, focused on improving difficult road connections and promoting the sale of plots of land for building, thus making it easier for families with children to move to the village. At the same time, the teacher had supported the survival of the village school and her own post. In these tasks she had had many social roles, such as those of leisure time organizer, developer of the village community, and social trendsetter. The members of the village community had supported the participation of the principal in the development of the community.

It seems that I am getting more and more of these municipal and provincial tasks. At the village level I am in the Farmers' Society and the Village Committee and I also write for the village newspaper. ... I want this village to get bigger and better. I am motivated, this is my village. Now that I am here in this village I am serving a greater cause. (Liisa, female teacher)

CONCLUSIONS

Above we have examined the process of curriculum change as seen in two small rural schools in Finland. We have analyzed the effect of the changes on curriculum policies and pedagogical practices. In the following section we will collect the most important results of the case studies and, on the basis of these, draw the appropriate conclusions.

Challenges in Managing Curriculum Change

The curriculum is a dynamic process continually reacting to the physical, material, human, and economic changes in the environment. It is the basis for the planning, implementation, and evaluation of school work. These main ideas of the curriculum reform being implemented in Finland in 1990's supported a school culture that laid stress on the autonomous control of learning and encouraged flexibility and interactiveness in the school. The new features in curriculum planning have created challenges for the small rural school, especially for the management of change, the organization of teaching, the professional development of the teachers, and the cooperation between the school and the surrounding community.

Difficulties in Educational Change

School reform is a never-ending process of change characterized by complexity, dynamism, and conflicts (Fullan, 1993, pp. 20, 24, 37, 67). According to Hargreaves (1998, pp. 281–282), there are many reasons why educational change is so difficult. Among them are the following explanations:

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- The reason for the change is poorly conceptualized or not clearly demonstrated. It is not obvious who will benefit and how. What the change will achieve for students in particular is not spelled out.
- The change is too broad and ambitious so that teachers have to work on too many fronts, or it is too limited and specific so that little real change occurs at all.
- The change is too fast for people to cope with, or too slow so that they become impatient or bored and move on to something else.
- The change is poorly resourced or resources are withdrawn once the first flush of innovation is over. There is not enough money for materials or time for teachers to plan. The change is built on the backs of teachers, who cannot bear it for long without additional support.
- There is no long-term commitment to the change to carry people through the anxiety, frustration and despair of early experimentation and unavoidable setbacks.
- Key staff who can contribute to the change, or might be affected by it, are not committed. Conversely, key staff might become over involved as an administrative or innovative elite, from which other teachers feel excluded. Resistance and resentment are the consequences in either case.
- Students are not involved in the change, or do ... [not] have it explained to them, so they yearn for and cling to ways of learning that are familiar to them and become the school's most powerful protectors of the past.
- Parents oppose the change because they are kept at a distance from it. Alternatively, influential groups or individuals among the parents can negotiate special deals with the school that protect their own children from the effects of innovation.
- Leaders are either too controlling, too ineffectual, or cash in on the early success of the innovation to move on to higher things.
- The change is pursued in isolation and gets undermined by other unchanged structures; conversely, the change may be poorly coordinated with and engulfed by a tidal wave of parallel changes that make it hard for teachers to focus their efforts.

In like fashion, several similar matters slowing down the curriculum change appeared at the schools under study. Firstly, at Ranta-Sointula School, the traditional view of the teacher, working alone with the students, and alone responsible for the curriculum, hindered the curriculum development of the whole school (see also Nias, Southworth, & Campbell, 1992, p. 242; Syrjälä, 1998, p. 28). Secondly, weaknesses of the teachers' in-service training and the teachers' lack of interest in professional development slowed down the curriculum change process. The shortcomings in in-service training also influenced the teachers' feeling of inadequacy regarding their knowledge and skills, as shown by previous research (see, e.g., Fullan, 1995, p. 253; Jakku-Sihvonen, 1998, p. 23; Kohonen, 1997, p. 293; Kohonen & Kaikkonen, 1998, pp. 140–141; Norris et al., 1996, pp. 45, 80, 84). The teachers felt that the observation of the general trends as well as the reflection of the school values and the nature of

general education were quite difficult (see also Syrjäläinen, 1994, p. 50). Thirdly, in the schools under study, a particular problem arising from curriculum development has been the lack of resources in the 1990's. Teachers complained about the strenuous nature of curriculum planning and the lack of time for doing it, because the work was done mainly after normal working hours (see Syrjäläinen, 1994, p. 52; 1995, p. 10). Due to the weak economic situation of the country and of the local government authority, the schools were also under threat of closure. This has, in turn, diminished the teachers' motivation to reform the curriculum (see Kimonen & Nevalainen, 2000, p. 43). Fourthly, the lack of support from the municipal school administration and the students' parents further weakened this motivation (see Sanders & Epstein, 1998, pp. 494–499). Fifthly, the main barrier to curriculum development was the teachers' resistance to change at Ranta-Sointula School. The change in the teacher's role had brought about so many new features that change management proved to be difficult (see, e.g., Hämäläinen, Kimonen, Nevalainen, Nikki, Vulliamy, & Webb, 1999, p. 112; Norris et al., 1996, p. 78; Slavin, 1998, p. 1306). Finally, the significance of a curriculum as a guideline for teaching proved to be modest; for example, the teaching was mostly guided by instructional materials (see Atjonen, 1993, p. 172; Syrjäläinen, 1994, p. 15). At the same time, with the development of school-based curricula, by the turn of the century, the role of the curriculum as an instrument of planning teaching became more and more important in Finland (Kimonen & Nevalainen, 2005, p. 632; Sahlberg, 2011, pp. 36, 88). As Hargreaves and Shirley (2009, p. 53) put it:

In Finland, the state *steers* but does not *prescribe* in detail the national curriculum. Trusted teams of highly qualified teachers write much of the curriculum at the level of the municipality, in ways that adjust to the students they know best.

The Prerequisites for Successful Curriculum Change

Implementation of a new curriculum may necessitate changes in learning materials, teaching approaches, and belief systems of teachers. Changes in learning materials are the most obvious because they are concrete and real. Changes in pedagogical practices involve such issues as the development of new skills, behaviors, and coordinated activities. Curricula are based on certain assumptions, philosophies, or beliefs about education. Changes in beliefs or understanding lie at the very heart of what education and learning are for a particular group of students in a particular curricular area and in a particular community and society. These beliefs are often critical to effective implementation, because they shape the teachers' thinking and subsequent actions. They are also extremely difficult to change (Fullan, 1987, p. 214; 1988, pp. 196–197; 2001, p. 39).

Nias et al. (1992, pp. 236–237) identified four sets of conditions that facilitate whole school curriculum development:

1. Appropriate institutional values: valuing such aspects as learning, interdependence and teamwork, the open expression of professional differences, mutual

consideration and support, and a willingness to compromise. The last four of these are characteristic of a “culture of collaboration”;

2. Presence of organizational structures especially for professional interaction, communication, and joint decision and policy making;
3. Resources, especially teacher commitment, time, people, and materials; and
4. Leadership, both formal and informal.

As pointed out earlier, curriculum development in Finland has been particularly successful at schools with a tendency to rich innovation. Cooperation among teachers and their interest in their professional development were also significant (see, e.g., Hargreaves & Shirley, 2009, pp. 92–93; Hopkins, 1998, p. 1045; 2007, pp. 31–32; Webb et al., 1997, pp. 103–105). The curriculum work is, as seen by Nikkanen and Lyytinen (1996, pp. 51–52), a participatory process of change. The knowledge and new skills provided by the process are produced in social interaction in a unique school-specific ethos. Guided by individual practical ethics, the teacher interprets the knowledge and skills relevant for the students (see, e.g., Webb et al., 1997, p. 102). The success of any curriculum change at small schools is very closely connected to the self-identity of the teacher (Vulliamy, Kimonen, Nevalainen, & Webb, 1997, pp. 97–115; Webb et al., 1997, pp. 102, 114). Within the culture of the small school the teacher can preserve prior value systems more easily than is the case with colleagues at larger schools (Vulliamy et al., 1997, p. 113). The ability to reflect the matters related to the work done by teachers is crucial for the survival and development of a small school. Teachers have to be aware of the factors related to the school’s functioning. In order to reform the curriculum, they have to be able to analyze their teaching critically. Teachers have to be aware of the role of the school as well as of their own role in the village community. Autonomous self-reflection is especially important in small-school work, because the work, by its very nature, offers few contacts with adults (Kimonen & Nevalainen, 1993, p. 105; Nevalainen & Kimonen, 2011, p. 58).

On the basis of our observations, the school culture of Suvila School was characterized by a familial atmosphere, informal relationships between the staff and the students, as well as an absence of rituals (see also Vulliamy et al., 1997, p. 111). The principal emphasized the fact that the curriculum work was a team effort of the teachers. The process of change continued inductively through the comparison of individual experiences, which led to a decision of action. During the initiation phase of the change process, the teachers observed the needs for changes in the school curriculum, in the practices followed, and in the school environment. They designed changes and tried out different realizations. Experiences gained during the implementation phase were analyzed with the School Board, and the most essential features of the changes were described in the parents’ meetings. The models of action were compared, and their success was evaluated. During the continuation phase, the observations and experiences gained over approximately five years, concerning the strengths and weaknesses of the process of work and learning, were thoroughly discussed at staff meetings. Finally, the new curriculum of the school was constructed. This innovation process was, of

course, facilitated by the decisions of the central educational administration (see Fullan, 1992, pp. 96–97; 2001, pp. 50–51).

Challenges in Organizing Teaching

The Ethos of the Small Schools

Fullan (1998, p. 226) argues that we need to change schools, as currently they are not learning organizations:

We need especially to 'reculture', and 'retime' as well as 'restructure' schools. Restructuring is commonplace and all it does is alter the timetable or formal roles. Reculturing as I have argued in several recent writings transforms the habits, skills and practices of educators and others towards greater professional community which focuses on what students are learning and what actions should be taken to improve the situation. Retiming tackles the question of how time can be used more resourcefully for both teachers and students. Reculturing and retiming should drive restructuring because we already know that they make a huge difference on learning, although they are very difficult to change.

Most of the benefits of small-school working processes reflect current innovative pedagogics; for example, flexible scheduling, individual instruction, independent work by the students, outdoor teaching, learning by doing, and close team work between the community and the school. Due to the small size of the class, the students have a number of opportunities to contribute to the various activities (Kalaoja, 1990a, pp. 2–3; 1990b, pp. 106–107; Kimonen & Nevalainen, 2002, p. 102; Korpinen, 2010, pp. 23–25). The small size of the teaching groups was one of the teaching benefits at Suvila School. Teaching arrangements could be quite individualized. Flexible changes in the teaching groups were also possible. Consequently the teacher had more time per student. However, group work defined according to class level was rather difficult, as there were not enough students of the same age.

Small rural schools have, according to previous research, a unique school culture that differs from that in larger urban schools. The ethos of the small schools acts as an insulation against government directives, so it is easier for the teachers in small schools to retain their old value systems than it is for their colleagues in larger schools. In this way the school's functioning remains unchanged, despite any national curriculum reform that might be in progress (Vulliamy et al., 1997, pp. 111–112; Webb et al., 1997, p. 114). The work they performed on the curriculum of Suvila School made the teachers think more profoundly about the fundamental ideas underlying the school's functioning. However, the teachers did not have the same need as the teachers in larger schools to plan, manage, and formally assess the way their school functioned. This was the result of informal, collegial decision making. It was easy to be flexible in the school organization and to bring about rapid changes.

The implementation of the new curriculum requires a change in the teachers' ways of thinking and working. These changes, thus, need to be reflected in the pedagogical practices employed in the whole school culture (see Fullan, 1987, p. 214; 1988, pp.

196–197). In Suvila School the curriculum work influenced the teachers' views of knowledge, learning, and education in a more progressive direction. Curriculum change, however, did not bring any fundamental changes to the teaching methods of Ranta-Sointula School. During the observation period, teaching was far removed from the principles of progressive pedagogics. According to Carlgren (1999, p. 49), the gap between the reality of teaching and the expectations directed at teachers can be seen in a wider perspective as the difference between theory and practice, and moreover, as the difference between teachers' thinking as opposed to their actions.

Obstacles to Project Work in Combined Grades

Project work carried out in small groups provides students with opportunities for active interaction with one another and for jointly solving problems that arise from the tasks (see, e.g., Kyriacou, 2009, p. 148). Projects offer them a unique opportunity to develop skills and abilities, such as social and communication skills, and therefore the learning potential of projects is significant. However, at the same time, mastery of the social and cognitive goals set for small group work can be a difficult challenge for students in the active learning process of project work. For example, in Suvila School, the most problematic element in the cooperation of the groups was the lack of negotiation and conciliation skills in conflict situations and the passivity of the youngest group members, especially in the planning of the work. Problems also emerged with information processing, students selection, grouping, classifying, and interpreting information at a basic level only (see also Arends, 2009, pp. 372–375; Niemi, 1998, pp. 50–53). They were often satisfied with fairly routine solutions.

Obstacles to Traditional Pedagogy in Combined Grades

The teaching of combined grades by one teacher may involve the simultaneous teaching of students from as many as six different grades. According to previous research (Kalaoja, 1990b, pp. 49, 99–100, 102, 108), a variety of process-based problems has arisen in such teaching situations. The teaching may be superficial, diffuse, and disjointed. It may be difficult to integrate the different subjects. The same applies to the individual guidance of students with special needs. For example, the teachers at Ranta-Sointula felt that it was particularly difficult to integrate comprehensively instrumental and modern subjects in combined grades. Due to the problems associated with context and resources, the teachers of small schools are, however, often unable to implement pedagogical innovations in their work, innovations that could remove the obstacles occurring in the teaching process. According to Norris et al. (1996, p. 83), small rural schools:

- are highly dependent on their own internal teacher resources of ideas, interests, and expertise,
- have a limited range and variety of material resources available to them,

- have very limited budgets for external sources of consultancy, staff development, or in-service training,
- experience a sense of professional isolation from local, national, and international developments, and
- have limited turn-over of teaching staff with fresh ideas.

Finnish teachers have been made many attempts to solve the problems associated with the teaching processes in combined grades of small schools. These include, for instance, developing independent work by the students, using auxiliary teachers, periodizing the teaching, and implementing outdoor instruction. Curriculum development for combined grades has often involved integrated teaching across various class levels and an increased emphasis on the immediate locality (Kalaoja, 1990b, pp. 100–110; see also Hargreaves, 1990, pp. 100–103; Kimonen & Nevalainen, 2000, pp. 45–47; 2002, pp. 53–56).

Challenges in Professional Development

The implementation of changes in the school system involves the teacher in an active learning process. According to Fullan (1992, pp. 87–92, 98–113), there are close links between a teacher's life-long learning, the implementation of school reforms, and the students' progress (see also Kohonen, 1997, pp. 269–295; Patrick & Hargreaves, 1990, pp. 107–108). If the teacher's work practices are to change, then the teacher's learning process will involve changes in his beliefs and conceptions. The teacher's readiness for cooperation and experimentation also helps to promote development (see Vulliamy, 1996, p. 34; Webb, 1996, p. 32). Often, a change in the school system presupposes external pressure, assistance, and support (see Fullan, 1995, p. 259). Transformation of the traditional school context requires teachers to reflect critically on their own principles and practices of action and to transform them; in other words, to create a new school context. From the teacher's point of view, innovations in working and the management of change involve a comprehensive learning process, where the prevailing school culture is initially internalized and, then through externalization, transformed. According to Engeström (1995, pp. 88–89), increased criticism of the practices of action and a rise in the number of conflict situations result in stronger externalization. Externalization assumes a dominating position when a new model is intensively created for the activity. When the new model is implemented, its internalization again gradually assumes an ever greater significance.

From this perspective, the teachers at Ranta-Sointula reacted to changes in the internal and external setting of action mainly by identifying defects and correcting them. As a consequence, the teachers preserved the models of thinking and action sustained by the school, these models being based on a behavioristic conception of learning emphasizing its external control. Thus, we may conclude that the learning process of the teachers in this kind of traditional school culture was essentially *reproductive*. Accordingly, such single-loop learning aims at the preservation of prevailing school practices and routines (see Argyris & Schön, 1976, p. 19; Kauppi, 1993, p. 79). In

contrast, the modern school culture at Suvila, based on progressive pedagogics that followed the constructivist conception of learning, required *transformative* learning. In order to change the context of the school, the teachers needed new models of thinking and action. As a result, a change in the basis of action became a double-loop learning process for them (see Argyris & Schön, 1976, p. 19; Kauppi, 1993, p. 87; Kimonen & Nevalainen, 2005, p. 628). New models of thinking and action are applied in practice, an attempt being made to change the whole activity system. Once the new practice of action has become established and has been evaluated, a new situation is created, and new practices are systematically complied with (Engeström, 1995, p. 91).

The challenges and problems of the school activity at Suvila formed the basis for the principal's learning motivation and encouraged him to develop his own work. Optimally, in the curriculum change process, the principal acted as an agent of change affecting the school culture by describing his experiences and observations as an implementor of a school-based curriculum to other teachers and interest groups. The teacher's active learning consisted of the independent solving of problems arising from the everyday life of the school, and of the active accessing of knowledge and skills required in the construction of new models of thinking and action (Kimonen & Nevalainen, 2002, pp. 125–126).

The teachers at Suvila had obtained educational ideas from in-service training sessions, teachers of other schools, parents of their students, the students themselves, and professional journals. In particular, the significance of in-service training had been crucial because it motivated the planning work of the teachers (see also Darling-Hammond & Lieberman, 2012, p. 164). In the in-service training sessions it had been possible for the teachers to sketch new ways of thinking for their own teaching. Moreover, sharing experiences with other teachers had been important. However, according to previous research, in-service training for teachers in small schools has been inadequate because the training topics have been planned mainly to meet the needs of large schools (see, e.g., Kalaoja, 2010b, pp. 271–277; Nevalainen, 1995, p. 294).

Challenges in Cooperation of School and Community

Schools must, according to Fullan (1998, p. 226), radically reframe their relationships to the environment. Schools must relate very differently to parent/community, to technology, to government policy, and they must engage in a variety of networks and alliances among the wider set of interest groups such as colleagues, universities, and businesses (see also Crowson & Boyd, 1998; Sanders & Epstein, 1998). The aim of the new curriculum in Finland is to change the school into a learning center, in close contact with interest groups from the local community. According to Malinen (1994, p. 7), the learning center type of activity aims to:

- improve integration in the school curriculum,
- add flexibility in the school's functioning,
- facilitate learner-centered study projects, and

- offer a greater diversity in learning environment than would be possible in traditional class teaching.

There has been a long tradition of collaboration between people living in rural Finland. The dynamics of the village is reflected in the activeness of the school (see, e.g., Nevalainen, 1995, pp. 266–270; Nevalainen & Kimonen, 2011, p. 54; Tantarimäki, 2010, pp. 150–159). Teachers may have an important role in community integration and activation especially in cooperative village communities displaying their own initiative in abundant interaction among the inhabitants (Nevalainen, 1995, p. 285). The teacher's active participation was also a central factor in the development of the Ranta-Sointula School into the center of the village community. The facilities of the school were used to good effect in the evenings and during weekends.

Small rural schools have often consciously made an effort to create a close relationship with the village community by supporting activities such as:

- Cooperation between school and home;
- Use of school facilities in the spare time activities of the villagers;
- Visits from the interest groups during lessons; and
- Improvement in the living standard of the community

(Nevalainen & Kimonen, 2011, pp. 44–46; see also Mitchell, 1987, p. 90).

The fourth chapter of this book examined the methods of work based on community education in considerable detail and we have no intention of repeating that here. It suffices to say that these methods have benefitted Finnish school culture and the surrounding communities. An additional conclusion is that the implementation of these methods in the daily life of a rural school would require development of the following areas of school teaching and learning practices:

1. Learning through participation;
2. School as the learning and activity center of the community;
3. Strengthening the cooperation process of the school and the community;
4. Participation and activity of parents and other villagers;
5. Arranging activities based on the needs of the villagers in the school and village; and
6. Creating learning networks, and using human, physical, and financial resources available.

The cooperation of the school and village community became increasingly important in Finland in the 1990's, as the decisions concerning the schools were made locally. Currently, the role of the small rural school as the learning and activity center of the whole village is being emphasized in the same fashion. According to Hargreaves and Shirley (2009, pp. 78–79), educators can and must learn to engage with and benefit from parent activism and community development as a core part of their professional identity. Connecting schools more to their communities increase the school's influence in the community. Hargreaves and Shirley (2009, p. 79) argue that “this new partnership and engagement must take place in individual schools, with local communities, and in invigorated national debates about the very purposes of public education.”

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THOMAS L. ALSBURY & KAREN T. JACKSON

6. TEACHER PERSPECTIVES ON REFORM IN A SMALL, RURAL AMERICAN SCHOOL OF HISTORICALLY FINNISH CULTURE

Cultural Transformations

INTRODUCTION

Description of the Study

The purpose of this chapter is to describe the key factors supporting and challenging successful school reform in a small rural school in the United States. The chapter reports the findings of a case study in a single kindergarten through 12th grade school (grades K–12) and spans 16 years of reform history resulting in sustained excellence in student achievement. Key factors, either supporting or challenging the reform, were reported from the perspective of members of the elementary and middle school-level teaching staff involved in the beginning years of the reform effort and who continue to teach or lead in the school.

This qualitative replication study describes school reform through the eyes of teachers in one small rural school. The original research being replicated (Kimonen & Nevalainen, 2001, pp. 143–194) examined the challenges faced by teachers in two small rural schools in Finland. The present study uses the same methods and describes the challenges faced by a small rural school where the population and culture of the community is Finnish, although located in the United States. Consequently, an additional notable feature of this case study is the historically Finnish culture of the community and school. This feature, to some extent, also allows for a more extensive international examination (see Kimonen & Nevalainen, 2000; 2001; 2002; 2005; Nevalainen, Kimonen, & Hämäläinen, 2001).

Study Methods

The subject of this single case study is the K–12 Naselle-Grays River Valley School in the State of Washington in the United States, referred to hereafter as the Naselle School. The study was conducted using a qualitative inquiry, emergent, and phenomenological design. Data were collected primarily through the interviews of key

informants (Patton, 2002, p. 236). In addition, some data collection occurred through the personal experience and engagement of one of the authors, Thomas L. Alsbury, as the school's administrator during the first seven years (1992–1999) of the reform effort. The school was selected through a purposeful illuminative case strategy (ibid., p. 232) due to three unique features of the Naselle School, a recognized Washington State School of Excellence and nominee for a National Blue Ribbon School of Excellence Award, small and rural, and representing a unique enclave community of historically Finnish culture.

Six teachers spanning grades kindergarten through grade 12 were interviewed over the telephone, by a single researcher, using open-ended questions to elicit their perspectives of the successes and challenges of the school improvement effort over time. Open-ended questions included: "Describe the curriculum and/or program changes over the past 16 years?" and "What elements of the school or community supported or challenged the reform effort?" Five of the six teachers interviewed had been employed in the school prior to the beginning of the reform effort in 1992, and one had come a few years after the beginning of the reform movement. Interviewees were representative of the elementary and middle levels, and they taught a broad array of subject areas. All were currently still employed in the district as teachers, with one now serving as a school administrator.

The interviews were audio-taped and transcribed. Respondent transcription data were analyzed by two independent researchers using an emergent, inductive thematic approach (ibid., p. 453). The primary purpose of the study was to elicit teacher beliefs concerning the school or community influences supporting or challenging their local reform processes and results. Because one of the researchers, Thomas L. Alsbury, participated in the data collection and analysis in addition to being an ex-administrator at the case study school, data were additionally validated through a process of reflectivity, comparing personal perceptions to the interview respondents. Themes independently identified were then negotiated through collaborative analysis between the researchers to ensure inter-rater reliability. Finally, member checking was conducted with respondents to increase reliability.

Curriculum Reform in America

The initiation of the reform in the Naselle School occurred in the midst of a significant national accountability reform movement in the United States known as the No Child Left Behind Act (*Preliminary Overview of Programs and Changes Included in the No Child Left Behind Act of 2001*, 2003). As a critical external environment, potentially influencing the local Naselle reform effort, a brief history of the national reform movement in America provides important context.

Many believe that several historical events and key publications led to the establishment of the most recent and pervasive national accountability and assessment requirements embodied in the No Child Left Behind Act. A report drafted by the 1983 National Commission on Excellence in Education entitled *A Nation at Risk* provided perhaps the

most cogent document responsible for the reassessment of school performance in the United States (*A Nation at Risk: The Imperative for Educational Reform*, 1983). Wong, Guthrie, and Harris (2004, p. 5) noted that, for the first time in American history, an American President overtly pressed for intrusive Federal Government involvement in education. Previously, educational issues had been exclusively considered a matter for each state. Among the recommendations for a national educational reform in America, was a focus on teaching *all* students and requiring “the best effort and performance from all students, whether they are gifted or less able, affluent or disadvantaged, whether destined for college, the farm, or industry” (*Recommendations*, 1983).

The national standards-based accountability movement was eventually formalized with the passage of the *Improving America’s Schools Act of 1994* (IASA). IASA re-authorized the *Elementary and Secondary Education Act of 1965* (ESEA), first enacted as part of President Lyndon Johnson’s War on Poverty and designed to focus federal funding on poor schools with low-achieving students. Title I, the cornerstone of ESEA, aimed at improving education for disadvantaged children in poor areas.

With the passage of IASA and another important 1994 law, the *Goals 2000: Educate America Act*, the ESEA for the first time focused on the needs of *all* students, not just the disadvantaged or at-risk children. Proponents of IASA argued that in order for underrepresented and underachieving students to improve, the entire school had to be focused on appropriate instruction for *all* students. The redesigned ESEA encouraged states and school districts to connect federal programs with state and local reforms affecting all children, while retaining the focus on educational equity for children with special needs. The ensuing six years included a burgeoning discussion and debate among states concerning the appropriate subject area focus of academic content, effective instructional methodologies, and political and fairness issues surrounding content and performance standards.

On January 8, 2002, President George W. Bush signed into law the *No Child Left Behind Act of 2001* (NCLB), effectively re-authorizing ESEA to function in a much more intrusive and comprehensive way. While this landmark event certainly nationalized accountability of schools by requiring achievement testing of students in kindergarten through high school, it raised a number of concerns centered around the importance of local school control and the influence of local context and culture on learning. According to Rod Paige, then the U.S. Secretary of Education, the stated focus of NCLB was “to see every child in America – regardless of ethnicity, income, or background – achieve high standards” (*No Child Left Behind: A Parents Guide*, 2003, p. ii). NCLB began to take operational shape and character through the negotiated rule-making process begun in March 2002, and demanded that states build assessment systems to track the achievement of all students against a common set of high instructional standards. Compared to the 1994 re-authorization of ESEA, the distinguishing feature of NCLB was the notion that education reform could not be driven solely through new funding formulas and regulatory requirements supporting local school-developed initiatives. Rather, NCLB presumed educational reform was

more effectively driven by a centralized, national accountability system that would eliminate perceived local politics and protectionism, ostensibly resulting in some students receiving a subpar education. Specifically, some local schools were accused of using “loopholes” to avoid addressing the needs of some struggling students.

One example of this “closing of loopholes” was the NCLB requirement that special needs students and students with limited English speaking skills be required to take the same math and English assessments and demonstrate the same yearly academic gains as all other students in the general population. While this regulation seemed onerous to many educational pundits, it was intended to prevent local school leaders from circumventing NCLB by simply designating all low-achieving and limited English language learners as special education students, exempting them from the required testing, and thus artificially boosting the school’s overall test results. One foundational premise of NCLB was that local educators had to be coerced by external enforcement to strive for high quality in their classrooms. The centralization of accountability also presumes that locally elected school boards and communities are incapable or unwilling to address poor school performance. Some researchers believe that a nationalized accountability system, like NCLB, diminishes the ability for communities to exercise grassroots democracy in the governance of their local schools (Iannaccone & Lutz, 1995, p. 40; Lutz & Iannaccone, 2008, p. 248).

NCLB specifically required states to assess students in grades 3–8 annually in language arts and mathematics. The school’s progress year to year was required to be made public so anyone could track the performance of any school in the nation. Improvement among disadvantaged children was to be demonstrated through the Adequate Yearly Progress (AYP) provisions of NCLB. Schools unable to demonstrate AYP would be provided with assistance and may be subject to possible corrective action. All states were required to submit plans describing their achievement standards, aligned assessments, reporting procedures, and accountability systems. NCLB regulations provided options, such as transfer to another school and tutoring of children in underperforming or unsafe schools.

Paradoxically, NCLB continues to be described by proponents as providing schools and districts the opportunity to exercise more flexibility and control over teaching methods, while simultaneously being held accountable by external entities for the results. Predictably, because NCLB held states accountable through the threat of withholding federal educational funds, state-level curriculum and tests were developed and mandated, greatly diminishing local school control over curriculum, instruction, and testing.

In fact, test-driven accountability, in general, has been the subject of sustained criticism (Baker, Linn, Herman, & Koretz, 2002; Herman, Baker, & Linn, 2004; Koretz, 2001; McLaughlin, 1991; Rumberger & Palardy, 2005b), as have practices derived from NCLB specifically (e.g., Hendrie, 2005b). The volatility of the national policy context during the period of this study is suggested by the requests from 47 states for waivers from their own federally approved AYP plans (Olson, 2005b; Olson & Alan, 2005), by state legislation intended to overrule NCLB (Sack, 2005), and by

a half-dozen lawsuits filed against NCLB (Archer, 2005; Hendrie, 2005a; Keller & Sack, 2005; Olson, 2005a).

Small Rural Schools and NCLB

While a review of the general purposes and procedures of NCLB is necessary to establish the national reform context, more important is the exploration of the potential effects of NCLB on small rural schools in particular. Most small rural schools, in the United States, share unique characteristics including a tendency to service fewer minority students, experience less community poverty, enjoy lower teacher and student turnover rates, and maintain higher student performance overall. NCLB specifically required schools to disaggregate test results by ethnicity and target the achievement gap between Caucasian and minority students, however, many small schools enroll too few minority students to meet the minimum reporting requirements and are not required to report their testing results. In addition, small schools often do not enroll enough students in each grade level to be required to report results under NCLB. Despite this fact, small schools, like Naselle, were still required to comply with NCLB curricula and testing requirements. Exemptions such as these demonstrate a common flaw in the use of undifferentiated national educational policy such as NCLB. This partially explains the paucity of systematic quantitative research on the influence of NCLB on student achievement in small rural schools and points to the need for qualitative approaches as in this case study.

In one of the few existing quantitative studies on the impact of NCLB on student achievement and teacher quality in small rural schools, Zhang (2008) examined and reported on the challenges those districts faced in complying with NCLB. Findings indicated that (a) small rural districts rated their own local policies and programs as more important causes of improved student achievement than the provisions of NCLB, although (b) in response to NCLB, small rural districts had better aligned their curriculum with test content and sharpened their focus on individualized instruction. The study also concluded that the special characteristics of small school size and geographical isolation created a range of unique challenges in meeting NCLB requirements and supported the need for differentiated policy development (Rumberger & Palardy, 2005a).

Mabry and Margolis (2006, p. 8) conducted a study on the experiences of two small schools in the same region within the same state as the Naselle School. The study reported that administrators had joined a regional consortium that publicly criticized NCLB as lacking “common sense”. In addition, all the administrators and teachers in the study expressed anxiety over NCLB’s unrealistic requirements regarding the academic proficiency of students (ibid., p. 9). Teachers’ doubts were related in part to their surprising lack of information about NCLB and the presumption that NCLB would primarily impact larger school systems. Part of this presumption was reinforced by the teacher’s belief that local school educators and the community should continue to exercise the primary influence over their schools. Interestingly, this sentiment was not

echoed by larger urban school personnel in the previously cited Zhang (2008) study. Clearly, schools in small, rural communities have a distinctive culture that diminishes the effectiveness in enacting undifferentiated centrist educational policy like NCLB.

Divergent National Policy

The Naselle School has the unique characteristic of having emerged historically from a Finnish enclave. It was, thus, reasonable to include in this study an analysis of the challenges and supports of curriculum development in this school as compared to small rural schools in Finland. This, consequently, warranted a brief examination of the national educational environments in America and Finland. Researchers (Kimonen & Nevalainen, 2001, p. 144; Schoen & Fusarelli, 2008, pp. 183–184) reported in the 1990's that Finland's educational system underwent a fundamental transformation from strict national control over structure, organization, content, resources, and methods to a more flexible and decentralized approach over school accountability. The shift away from a national curriculum was accompanied by a greater emphasis on teacher professionalization through upgrading teacher preparation standards, allowing for greater teacher autonomy over course content, assessment practices, course offerings, texts, school policy, and budget. Notably, during this same time frame, America's national educational policy was moving toward more centralized national control as was also the case in England (see Vulliamy, Kimonen, Nevalainen, & Webb, 1997, p. 97). Following these respective, although divergent, national policy shifts, Finnish test scores proved to be consistently strong and arguably the highest in the industrialized world, while student scores in the United States remained average. Apart from national educational policy, it would seem reasonable to predict that test results would also be subject to cultural and socio-economic factors in the societies of the countries in question (see Cuban, 2008; Linnakylä, 2004).

The Finnish Ministry of Education sponsored a report conducted by researchers at the University of Jyväskylä explaining the Finnish success on the Programme for International Student Assessment (PISA) exam (see Välijärvi, Linnakylä, Kupari, Reinikainen, & Arffman, 2002). In the report, Finns attribute their success to a web of interrelated factors including greater teacher professionalization, high teacher autonomy, an emphasis on cognitive psychology in teacher preparation, a shift toward less structured curricula, and active learning methods among other broader elements of society (e.g., family values, homogeneous students, and cultural elements).

Clearly, the national educational ideology and environment in Finland and the United States during the past 16 years that guided curriculum reforms could not be more diverse. As in England, the United States education policy moved away from local community control of school curriculum and teacher autonomy toward more centralized national measures of educational quality, while, according to the Finnish-British research team, Finland was moving in the opposite direction (see Vulliamy et al., 1997, p. 97). Their study findings suggest similarities and differences between the schools whose reform efforts were initiated in greatly contrasting national policy

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environments. Interestingly, it may be asked whether the disparity in the achievements in international tests, such as PISA, favored Finland even more dramatically, in the light of these diverse national responses to improve student performance. The disparity of national curriculum reform approaches could provide a compelling opportunity for comparison of small rural Finnish schools in the Kimonen and Nevalainen (2001) study and the Naselle School, especially given the reported importance of Finnish community culture on curriculum reform in small rural schools in Finland.

Reform in Washington State

Concurrent with the national reform movement outlined above, the State of Washington had undergone a significant state-wide reform in education in 1992. In fact, nearly 10 years prior to the official authorization of the national NCLB Act, Washington State approved a similar reform initiative known as House Bill 1209. This legislation required (a) administration of a state developed test in grades 4, 8, and 11, (b) a state-mandated set of curriculum guidelines called Essential Academic Learning Requirements (EALRs), (c) annual achievement gains among all students, and (d) passage of the 11th grade exam for high school graduation. As part of the Washington reform, the state developed criterion-referenced tests reflecting the EALRs called the Washington Assessment for Student Learning (WASL). The required tests, accountability measures, and state curricular requirements were focused primarily on elementary grade math and language arts.

THE NASELLE COMMUNITY AND SCHOOL

The Community

The community of Naselle was originally settled by Finnish immigrants and is located in a rural and remote location in southwestern Washington State. In the past, the town's remote location, presence of strong fishing and logging industries, and a robust Finnish community and resulting stable family culture, sustained Naselle as a unique enclave in the United States for many years. While Finnish culture still exercises influence in the community, the number of Finnish adults remaining in the area began to significantly decline as employment opportunities in the logging and fishing industries declined in the late 1980's and early 1990's. Despite this emigration, according to the national census taken during the study period of 1992 to 2009, the community still consists of approximately 388 residents in the town. Of these, about 35 percent identify themselves as Finnish with more claiming some connection to a Finnish heritage, primarily through marriage. While the number of Finnish family names has recently declined, the community maintains a palpable remnant of its Finnish heritage. For example, every second year since 1982, Naselle, despite its small size and isolated location, hosts a Finnish-American Folk Festival and recently co-hosted a National Finnish Festival.

Over the past 30 years, populations in several other small adjacent communities declined, forcing the closure of schools in the community of Grays River and Rosburg. This resulted in a single consolidated school residing in Naselle, and servicing the areas approximately 1,500 residents. The community of Naselle contains several businesses including a bank, grocery store, motel, and several restaurants. There is a post office, several churches, and a relatively new regional library placed in the community as a result of Naselle residents exercising the highest readership rate, despite being one of the smaller communities in the county.

The area is in a scenic, wooded setting with excellent fishing and hunting opportunities and not far from several slightly larger beach communities that enjoy seasonal tourism, although this does not directly affect the Naselle community. Although there are community activities, including the youth baseball program and local church functions, the primary meeting place for the community is during athletic and artistic activities conducted by the students of the Naselle School.

The Naselle School

The Naselle School was originally built in 1959 and enjoyed a major remodeling in 1996. Teaching facilities, equipment, and learning materials since then have been both modern and appropriate. The remodeling provided the school with state-of-the-art technology. The Naselle School enjoyed strong financial and volunteer support from the community throughout the study period. The school boasts an athletics program that has enjoyed considerable success, maintaining a long-standing tradition of being one of the best programs in the state. Many members of the community attend school athletic competitions that constitute the primary regular social gathering for citizens in the community. The school contains 14 classrooms, a band room, woodshop, lunchroom/commons area, library, kitchen, gymnasium, stadium, staff room, administrative office, and maintains its own bus fleet.

The Naselle School currently educates approximately 323 students in grades kindergarten through high school (grades K–12) and employs 17 full-time staff; many of whom share teaching duties across multiple grade levels. For example, because there is only one class of students per grade, the science teacher teaches a different science course in each of grades 7–12, covering six different courses each day ranging from middle-level general science to high school physics. Students are 90 percent Caucasian and five percent Hispanic. Over 46 percent are provided free or reduced lunch prices due to low family income. These school demographic rates constitute a lower percentage of minority students and a higher percentage of impoverished students when compared to state-wide averages.

Because the state reform effort began in the elementary grades, and student achievement has been sustained there over a longer period of time, this became the primary focus of the study. Consequently, the case study respondents were six current or past elementary (grades K–5) teachers, who instruct approximately 130 students. The Naselle School principal is a former elementary teacher, and was the grade K–4

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team leader during most of the reform effort. She married into a Finnish family and is a long-time Naselle resident.

The Naselle School reform efforts resulted in a significant and sustained improvement in student test scores from 1992 to the present. The school recently was awarded the State School of Excellence Award and nominated for the National Blue Ribbon School Award. The school has enjoyed minimal staff turnover, with nearly half of the staff unchanged since the start of the reform effort 16 year ago. Staff turnover occurring since the beginning of the reform effort was primarily retirement after the reform movement was well underway and most of those retirees still reside in the community.

CURRICULUM REFORM IN NASELLE

Analysis of teacher interview data reveal several emergent themes regarding the teacher's experiences in the Naselle School since 1992, and identified elements they believe either supported or presented challenges to the curriculum reform efforts. These thematic elements of influence included the importance of the Washington State reform movement; key changes in the structural and operational systems within the school, specifically the curriculum development and professional development processes; leadership changes, particularly those resulting in a refocus on collaborative and distributive leadership processes; the influence of the unique culture of small communities and small schools, both general and unique to the Naselle community; and the influence of the community's Finnish cultural roots.

Results of Washington State Reform

The Naselle teachers overwhelmingly pointed to the Washington State reform efforts as key to the initiation of local changes in their school processes and curricula. Notably missing from their responses were references to any influence resulting from the national NCLB Act, although a few recognized the national reform as a contributor to the initiation of the Washington State reform initiatives. In fact, although some teachers recognized and could speak in depth about the national NCLB movement, the state and local reform was identified as the predominate influence over curricular changes. The faculty discussed both positive and negative characterizations of the state-level reform movement on their local improvement efforts. Notable curriculum change was driven by the required adoption of state learning requirements (EALRs) assigned to each grade level, and the importance of preparing students to pass the state's criterion-reference WASL exams. Teachers generally voiced the belief that state learning requirements and the accompanying test designed to measure those requirements helped staff identify more clearly what they should teach at each grade level and prompted curriculum content alignment and complimentary instructional approaches. One staff member said:

One thing that makes it a little bit easier now is that the state says these are the grade-level expectations... So why would we want to reinvent the wheel. The staff looks at

every one of those benchmarks and says this is what our students need to know. (Wilma, female teacher)

Another staff member noted:

The WASL gave us some direction with the EALRs and the grade-level expectations so we could set our curriculum to them, set a standard, and get our teachers on board, believing that our students can do this. (Diane, female teacher)

Some faculty indicated disappointment in that after engaging in 16 years of reform to align teaching content and instructional methods to the state exam, state leaders were now discussing the possibility of eliminating the WASL test. One teacher noted: “I like the WASL, and now we have a new state superintendent, and he’s throwing it out the window” (Diane, female teacher).

Others shared a perception that the state requirements were responsible for compelling teachers to work more effectively together toward common curricular goals. One teacher said:

I’m actually in favor of it [state reform]. It has impacted our school in a positive way because it gets everybody’s attention. You become more deliberate and you also get more clear feedback on how you’re doing as a teacher. (Danny, male teacher)

Mixed Perceptions

Despite the general positive support of the effects of the state-mandated reform, teachers at the Naselle School also noted challenges they faced as a result of the mandate. In fact, most teachers at Naselle provided both positive and negative perceptions of the state’s required learning requirements and assessments. These included an inordinate amount of pressure on teachers in the designated testing grades, the loss of elective activities, and diminished teacher creativity and flexibility in the choice of course content. One teacher commented on another teacher’s practice, saying:

His [the other teacher’s] teaching has changed because of the WASL. What he typically taught in 10th grade English now has to be taught in 9th grade. Teachers have to ask: ‘What do I cover?’ and ‘What things do I have to let go of?’ There’s less time for other types of beneficial activities. (Wilma, female teacher)

This remark echoed the dual positive and negative implications of a centralized curriculum and assessment system. Faculty members were required to reevaluate their instructional practice and align content to avoid overlap and gaps in instruction; at least for content covered in the WASL exam. While this resulted in improved WASL test scores, teachers felt that other skills and activities not covered on the exam were lost, minimizing content breadth and student socialization skills. In the area of content loss, teachers noted the reduction of vocational programs, physical education, and fine arts. In terms of student socialization skills, teachers noted the reduction of a classroom focus on social skill training most notably in the middle grades and in kindergarten, where, previously, significant time was spent on social and physical developmental

skills. Speaking to increased pressure on faculty, one teacher said: “Unfortunately, I think the tests cause way too much stress for individual teachers. We can hardly keep a fourth grade teacher” (Sam, male teacher). Others saw the stress to perform influencing some marginal students in nonproductive ways. For example, one teacher noted: “You have the state drop-out rate going through the roof because you say you have to pass the WASL or you’re not going to graduate” (Wilma, female teacher).

One challenge from the accountability focus being exclusively directed to math and language arts was the overall loss of course electives that often function as motivators for students to remain in school. As one teacher explained:

...the down side is we have a problem of how we make up for deficiencies. These kids may end up missing out on electives such as band, PE, and others. This can cause a kind of a spiral effect for kids who may not enjoy school anyway, so when things they do enjoy about school are taken from them, it can cause the kids to not be motivated to improvement. (Diane, female teacher)

Another teacher continued:

Some of the kids that were in band classes were taken out and put into remedial classes to help them pass a section of the WASL. Though it was beneficial in itself, it took them away from the elective classes that they also needed to be well rounded kids. (Sally, female teacher)

A final concern surrounding the mandate of centralized content requirements was the removal of teacher choice and flexibility and concurrently the perceived loss of teacher professionalism. This lack of instructional flexibility in the classroom could diminish the use of alternative instructional methods and content pacing that could benefit individual students. One teacher noted:

Sometimes the curriculum guides can be so rigid that there wasn’t room for flexibility. Because there had to be more time to focus on following the curriculum there was less time for teachers to be using their own teaching styles in the classroom. Teachers no longer have enough time to do special projects in the classroom specially suited for some students. (Lisa, female teacher)

Another concern with any reform effort is the difficulty in change itself, particularly when the change includes perceived or real diminished teacher freedom to select content and instructional methods. This not only has the possibility of thwarting a sense of teacher professionalism but removes one of the few incentives for the teaching profession; independence within the classroom. Alternatively, the standardization of curricular content and instructional methods effectively eliminate the need for teachers to be highly skilled professionals who need to be able to respond to changing student needs. As one teacher stated:

It’s been easier on some of the newer teachers because they haven’t been teaching with their own style for 20 years. They just pick up the teacher and curriculum guide and followed it. Now they don’t have time to pursue their own teaching styles. They don’t have time to cultivate those skills of adaptation to meet student needs. (Sam, male teacher)

Mabry and Margolis's (2006, pp. 10–12) study of two small rural schools in Washington State found that administrators shared some positive effects of standardizing and centralizing curriculum and assessment. All but one administrator described NCLB as a positive influence, providing leverage to effect needed change without damaging working relationships with faculty by administrators needing to appear heavy-handed. Additionally, most administrators indicated that positive consequences outweighed negative, noting that students who had previously been neglected or "invisible" to teachers were now receiving the necessary attention and instruction. Moreover, Mabry and Margolis reported that NCLB was having a positive impact on instruction through the "elimination of fun projects of low educational utility." Such projects proved to be contested local ground, with most administrators pressing for instruction leading directly to measurable gains, while teachers defended activities they described as developmentally appropriate and motivational.

The notable difference between the teachers in the Mabry and Margolis study and the Naselle study was the general agreement by most of the Naselle teachers that state reform led to mostly positive outcomes, despite lost content or socialization activities. Another important distinction between the Mabry and Margolis schools and Naselle was the relative lack of student achievement gains in the Mabry and Margolis schools. However, the disparity between the Mabry and Margolis schools and the Naselle schools was predictable, given research indicating the importance of a shared vision and a collaborative culture among the teachers and administrators in high performing schools (Deal & Peterson, 1999, p. 23; Fullan, 2001, p. 13).

All a Matter of Perspective

Despite a generally positive response to the state-mandated curricular reforms, The Naselle teachers recognized the loss of teacher attention to socialization skill attainment for students. One teacher noted:

NCLB kind of 'pigeon-holed' the students into learning one way and achieving one way. It doesn't allow the kids to be individuals... and all teachers know each student learns and grows at a different rate. I just heard that they're going to be throwing the WASL out and I'm actually pretty glad about that. (Sally, female teacher)

Mabry and Margolis (2006, p. 213) discussed this concern as well. They noted that against NCLB's pursuit of large-scale, research-based, and scientific curricula and practices, teachers argued for locally developed programming informed by knowledge of contextual and individual student circumstances. Teachers expressed concern that developmentally appropriate practice, allowing for tailored educational delivery to students, was increasingly threatened by systemic reform initiatives. Generally, this has been characterized as teaching to the test. Despite the marked and sustained improvement in student test scores and the resulting accolades showered on the Naselle School, teachers attributed the school successes to positive school and faculty culture, and to their pursuit of a well-rounded student, questioning an overreliance on test scores to measure overall student development. One teacher said:

“Did NCLB affect us. I don’t know, maybe in the statistics. It’s all statistical, and that’s not what we want. We want it to be more humanistic” (Diane, female teacher). Another teacher commented: “You’d better get to the trainings and you’d better teach to the test” (Sam, male teacher).

While the teachers in Naselle and in the Mabry and Margolis (2006, p. 16) study both expressed doubts about centering education around a single content area or set of test questions, this was a factor that caused only the Naselle School to produce improved student test scores. One distinct difference in the Mabry and Margolis study was the focus of teachers on the national NCLB movement, while the Naselle teachers did not see much influence from NCLB on their local efforts. Similarly, while the Mabry and Margolis school teachers and administrators allowed themselves to be distracted from their educational mission by focusing the negative aspects of the national accountability reform, Naselle leaders and teachers chose to use the standardized reform as an incentive to seek system-wide improvements to not only content alignment to the WASL test, but to improve school culture, create more positive learning environments, develop more collaborative decision-making, and improve professional development structures. These cultural transformations in the Naselle School represent sustainable reform that will continue to support school success even if the state-mandated curriculum and tests are revoked.

STRUCTURAL AND OPERATIONAL PROCESSES

Although the Naselle teachers recognized that state mandates functioned as a general motivator for teachers to focus on aligning curricular content, collaboratively and creatively developed school changes driven by local contextual needs were nevertheless credited for the school’s success. Changes in the Naselle school credited with the school’s sustained success include a new curriculum adoption and material selection process, as well as the funding and delivery of the professional development program.

Curriculum Development Processes

The Naselle teachers overwhelmingly equated their ability to sustain achievement gains through structural and operational changes that were initiated early and then maintained throughout the local reform effort. These successful curriculum development policies and processes remained intact and provided consistent focus even through tumultuous financial times, leadership turnover, and other normal disruptive events in the life cycle of the school. Describing the curriculum development process, one teacher said:

We develop a new curriculum every single year. We revisit the existing curriculum and determine if there are any changes needed. And instructional material is not the curriculum. I don’t know that most educators are necessarily making that distinction.
(Wilma, female teacher)

Another teacher said:

We have a revolving adoption of our curriculum. That would probably be the biggest change. I would say the impact of that would be more consistency, more up-to-date, and more current with the trends. (Sally, female teacher)

Key to this system was the distinction between curriculum and instructional materials. All of the Naselle teachers were consistent in reporting a collaborative process including (a) forming a shared vision, (b) creating goals, (c) translating the vision into a curriculum, and (d) leaving until last the selection of materials, teaching methods, and programs to fulfill specific curricular goals.

Some of the teachers described how the curriculum development process allowed faculty members in subsequent grade levels to spiral content to reinforce and provide coherence and linkages between grades. One teacher noted: "I think it created more consistency and flow. Whatever was touched on in kindergarten was also touched on again, only more so, in first grade; and then more so in second grades" (Sally, female teacher). Another Naselle teacher echoed faculty beliefs that the curriculum development process served to build a strong reflective learning community among the teaching staff. She said:

... having teachers meet in groups, focusing on an area every year. That began before WASL and NCLB. Getting teachers together to focus on subject areas is what I think helped us from the beginning. Looking at the whole picture across our whole system. (Lisa, female teacher)

Notable is the belief by the Naselle teachers that instructional materials and programs emerge naturally from the curriculum rather than becoming the curriculum or the instructional focus. The Naselle process of curriculum development also necessitated the development of a genuine reflective professional learning community among the staff, resulting in staff buy-in and program coherence. Not surprisingly, all of these curricular development approaches are supported by research on highly effective schools (Fullan, 2001, p. 6; Leithwood, Aitken, & Jantzi, 2006; Senge, 1990).

Individual Programs

Interestingly, among the responses from the Naselle teachers on what led to their school success was the lack of the mention of specific programs, materials, or instructional methods. Teachers primarily pointed toward system, process, and cultural innovations over specific program adoptions. The programs that were quoted, tended to advance system coherence rather than specific content or instructional methods. For example, one teacher mentioned the success of a required study table for students not completing their homework. Still others noted the Linkage program where high school aged students work daily with elementary school students. As one teacher described the program:

The high school students see the elementary students every day, work with and mentor younger students ... like a big sister/big brother to the elementary school students. (Sally, female teacher).

What was notable in the teachers' description was their focus on how the program improved the cultural and socialization aspects of the school community; not on what content the older students were teaching the younger. It was also notable that the most lauded Naselle programs, such as the Linkage program, tended to be more possible to achieve in the context of a small rural school, rather than in large schools that, by necessity, have to physically separate students of varying ages and abilities.

Time

Another common area of challenge in the curriculum reform effort was the need for more time; namely time to collaborate, reflect, and train. The Naselle teachers noted that a collaborative, reflective approach to reform required "time to meet together, time to do research, time to network, time to look at data, time to learn, time to share, time to invent, time to reflect. I think that was a challenge" (Wilma, female teacher).

Professional Development

Second only to their approach to curriculum development, the process Naselle used to fund and provide for effective professional development was most noted by the teachers as a reason for their successful reform efforts. What emerged from the teachers at Naselle was the importance of a variety of descriptors of effective professional development. These included the idea that effective professional development be (a) flexible, (b) timely, (c) individualized for each teacher and each situation, (d) supported with significant and protected funding, (e) provided at three levels: district, teacher improvement team, and individual, with the higher fund level going to the individual teacher, and (f) supported and valued by the administration. The comments by the teachers at Naselle indicated that professional development flows from a need, rather than being viewed as a prescribed training event or menu of predetermined training preferences. One teacher commented: "We had a reading expert come in... We had a science expert come in... We had a brain research expert come in... I think a lot of the challenge is trying to provide the staff with timely professional development" (Wilma, female teacher). Another teacher said: "We probably have one of the best professional development programs in the state, but equally important to the content of the training program is that we have a supportive administration" (Danny, male teacher). Finally, a teacher mentioned: "Our school district is very good about making sure we all get training to understand what's been going on and I think that's been one of the biggest helps" (Diane, female teacher). Fullan (2001, p. 77) noted that perhaps as important as receiving new knowledge is the process of knowledge sharing. Information is only helpful to students if teachers can use the knowledge to improve their teaching. One teacher summed it up this way: "... professional development – we're encouraged to go outside the building. We come back and we share what we got" (Diane, female teacher).

COLLABORATIVE CULTURE

The Naselle teachers frequently talked about the importance of a culture of collaboration in decision-making as part of their school norm. Often, the teachers connected the idea of collaborative decision-making to their curriculum development process and their professional development as well. The teachers at Naselle appeared to accept a shared decision-making model as a natural part of their school process. The Naselle teachers described being part of a leadership team called Building Improvement Team, divided by grades K–4, 5–8, and 9–12. These teams began in 1990, at the same time as the curriculum development and professional development processes; two years prior to the Washington State reform movement. These collaborative teams appear to play a key role in decision-making within the program, curriculum, and professional development decisions of the Naselle School.

In addition to collaborative teacher teams, Naselle had also experienced a shared principalship where up to three teachers/administrators functioned in a shared administrative capacity. While research findings are mixed on the connection between collaborative teacher teaming and student achievement gains, there appears to be agreement that clear benefits include advancing teacher morale and increasing teacher professionalism, as well as organizational health and climate (Smith & Piele, 2006, p. 250). One teacher said: “We developed the BIT meeting groups and that helped us to stay focused with one another as far as what one person was doing in one grade and what another person is doing in another grade” (Sally, female teacher). Another teacher noted: “We have BIT’s and we get together, we also talk about things that work” (Diane, female teacher).

The administrators in Naselle appear to have effectively created a process wherein substantive decision-making involves teacher teams. In this way, leadership is not vested in one person high up on the hierarchy. Gronn (2002, p. 660) has studied the effects of distribute leadership extensively and distinguished between *additive* and *holistic* distributive leadership. In the ineffective additive distributed leadership, teams of teachers are merely assigned additional work duties. Naselle appears to have recreated holistic distributive leadership, valuing and paying attention to interactions and interdependencies among people at all levels and creating synergy, so the whole equals more than the sum of the parts (Smith & Piele, 2006, p. 250). One Naselle teacher described her successes as follows:

I think what works here is that we teachers collaborate so much. The buy in, I think, is from the leadership. She’s letting us go get educated, take classes, and pick things that we think will work. No one’s second guessing us. But her [the principal’s] leadership has been instrumental. (Lisa, female teacher)

Indeed, Fullan (2001, p. 134) indicated that great leaders cultivate leadership in others to the extent that they will leave leaders who can move the organization even further. Effective schools are characterized by staff teams who view themselves as empowered decision-makers. Bowers, Dinko, and Hart (2005) found that when effective shared leadership was used in the professional development model, collegiality

developed and positively changed the school culture. They define shared leadership as “the culture of collegiality among peers, along with administrative and support for a jointly designed vision” (ibid., p. 17). Additionally, Mascall, Leithwood, Straus, and Sacks (2008) studied four patterns of distributed leadership. The Naselle teachers seem to display the type of distributed leadership style labeled “planful alignment.” In this pattern, the tasks or functions of those providing leadership have been given prior, planful thought by organizational members. In planful alignment, teachers respect and trust leaders and convey high levels of academic optimism (ibid., p. 217).

The Naselle teachers engaged in planful alignment as evidenced by their comments concerning their collaborations. One teacher said: “Teacher leadership is stronger because we meet in teacher groups. We have the teachers get together and communicate” (Sally, female teacher). Another teacher noted: “Working together helps with cooperation. We reiterate the things that are important and the things that need more work” (Diane, female teacher). Another Naselle teacher recognized that effective distributed leadership was even more important than the products produced through the collaboration. She noted:

The important thing is that teachers get together, refocus and remind ourselves of the things we think are important. Unfortunately, I don’t think the (curriculum) document itself is always necessary because I think it’s off to the side. (Diane, female teacher)

A recent study by Hoy, Tarter, and Hoy (2006, pp. 220–221) found large effects on student achievement resulting from the willingness of teachers to engage in work with their colleagues outside of their own classrooms. Agreeing with this, a Naselle teacher said that “each team of teachers is working together. There was an isolation in previous districts, but in Naselle there is a focus that these students are all of our students” (Lisa, female teacher). Mabry and Margolis (2006) indicated that in less effective small rural schools teachers “did their own thing in their own way,” isolated from each other (p. 17). One administrator in the Mabry and Margolis study said:

Teachers here will tell you they don’t have enough input. I’m not buying that story because they have opportunities to get involved, [like] participat[ing] in our School Improvement Plan, but they’re not stepping forward or they’re not doing it unless they get paid for it (ibid., p. 17).

It is clear that it is not enough to merely form shared decision-making teams. Instead, the team processes must be focused on the development of positive school culture, establish a student-centered mission, and apply effective action to enact vision and culture. Olson (2002, pp. 129–137) confirmed that little will be accomplished as a result of centrist reforms if teachers do not understand them, support them, or are empowered to enact change to accomplish them.

COMMUNITY/SCHOOL CULTURE

Small schools in small communities represent a contextually unique environment that can influence the operations and instructional content of the school. In a locally controlled governance system like that in Finland, the local community is actively encouraged to participate in the development of instructional content. In the United States, where NCLB established a more centrist accountability system, with state-prescribed learning objectives and exams, the ability of the community to influence the school curricular content is greatly hampered.

However, the curriculum and programs of the American school may still be substantially influenced by the local community. Further, NCLB proponents insist that no specific content or assessment was required by the legislation; rather, each state elects its own assessments and curricular content. Similarly, proponents of the Washington State reform legislation note that while general learning requirements by grade level (EALRs) were prescribed, neither specific content, curriculum, instructional materials, nor teaching methods were dictated. Thus, local communities, under NCLB, might still exercise significant local influence on specific curricular content or delivery approaches. Was any such influence evident in the Naselle School experience?

Community Influence on the Naselle School

The unique characteristics of the Naselle community: its isolated location, small size, and economic circumstances all influence the Naselle School. Most of the Naselle teachers noted the positive effects of their small rural community. One teacher said: “In this community, people have grown up together and know each other. For example, I have taught both the children and the children’s parents. We know and care about each other in a small rural school” (Sally, female teacher). Another unique characteristic of many small, rural schools, including Naselle, is the central community focus on the school. As one teacher perceived:

The school is a major focus in the community. A lot of the people that live here are very supportive of the sports, drama, and music programs. They come out in droves to see those events. I think that’s a plus for the children’s social and emotional growth overall. (Lisa, female teacher)

Another teacher commented: “The community depends on the school to use as a kind of community center” (Sally, female teacher). Yet another teacher noted: “Our building is still an open facility – bingo, movie night, open gym – the doors are always open. This [is] very unique to a small school” (Diane, female teacher).

Teachers also discussed how the small community size can enhance the depth of relationship between the community and the school and staff. One teacher said:

In our small rural community, people are proud of the school. Everyone wants the school to do well and see students succeed. I think that people know each other much more than in a larger urban community, and that influenced our success. (Lisa, female teacher)

The Naselle teachers also discussed how accessible they were to parents and students and how this brought students back to the school as future colleagues. One teacher noted that four former students were now teaching at the Naselle School. This reality is not often mirrored in large school systems where teachers may not even know each other, much less the members of the community.

The characteristics of small, tight-knit communities such as Naselle can influence students in how they vision their future careers and lives. While close-knit enclaves can provide tremendous support networks for students, negative outcomes may also be realized. For example, one teacher indicated:

Some parents may have the mind-set that graduating from high school and going to work in the woods was fine for them, and so is fine for their kids as well. They do not really encourage their kids to go to that higher level, maybe because it would cause them to leave the community. (Wilma, female teacher)

Faculty Influence on the Naselle School

The stability of faculty and the return of students to faculty positions in Naselle functioned to further sustain a unified school culture, an understanding of shared processes, creation of an aligned curricula, the use of complementary instructional methods, and the establishment of effective teacher collaboration. Spillane (1999, p. 143) indicated that teachers need “secure spaces” in order to radically change their practice. The Naselle teaching staff is relatively stable, a fact some may argue can be a negative trait, perpetuating the status quo. However, this may be positive if the status quo represents the maintenance of a positive learning environment, collaborative and reflective teaching practice, and a relentless pursuit for success. One teacher explained:

I think one of the reasons the reform succeeded here so well is the fact that we work really well with each other and support each other. We are so small we know each other very well and can understand the needs of our students because we are so close-knit. Also because the teachers are willing to wear so many hats we are able to do a lot of things with the students and stay very involved with them. (Sally, female teacher)

A small and stable teaching staff can not only allow for more ease in the development of a professional learning community, but can sustain a positive educational environment even through administrative turnover and inevitable educational challenges such as budget cuts, demands of community special interest groups, and increasingly diverse student needs. One teacher said: “I get to come to school and work with my best friends. We can hardly wait to get together. We socialize together. We do things together.” This teacher went on to say that “we don’t have the turn-over as much. Our homes are here and our kids are here. I think living in the community is really, really important” (Diane, female teacher).

In Naselle, most teachers not only teach multiple subjects, but multiple grades as well. They are also required to coach sports and direct student activities. As a result, students work with teachers more closely, more frequently, and in a variety of settings

both in and out of the classroom. This provides a much better opportunity for students and teachers to develop strong relationships that help build student self-worth and prevent students being “lost” in the system. One teacher noted: “Because we’re so small, it’s much harder for students to fall through the cracks” (Wilma, female teacher). Another teacher said:

Our small school atmosphere is unique. Folks are willing to spend extra time with the kids. We get to know the kids well enough so that some of the problems big schools have, we don’t have. Part of it is familiarity with kids. While this may seem intrusive to some, it’s really about caring for the kids. (Lisa, female teacher)

Challenges of a Small Rural School

Despite the many positive influences of a small and stable teaching staff, there are also some negative consequences for teachers and students. These include the inability for the school to offer a broad variety of courses and the burnout of teachers who have to fill so many professional, subject area and extracurricular needs. One female teacher said: “The challenge with a small staff is trying to find opportunities to offer our kids additional electives. So we go outside and find opportunities for additional classes through the use of technology and distance education” (Wilma, female teacher). Despite the many successes experienced at the Naselle School, sustaining reforms can be stressful to teachers. Wilma continued:

Here in Naselle, you have so many teachers being pulled in so many different directions, having to wear so many hats, so you’re not just the teacher. You’re the Building Improvement Team Chair, a supervisor, an activity advisor, a coach, and more. It’s very difficult to manage that time so that you feel comfortable. (Wilma, female teacher)

Another teacher mentioned the challenge of needing to fill changing subject and grade-level courses, noting: “Having so many different things that you’re supposed to master and almost every year getting a new assignment makes it hard to feel like you’re master of any class content” (Diane, female teacher). According to yet another teacher:

We don’t have enough money or funding to hire teachers for the special areas. One of our elementary teachers teaches an elementary class most of the day, and then at the end of the day she teaches a high school class. I think we each wear a lot of hats to meet the needs of the kids. (Sally, female teacher)

FINNISH CULTURE

One of the characteristics of the community of Naselle is its Finnish origins. One question of interest in this study was whether the Finnish culture of the Naselle community influenced the success of the curriculum reform and the school overall. Brady (2008, p. 2) suggested that all schools have their own unique social context or culture. Deal and Peterson (1999) wrote that “every human group anchors its existence

in a unifying myth that originates the group's world view. Schools with strong cultures are no different" (p. 23). In the view of these researchers, school culture is situated at the very center of an institution's existence and serves as "its spiritual source, the wellspring of cultural traditions and ways" (ibid., p. 23). School culture can have a powerful positive effect on school success and is usually developed as a natural extension of some identifiable and unifying community culture.

At the Naselle School, the teachers varied on whether they felt the Finnish history of the community and school influenced the reform efforts or contributed to the school's success. Some felt that while the Finnish culture had strongly influenced the school in the past, its influence had waned. One teacher noted: "Our Finnish heritage is really changing so I wouldn't consider it as much a factor as in the past" (Sam, male teacher). Another teacher said: "We probably have more Finnish staff than Finnish students" (Danny, male teacher).

However, all of the teachers at Naselle recognized the presence and mostly positive influence of the unique Finnish culture on the school. One teacher said: "I'm not sure about how much of our population is still Finnish, but everybody here knows that it's a Finnish community. I'm not sure if it's positive or negative. It gives you an identity, I think" (Diane, female teacher). Noting a possible negative impact of the Finnish culture on the school, one teacher explained:

I don't think all the older Finns understood the value of – nor encouraged higher education. Many students who went to college still came back here and worked in the logging industry not using their higher degrees. (Wilma, female teacher)

However, most saw positive influence from the Finnish culture and believe it is still active in the Naselle School. One teacher said:

The Finnish culture has influenced the way the children learn in our school and the way children succeed. The Finnish immigrants that still live here have children, grandchildren, and great-grandchildren in our school. While I don't think we're in the majority, we still have deep roots here. Those Finnish community members are still tied to one another with a deep sense of tradition and deeply rooted in the faith of the people. It is shown in the way they support each other in the schools and in the community. People need to become more aware of the importance of that culture. (Sally, female teacher)

While there did not appear to be a direct influence of the Finnish culture on the specific academic content of the school curriculum, teachers noted: "Finnish opera is offered as an after school program to middle school students. The kids learn some Finnish songs and they had to sing and perform" (Sally, female teacher). Another teacher's comment suggested that Naselle's Finnish community may have more influence on the school program than some teachers perceived. The teacher put it as follows: "We do stop and think about who founded the school. When we make changes to the school, we consider whether it would be acceptable to its historic past" (Lisa, female teacher). This could indicate that the Finnish culture of Naselle may have a deep, but indirect influence on the school. Another possibility is that, because

of familiarity, some local Naselle teachers accept the community culture as natural and unremarkable, whereas reality may belie perception.

For the purposes of this study, the primary question was whether the Finnish culture of Naselle influenced the curriculum reform. In their study of small rural Finnish community schools, Kimonen and Nevalainen (2001) noted a “transition from teachers teaching a nationally prescribed subject-based curriculum to schools devising, with parental involvement, school-based community-oriented curricula emphasizing integrated project work and active-learning pedagogies” (p. 144). This clearly did not occur in Naselle, primarily due to the prescribed state learning requirements.

However, another question centers on the influence of the Naselle Finnish culture on the success of the development and implementation of the curriculum and the resulting programs. Kimonen and Nevalainen (2001, p. 170) suggested a long tradition of collaboration between people living in the Finnish countryside. According to Nevalainen (1995), “about 80 percent (N=165) of small school teachers in Finland regarded the school as the center of cultural, spare time, and community activities ...” (p. 224). Kimonen and Nevalainen (2001) noted the use of the school facility on weekends and evenings. They conclude: “The many activities of the parents and other inhabitants in the village presuppose that the teacher is cooperative, adaptable, and open” (p. 170). In this respect, the Finnish culture in Naselle seems to mirror that of the Finnish schools.

CONCLUSION

In summary, the supporting elements and obstacles to the success of the Naselle School included:

1. *A focused vision.* Whether developed through community collaborations or directed from a central set of essential learning requirements, successful schools find some point of educational focus. Fullan (2001, p. 50) identifies this as coherence over fragmentation of program and purpose. Naselle found a way to avoid the professional paralysis that many other schools experienced as a result of their disdain for the federal or state-mandated accountability requirements and used the mandate as a starting point to develop a focused vision.
2. *Collaborative decision making.* The Naselle teachers and administrators were able to develop and sustain authentic professional collaboration that functioned not only to align curricula and program but also to strengthen relationships, to enhance a sense of teacher professionalism and empowerment, and to lengthen the tenured teaching staff. The resulting teacher core group was able to sustain the successful reform momentum even through typical organizational challenges.
3. *Curriculum development process.* Naselle developed a unique curriculum development process using collaborative teaming to implement a process that honored the distinction between curriculum, on one hand, and instructional materials and programs, on the other. Through this process, the Naselle teachers were able to better realize authentic or enacted curriculum in the classroom as

opposed to goals kept in a document on a shelf or simply adopting the latest “flavor of the month” program.

4. *Authentic professional development.* Naselle was able to provide and protect funding for teacher teams and individual teachers. Providing bona fide resources to realize the curricular and programmatic goals developed in teacher teams provided legitimization of the collaborative process and further confirmed teacher professionalism. In addition, teacher control of the professional development allowed for authentic, timely, and relevant professional development opportunities.
5. *Culture over process.* The Finnish community of Naselle, despite having declined in numbers, provides a unique, rich, and proud identity for the community that many school districts lack. The community maintains the school at the center of this culture and enriches the lives of the staff and students. Love of the community and its history compels educators to stay long-term allowing for the development of support systems, program coherence, loyalty, and a student-centered focus on education.

While national and state-level reform efforts and one-size-fits-all programs continue to churn through the educational landscape, there is an abiding understanding of the secret to educational success. It is to touch the heart and motivate the mind of each student. The Naselle School, though far from its past as an isolated Finnish enclave in America, has created a successful school by building on its unique history to enact a culture following the Finnish tradition of “the small rural school as the learning and activity center of the whole village” (Kimonen & Nevalainen, 2001, p. 183).

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7. THE CHALLENGES OF BASIC EDUCATION CURRICULUM CHANGE IN RURAL PRIMARY SCHOOLS IN WEST CHINA

INTRODUCTION

This study aims to analyze in depth the current situation and challenges in the reform of the basic curriculum in primary schools in China. It is based on a case study of a Learning by Doing science education experiment carried out in two rural primary schools in an impoverished county in West China. This study deals with three major aspects of the effects of the curriculum reform in rural primary schools, specifically:

1. Changes in the organization of instruction in rural primary schools;
2. Professional development of elementary school teachers; and
3. Relationships between the rural elementary schools and the local communities.

The present chapter portrays the qualities of curriculum change from the viewpoint of teachers' work in two small rural school in China. It reports the results of a study attempting to replicate Kimonen and Nevalainen's (2001) study. We are here making efforts not only to utilize the data collection methods and data analysis procedures used in the study in question, but to apply the existing knowledge to different locations and cultures of West China. This study also aims at utilizing in the examination of Chinese school reform other international publications (see Kimonen & Nevalainen, 2000; 2002; 2005; Nevalainen, Kimonen, & Hämäläinen, 2001).

SCIENCE EDUCATION IN THE REFORM OF THE CHINA BASIC EDUCATION CURRICULUM

Basic Education Curriculum Reforms

Since the founding of the People's Republic of China in 1949, China has carried out basic education curriculum reform eight times, the first reform in 1950 and 1951, the second in 1952, the third in 1956, the fourth in 1963, the fifth in 1978, the sixth in 1986, and the seventh in 1992. In June 2001, the Ministry of Education promulgated its *Guidelines for the Reform of the Basic Education Curriculum*. This reform was designed to test the new curriculum system of basic education with a view to its

introduction from the fall of 2001. Its overriding aim was to enable students to develop their sense of patriotism and collectivism, to increase their attachment to socialism, and to continue and develop the best of the inherited traditions of the Chinese nation. In particular, it was designed to help students to:

- develop a consciousness of socialist democracy and legality,
- observe national laws and the social ethic,
- gradually build up a correct outlook on the world, of life, and values,
- develop a sense of social responsibility and to serve the community,
- develop a preliminary innovative spirit and the ability to put their ideas into practice in the accomplishment of science and humanities,
- develop an awareness of the need for environmental protection,
- acquire the basic knowledge, skills, and methods to fit them for lifelong study,
- enable them to develop a strong and healthy physique and good psychological quality, and
- cultivate healthy esthetic conceptions and life styles.

The overall aim is to form a future generation that is equipped with high ideals, moral integrity, knowledge, and culture, and that is trained to observe discipline (*Guidelines for the Reform of the Basic Education Curriculum*, 2001).

The reform of the basic education curriculum is a systematic project that is complicated and arduous to carry out, but it is nevertheless of great significance for the nation and will have a profound influence. It deals with such factors as the purpose of the curriculum and its structure, the curriculum criteria, textbooks, and the process and methods of teaching and learning. It also extends to the development of curriculum resources, to the establishment of a three-level curriculum management system, to the building up of an evaluation system, and to the reform of instruction and other control and support systems. The curriculum change underlies the overall reform of the entire basic education system. It has six specific goals:

1. To change the tendency of concentrating excessive attention on the simple imparting of knowledge and move to an emphasis on the cultivation of a positive and active attitude toward learning. In this way, it will combine the process of mastering basic knowledge and skills with the process of learning to learn and of forming correct values.
2. To change the status quo of a curriculum structure that is characterized by an overemphasis on discipline and covers too many distinct subjects that are not integrated. The new curriculum will establish a consistent pattern of classes and set the proportion of class hours for the different subjects over the nine-year period of basic education. The curriculum will also be flexible enough to adapt to the developmental needs of different areas and students, and in its structure it will embody equilibrium, comprehensiveness, and selectivity.
3. To change the status quo of the curriculum content that is currently “difficult, numerous, partial, and old” and pays too much attention to book knowledge. It will strengthen the connections between the curriculum content and the student’s life outside school, as well as with the development of a modern society and

of science and technology. It will focus on the student's learning interests and experiences and carefully select the knowledge and skills necessary for their lifelong studies.

4. To change the present overemphasis on simply imparting knowledge to the students and expecting them to memorize and practice on that basis. The new curriculum will advocate the active participation of students in the learning process, using their own initiative, making them keen to carry out scientific inquiry, and thus benefitting from learning through their personal experiences. It will train the students to use their abilities to collect and process information, to grasp new knowledge, to analyze and solve problems, and to communicate and cooperate.
5. To change the function of curriculum evaluation from concentrating too much on identifying the most talented individuals. It will make the most of the evaluation process to promote student development, teacher progress, and the improvement of teaching methods.
6. To change the current situation in curriculum management, which is too centralized, and introduce a three-level management system, covering the national, local, and school levels, so as to enhance the adaptability of the curriculum to local conditions, to the school, and to the students (*Guidelines for the Reform of the Basic Education Curriculum*, 2001).

In 2001, the new curriculum was tested in primary and secondary schools covering 38 areas from 27 provinces in China. The new curriculum was then introduced in experimental zones on a provincial level from the fall of 2002, covering more than 500 cities, districts, and counties, representing about 17 percent of the total. From the fall of 2005, students in the starting grades in primary and secondary schools were introduced to the reformed curriculum. It is expected that Chinese children will become more competitive in the evolving global environment as a result of these reforms in the curriculum.

Reforming Science Education

With the rapid and continuous development of science and technology, science curriculum is being strengthened and reformed around the world. Many countries, including the USA, France, the UK, and Canada, have classified their plans to reform the science curriculum in their national basic education, scientific exploration as a primary and key element in the curriculum objectives and content (*The Program of Learning by Doing in Science Education*, 2002). The basic education curriculum reform in China aims at developing scientific accomplishment for students already at the primary level and making the subject of science a required course for students in grades 3–9. The purpose of science as a course for grades 3–6 is to help students grasp simple scientific knowledge that is related to the ordinary things with which they are familiar, to apply this knowledge to their daily lives, and to cultivate scientific behavior and gradually introduce it into their life habits. It will also help them to understand and

apply the processes and methods of scientific exploration, to learn how to approach and think about problems scientifically, and to develop curiosity toward the things that surround them. It is expected to give them a thirst for knowledge and encourage in them such scientific attitudes as a free ranging imagination, a high regard for facts and evidence, and boldness in blazing new trails. It should also develop in them the emotions of loving science, as well as loving their hometown and their motherland. In addition, it should bring them closer to nature as well as teach them to appreciate it and cherish all forms of life, and take an active part in the protection of natural resources and the environment, and to concern themselves with new developments in technology. As compared with the current syllabus, the new science curriculum places emphasis on four major aspects:

1. It will pay more attention to the application of what is being studied, with an emphasis on how students can apply it to daily life, and to nurture such good habits.
2. It will emphasize the importance of using the scientific method of inquiry.
3. It will train the students to develop scientific attitudes and teach them the importance of protecting and developing their curiosity and thirst for knowledge and not simply the acquisition of an ideological education and education in ethics.
4. It will introduce students to the demands of modern values of science and technology, such as the need to achieve a harmonious coexistence between human beings and nature, to protect environmental resources, and to be concerned with new developments in science and technology (Zhu, 2002, p. 70).

Learning by Doing Science Education Program

In order to promote the development of education in nursery and primary schools as well as to attain the goal of quality education, the Ministry of Education and the Science and Technology Association officially signed an agreement in 2001 for joint action with France on a plan for the reform of scientific education by promoting a Learning by Doing (hands-on) educational experiment in science education in nursery and primary schools.

The idea of hands-on science education was initiated by an American Nobel Prize laureate in Physics, Leon Max Lederman, in the 1980's. After a successful try-out in Chicago, it was adopted for the science education standard compiled in the USA. As early as 1994, a scientific capacity building committee, the ICSU, was created to extend the application of this important reform. When it was introduced into France by a French Nobel Prize laureate in Physics, Georges Charpak, it met with success there in 1995.

The purpose of the Learning by Doing Program is to enable preschoolers and students to have an opportunity to participate in person in the process of exploring the world of science, so as to allow them to observe, raise questions, design and perform experiments by themselves, and express and exchange knowledge they have obtained

in the process of scientific exploration, as well as to foster their primary ability to do scientific exploration. This lays the foundation necessary for children to have an all-round development and provides a good scientific grounding for them as future citizens (*Criteria Suggested in the Learning by Doing Program*, 2005). The criteria suggested in the program are as follows:

1. Courses should be oriented toward the individual child and take into account the differences between the individual children.
2. Courses should lay the foundations for all the child's future studies, and more importantly, for the children to learn how they should live.
3. The topics studied should be drawn from life and absorb material from the surrounding environment.
4. Children should be guided to actively explore and to experience the process and satisfaction of discovery.
5. Teachers should be the supporters and directors for children learning science.
6. Teachers should be encouraging in their assessments.
7. Scientists and educators should work together to conduct science education.
8. The forces of the communities and families should be mobilized to support science education.
9. Modern methods such as the Internet should be used to increase exchanges and cooperation between domestic and international counterparts (*Criteria Suggested in the Learning by Doing Program*, 2005).

The Learning by Doing educational experiment is consistent with the science curriculum standard of the basic education curriculum reform. It reaffirms the fact that science education is no longer simply knowledge-oriented with the emphasis on imparting knowledge mechanically, but places the emphasis on developing feelings, attitudes, and abilities in children that enable them to explore and solve problems, as well as to communicate actively with others and live in harmony with the environment. A learning by doing method also extends the range of those who receive a scientific education by giving nursery children and students in the lower grades in primary schools opportunities to draw nearer to science and to experience its charm of science as well as the pleasure of exploring scientific phenomena.

The Learning by Doing reform program for science education was first introduced in four experimental areas: Beijing, Shanghai, Nanjing, and Shantou, covering 44 nursery and primary schools. As the experiment progressed, it was extended to 13 more areas in 10 provinces, and by the end of 2004, there were nearly 200 nursery and primary schools participating in the Learning by Doing Program (Zhu, 2004).

Plan China is a community and child-centered development organization without religious, political, or governmental affiliation. Child sponsorship is the basic foundation of the organization. Plan China's vision is of a world in which all children realize their full potential in societies that respect people's rights and their dignity. The Plan International has programs in 45 countries. Its headquarters is in Woking, Surrey, UK. Plan China started its operation in China in 1995, and its Country Office is located in Xi'an, the capital city of Shaanxi Province. In 2004, financed by Plan China, the

Learning by Doing science education experiment was introduced in rural primary schools in Pucheng County and Chunhua County in Shaanxi Province. This was the first test of the program in rural areas in China, and there are three reasons why this was important. First, China is an agricultural country that has a huge agricultural population with little exposure to scientific issues and heavily influenced by the traditional forms of education. Consequently, rural elementary schools have paid little attention to science education. The aim of this program is to raise the awareness of rural elementary schools to the importance of science education. Second, the experience acquired during a successful implementation of the program is expected to lead to changes in the ways that country children learn and the professional development of the teachers. Thirdly, most of the other schools participating in the Learning by Doing Program are located in cities and have access to the best resources, so if this experiment succeeds, it will provide a good model for science education in rural elementary schools.

In 2005, in order to promote the Learning by Doing Program in Shaanxi Province, the Education Department and Association of Science and Technology of Shaanxi Province decided to expand the range of the implementation of the program. It issued a *Scheme for Promoting the Learning by Doing Science Education (2005)* to expand the experimental areas to four counties. The authorities stressed the stipulation by the Ministry of Education that two periods a week for science should be arranged for grades 3 and 4 in elementary schools, and three class hours for grades 5 and 6. The Learning by Doing Program was to be carried out during the class hours allocated to science, and some extracurricular activities could also be arranged. The Learning by Doing experimental science education dealt with in this study was carried out in grade 2, and the schools made use of two periods of class hours for comprehensive practice, the teachers developing cases and organizing the teaching under the guidance of experts.

The new basic education curriculum system attaches much more importance to the significance of scientific education than ever before. The Learning by Doing science education program will invigorate the basic education curriculum reform and promote changes in the methods of teaching and learning.

PRIMARY SCHOOLS IN WEST CHINA

As a result of a lack of equilibrium in the developmental conditions for the economy and technology, three major economic belts now exist in China. One of them, West China, is generally regarded as consisting of the 12 provinces and autonomous regions.

China has a varied topography. The terrain in West China is mainly mountains, hills, plateaus, and desert, in which 80 percent of the nationally most impoverished counties are located, with most of the people classified as poor. The natural environment of Guizhou, Yunnan, Shaanxi, Gansu, Qinghai, Ningxia, and Xinjiang is the most backward and impoverished of the 12 provinces and autonomous regions of western China. The population of this area represents around 13 percent of the total national population, but it also contains more than 35 percent of the total national population

classified as poor. In the seven provinces and their autonomous village-owned schools, impoverished students account for 95 percent of the total, the highest score of all areas in China, and far higher than the average level for national non-impoverished regions (Wang, 2001). It could be that the poorer the area, the more the people there will yearn for education, and the more they will thirst to “change their destiny by grasping knowledge.”

By the end of June 2002, 684 counties in these 12 western provinces, autonomous regions, and municipalities had achieved the goals of the Universalization of Nine (making nine-year compulsory education universal), covering approximately 75 percent of the population. In implementing of the Two Basics target (in order to universalize compulsory education and to eliminate illiteracy among the young), the western provinces have improved their rural compulsory education managerial system. At present, 910 counties there have recovered the right to manage the wages of rural primary and secondary school teachers, making up about 85 percent of the total. 927 counties, 87 percent of the total number, have resumed the right to employ and dismiss principals and teachers. By regulating the structure of public expenditure, these provinces have increased the financial aid available to impoverished areas, and since June 2001, the rural primary and secondary school teachers can be paid according to the national scale (Xu, 2002). On March 24, 2004, Zhou Ji, the Minister of Education, said that by the end of 2007 the people in West China receiving nine-years of compulsory education would have risen to 85 percent of the total and the rate of young illiterates would have fallen to below five percent.

Following the implementation of the first phase of the compulsory education project in the Ninth Five-Year Plan, the second phase of the project was set out in the Tenth Five-Year Plan. A five billion RMB yuan special fund was set up to support the 522 impoverished counties which by the end of 2000 had not achieved the Two Basics. Of these, 462 were counties in western areas (90% of the total). The Central Government has also set up a project for Reconstructing Unsafe Buildings in Primary and Secondary Schools allocating three billion RMB yuan over two years. The central finance budget has also allocated five billion RMB yuan for the wages of primary and secondary school teachers in impoverished areas in central and West China, of which two billion and 77 million RMB yuan have been allocated for 12 western provinces (42% of the total). The input of such large amounts of funding in a steady stream is a strong guarantee that the aims of the Two Basics will be achieved in the western areas (Xu, 2002).

On February 18, 2005, to solve the problem of Three Issues for Agriculture (referring to the issues of rural areas, peasants, and agriculture) and to promote the sustained, stable, and healthy development of rural compulsory education, the General Office of the State Council transmitted a notice by the Ministry of Finance and the Ministry of Education containing Regulations Concerning Speeding up the Implementation of “Two Exemptions and One Subsidy” in the Key Counties under the Government Aid-the-Poor Program. In this, local governments were required to follow the Two Exemptions and One Subsidy policy (exempting students from payment for extras and

textbook fees and subsidizing the living expenses of boarding students) for students from rural poor families receiving compulsory education (*The Decision of the State Council on Further Strengthening Rural Education*, 2003). This policy, started in 2001, has lightened the burden of educational expenditure on poor families in western areas and has improved enrollment for the compulsory education period in West China. For example, Guangxi Zhuang Autonomous Region has spent about 0.2 billion RMB yuan on this over the last five years, and approximately two million poor students in rural areas have benefited (Li, Huang, & Luo, 2005). In the three years from 2005 to 2007, about 22.7 billion RMB yuan of government finance was made available for students from rural poor families to receive textbooks free of charge, exempt them from extras, and subsidize the living expenses of boarding students. By 2005, the number of primary and secondary school students enjoying textbooks free of charge in central and western areas had reached 30 million. From the spring semester of 2005, the Two Exemptions and One Subsidy policy was implemented for 16 million primary and secondary school students from rural poor families in 592 national key counties under the Government Aid-the-Poor Program. Thus, on average, a primary school student will be exempted from 200 RMB yuan for textbooks fees and incidentals and a junior middle school student from 340 RMB yuan. If the subsidy for lodging is included, the sum will rise to 400 RMB yuan per primary school student and 540 RMB yuan per junior middle school student (*Government Will Provide 22.7 Billion RMB Yuan for the Two Exemptions and One Subsidy Policy*, 2005).

Two Rural Primary Schools

Donglu Primary School

Donglu Primary School is located in Donglu Village, Pucheng County, an impoverished county in Shaanxi Province in China. Donglu Village is made up of two natural villages (Donglu and Liujiabu). There are 138 households and 2,942 people in the village, of whom 1,508 are males, 1,434 are females, and 580 are school-age children. The total area under cultivation is 5,446 *mu* (*mu* being equal to 1/15 hectare), and the per capita area of cultivated farmland is 1.79 *mu*. Donglu Primary School has the full six grades, with 280 students, of whom 152 are girls. The school has eight teaching classes. It has 13 teachers, 10 of whom are female, four of whom had graduated from college, seven from secondary normal school, and two from senior middle school. The schoolyard area is 7,580 m², and the building area is 949.4 m².

Donglu Primary School used to be an old-style private school, and in 1951, it was changed into a lower primary school. Then in 1965, it became a five-year primary school, and in 1984, it was changed into a six-year primary school. In 2000 a classroom collapsed because the ridgepole was seriously decayed and cracked. Subsequently, with the aid of Plan China, the school moved to the former offices of the production brigade located in the center of the village. In 2001 a two-story teaching building (including eight classrooms and covering an area of 623 m²) was built. Plan China financed Donglu Primary School for the purchase of books, teaching equipment,

sports apparatus, and sanitary and health care equipment. In 2003 the school was equipped with a set of instruments for distant education, these including a receiver, several computers, a duplicator, a color printer, a DVD player, and a 34-inch color TV set. These were financed by the Li Jiacheng Aid-the-Poor Foundation and the Aid-the-Poor Office of the Ministry of Education.

Bailu Primary School

Bailu Primary School is located in Bailu Village, Pucheng County, Shaanxi Province. The village has 710 households and 2,970 people of whom 1,501 are male and 490 are school-age children. The total area under cultivation is 5,540 *mu*, and the per capita area of cultivated farmland is 1.2 *mu*. Bailu Primary School has the full six grades with 297 students and eight classes. This school has 14 teachers, 11 of whom are female, six college graduates, five secondary normal school graduates, and two senior middle school graduates. The schoolyard area is 25 *mu*, and the building area is 1,726 m².

Bailu Primary School used to be an old Guandi Temple. It was remodeled for use as a school in the last years of the Qing Dynasty, which ended in 1912. In 1950 it became Bailu Lower Primary School, in 1965 becoming a five-year primary school, and in 1984 a six-year primary school. In 1991 an electric wire in a classroom caused a fire in the classrooms, with the desks, chairs, and benches all destroyed. With the support of the World Bank and the villagers, the school was rebuilt in 1992, and in May 1994, the main part of the building was completed, consisting of a three-story brick-built structure with nine classrooms and a total area of 1,021 m². A two-story building containing living quarters and offices for teachers was also completed, covering an area of 620 m².

Since there is a general shortage of teachers, the proportion of teachers to students is 21.54 to 1 in Donglu Primary School and 21.21 to 1 in Bailu Primary School. In both of the schools, the teachers do all the teaching work of a class alone in the first and second grade. The present research into science education in the context of the Learning by Doing Program was carried out against this background.

In 2003, Donglu Primary School began to put into practice the Learning by Doing Program. The teachers and experts cooperated in the preparation of course material on the theme of The Value of Human Beings' Water Resources. This was introduced as a science course in grade 3 using a method of learning by doing. Until then, no course on science had been offered, since the basic education curriculum reform had not yet been carried out in Chenzhuang Town, and only "nature" was offered at schools. After some time, it was found that the course material on The Value of Human Beings' Water Resources was a bit difficult for grade 3 students. Apart from the fact that this material was dense, the students had little time available to explore the subject actively. In the light of these problems, in 2005, in consultation with the experts, an alternative course was arranged, but this time it was introduced in grade 2, since it was felt that grade 1 students were too young and the study workload of grade 3 students was already too heavy. The subject selected for exploration was the silkworm, something familiar to

all of the children from Donglu Village. The teaching was organized so that during every class hour the students were able to discuss, explore, and experiment fully. Playing in this way the children acquired real knowledge.

Bailu Primary School started to use the method of learning by doing in 2005. After consultation with the experts, the subject Interesting Wheels was selected for scientific exploration. By using wheels with which the children are familiar, it was hoped that the children would come to realize that science is everywhere around them and discover for themselves other scientific phenomena in the world in which they lived.

IMPLEMENTATION OF CURRICULUM REFORM IN THE RURAL PRIMARY SCHOOLS IN WEST CHINA

Changes in the Structure of the Traditional Basic Education Curriculum

There are many obvious weaknesses in the traditional basic education curriculum structure in China. The discipline of book learning predominates over learning by experience, single-subject courses have a very important role, while interdisciplinary courses are rarely offered, the required courses take precedence over elective courses, and site-based and school-based courses, to some extent, are still in their infancy.

The new curriculum structure has been designed to overcome the drawbacks described above. For example, the proportion of the Chinese course has been reduced from 24 percent (1992) to 20–22 percent, math has dropped from 16 percent (1992) to 13–15 percent, and the proportion of some other traditionally dominant courses has also been reduced to a certain extent. The class hours released as a result have been allocated to interdisciplinary practical activities and site-based and school-based courses. The implementation of school-based courses, in particular, stimulates the enthusiasm of the schools for exploring using initiative and also offers a broad stage on which the teachers can give full rein to their talents. For example, Zhongtai Primary School in Zhongtai Township, Yuhang District, Hangzhou, Zhejiang Province, drawing on the local culture, developed a course entitled Zhuxiangdiyun (meaning the home of bamboo and the music of the flute). During this course, the students are expected to learn more about their hometown, to give publicity to their hometown, and to serve the development of the local economy (Li, 2004). Another example is Guixing Primary School in Guang'an District, Guang'an City, Sichuan Province. Taking into account the fact that most of the students' families there raise goats, the school developed an interesting course on How to Raise Goats. During this course, the students learn how to choose a goat, how to raise a goat, and how to prevent the goat from catching diseases, and at the same time they are given an initial training in farming skills (Ming & Zhang, 2005). The development of cases of science education using the method of learning by doing, which is the subject of this research, is substantially based on the development of school-based courses. In such cases, the teachers from the two primary schools, in line with the national educational policy, analyzed the environment within and outside the school thus creating, implementing, and evaluating an appropriate course for students at the grade 2 level. The implementation of such a school-based

curriculum essentially contributes to the transformation of the teacher's role from that of a traditional schoolteacher to that of a researcher.

The reform of the structure of the curriculum is an important aspect in the basic curriculum reform in China. The basic ideas in the new curriculum are to foster and develop the students' innovative spirit and ability, bring forth new ideas, collect and deal with information, obtain new knowledge actively, analyze and solve problems, communicate and cooperate, and develop a sense of responsibility and sense of mission toward the natural environment and human society.

The Basic Features of the Organization of Teaching

Toward an Organization of Teaching Based on Student Participation

Hands-on science education, in essence, is a teaching method that puts the emphasis on a teaching pattern that is child-centered and experience-centered and concentrates on exploring problems. The teacher's task is to encourage students to obtain knowledge and experience by exploring problems. The teaching approach should be to emphasize self-regulated learning or cooperative exploration by the students under the guidance of the teacher. In this context, priority is given to the students' independent research or to group cooperative research. The process of teaching should lead to the students raising questions and then analyzing and solving the problems they raise. Hands-on science education is in line with the teaching ideas proposed in the new curriculum reform, that is, participation, cooperation, equality, respect, and sharing.

On April 7, 2005, we visited a lesson given by Miss Wei in grade 2 in Bailu Primary School. Wei is a 22-year-old female teacher who has worked for three years. She graduated from Dali Normal School and began taking part in the Learning by Doing Program in 2005, being trained in the field. Then she began to teach her class of grade 2, applying the methods of learning by doing. During our visit, the subject of the lesson was *The Rabbit's Pumpkins Are Ripe*, and it was the first period on the topic *Interesting Wheels*, selected for the study based on learning by doing that the teachers had developed themselves. The goal for this lesson was for the children to learn from first hand experience that something that is round can roll, and that since wheels are round, they too can easily roll. The period was arranged as follows.

Whole Class Activities

To start with, the teacher aimed at motivating the students, saying:

Attention, please. Now, let's try to solve a riddle and find out who is clever enough to do it. What is this? Its forelegs are short, its hind legs are long, and its eyes are like red grapes. It never eats fish, shrimp, and eggs, while it likes eating vegetables and radish very much. It's an animal. (Wei, female teacher)

"It's a white rabbit," the children answered enthusiastically. Then the teacher brought out a picture of a rabbit and put it up on the blackboard.

Soon afterward, the teacher said:

This little white rabbit planted many pumpkins in the spring. Now fall has come and her pumpkins are ripe, so she wants to get them back home. I know that all of you are willing to help other people, so who can find the best way to help her to get those big pumpkins back home? (Wei, female teacher)

Then the teacher put up a picture of pumpkins on the blackboard.

Group Activities

The students put up their hands and answered one after another. The students suggested several solutions to the problem, such as carrying them back using their hands, getting them back in their arms, moving them back by rolling them, and so forth. The teacher said: “Well, now, you will discuss this in groups and write down or draw a picture of the ways or ideas you think are the best, and after a while we will see which group has the most and best ideas” (Wei, female teacher). On hearing this, the students tried their best to think of as many ideas as possible. A lively discussion went on with every child joining in. The ways suggested by the children included: carry them back using our hands, get them back in our arms, move them back by rolling them, carry them on our backs, transport them back by car, by air, by ship, by train, by motorbike or with a handcart, and so forth.

Whole Class Summing-Up

Each group gave an account of the ways they had found to transport the pumpkins. The teacher guided the students to classify all of these into two types: those using human physical strength and those using machine power. She let the students consider which way would be more labor saving and then give reasons for their choices.

The teacher then asked her students to try to move a model pumpkin (which was made from concrete, weighing about 10 kg) from the front of the classroom to the back, leading them to realize that “It is so heavy that I can’t carry it alone. ... It is tiring for two persons to carry, and we are aching all over. ... I can roll it alone easily without help from the others. ... If I use a bike, I can deal with two pumpkins at once.”

After the students had had this direct experience, the teacher said: “Every one of you has done a good job, and you have produced a lot of ideas. Now, can you tell me which would be the best solution?” (Wei, female teacher). The students quickly concluded that “it’s better to roll the pumpkin back or do it by bike.”

This period ended as usual, but in a pleasant and relaxed atmosphere. It seemed that the students were so highly interested in the topic that after the class they continued to discuss such problems as “Why does rolling it save power?” and “What would we do if the pumpkin fell down when we were carrying it back by bike?” and so forth. In the periods that followed, the teacher designed other topics, such as objects that can easily roll, the wheel – a device that can be used to save effort, and a topic reading *My Toys Can Run*. She expected that these activities would lead the students to understand that what is round can easily roll; that the wheel is round so it can easily roll; and that using wheels can save effort.

Between April 2005 and June 2005, we observed four lesson periods on The Life of the Silkworm in Donglu Primary School and four periods on Interesting Wheels in Bailu Primary School. Through this classroom observation, we identified four outstanding characteristics embodied in the experience based on learning by doing in these two schools and what makes this approach very different from the traditional courses and teaching methods.

First, the teacher encourages the students to use their initiative to explore problems. The teaching procedure is broadly as follows:

1. The teacher presents a problem to arouse the students' interest in exploring it.
2. The students put forward their hypotheses and determine the fields of exploration.
3. The students test their hypotheses by conducting experiments, paying attention to the real gains that could result.
4. The students communicate and discuss with each other and so improve the quality of their learning.
5. The students note down the process they had followed and the results of their exploration, and in this way they learn how to take notes rationally.

Second, the students are encouraged to take part in the teaching and learning activities. The teacher creates opportunities for every student to participate and encourages an active interaction between the students and the teacher as well as between the students themselves, and in particular to share their experiences and ideas with each other. Third, the students are encouraged to express their ideas orally or in written form. This has two advantages. It can develop their abilities to think actively and organize their thoughts in words. It also offers opportunities for the students to enrich or change their original opinions on the basis of discussion with others and, in this way, to develop stronger personalities capable of producing original views. Fourth, the opinions of the children are respected during the teaching, in order to leave them free to observe, learn, and explore joyfully through their personal experience and so give them a role in the learning process. It is also very important that the children are allowed to raise doubts and difficult questions for discussion and exploration during their initiative studies and so maintain their interest in further exploration.

On June 21, 2005, we interviewed the two teachers who had participated in the Learning by Doing Program. Wei comes from Bailu Primary School and Li is a 22-year-old female teacher from Donglu Primary School, having worked for three years. She graduated from the Pucheng Center of Vocational Education and received training in teaching methods for learning by doing in 2003. In 2004, she began to teach her class of grade 2, utilizing these methods. Both of the teachers showed great interest in and enthusiasm for this form of science education, and they considered the method of learning by doing to be a very good model of participatory teaching.

First, they considered that this kind of model could be applied also to some other subjects. The teacher said:

Science education applying the method of learning by doing has changed my teaching techniques. So I have tried to give lessons in math in this way, and it has turned out to be an effective method. For example, in a class on decimal point displacement, I adopted

the participatory model of teaching. When the students, still seated at their desks, called out a decimal, their friends on a platform who were acting as “numbers” quickly changed their positions to form that decimal. In this class, the children participated actively and grasped the essence of the lesson. (Wei, female teacher)

Second, using this kind of model can promote equality and interaction between the teacher and the student and between the students themselves. She continued:

In my opinion, first of all, we should tell the students clearly the content and purpose of learning, and then create a harmonious, democratic, and relaxed atmosphere for them. The teacher should try to make their students feel he is easy to get along with, and not far removed from them. How can you really communicate with students if you don't get close to them? In order to communicate and cooperate with students, the students should see the teacher as their partner and friend. In teaching, you should give students a positive and rational appraisal for every achievement, try to encourage them sincerely whenever they show enthusiasm, and try to guide and help them patiently when they make mistakes. In this way, their interest in active exploration can be developed. (Wei, female teacher)

Another teacher went on:

After I had visited classes applying the method of learning by doing in science education in Shanghai, I adjusted and rearranged the seats in my class so that the students can learn by discussing or communicating more easily in groups. (Li, female teacher)

The method of learning by doing can be seen as similar to the participatory model of teaching, according to which teachers and students interact and communicate, and complement and enlighten each other. In the course of teaching, teachers and students share their ideas, experience, knowledge, emotions, and feelings. This can enrich the content of the teaching and lead to new discoveries, and in this way they can make greater progress together. In fact, this way of organizing the teaching fits into the constructivist theory of learning. This states that teaching has clear purposes; the students construct their knowledge in discussion and experiments; they study cooperatively through group activities with the emphasis on students themselves contributing to their own learning. The teacher and the students are equal partners, the teachers acting more as coordinators and promoters, creating situations that offer opportunities for questions and cooperation. Teachers should help the students to conduct their own experiments, but the students are the real masters of their learning, and they must be free to think and explore actively in class.

Toward a New Organization of Teaching and Learning

The pedagogy based on learning by doing has changed the traditional style of unitary and passive learning and builds up diversified teaching patterns which will bring the initiative of the students into full play and stimulate the students to study actively for themselves under the guidance of the teachers.

On June 22, 2005, for the second time, we interviewed the two teachers and 16 students (eight each from Donglu Primary School and from Bailu Primary School) who had participated in teaching processes resting on learning by doing. They all held the view that science education based on learning by doing had been effective in changing the learning process.

Students Like Self-Regulated Exploration

The instruction based on learning by doing advocates learning by inquiry. In this way, students experience a process of exploration that is similar to that used by scientists, acquire basic scientific knowledge and skills, enjoy the thrill of exploration, learn the methods of scientific exploration, and comprehend the thinking and spirit of science in which as much importance is attached to the process of research as is attached to the results. The students and their teachers described their experiences as follows. One student from Donglu Primary School said:

I have come to like raising my hand to speak and exploring problems now.

Another student explained:

I now try to solve problems for myself when I come across them.

Yet, another student from Bailu Primary School continued:

I often try to solve general problems for myself except when they are very complex ones.

The female teacher, Li, from Donglu Primary School noted:

My students now like to raise questions in class, and what's more, they often try to think out the answers for themselves.

Another female teacher, Wei, from Bailu Primary School said:

In the past, I used to feel worried when the students didn't answer questions in the way I expected or anticipated and I tried to make them do what I wanted. But now, I have come to respect what my students think and feel, and help them to explore and solve problems for themselves.

Students Like Cooperation

Science education that is grounded on learning by doing begins the process of preparing children for lifelong study and learning how to live. It encourages students to cultivate a sense of responsibility and to develop their ability to cooperate with others. This cooperation-based learning style requires students to integrate their learning into group learning activities, during which they undertake assignments together, sharing out the work and helping one another. In addition to the students, their parents, teachers, and members of the community can also take part in the learning process, and broad cooperation and communication can be developed between teachers and students, between students and their parents, and between students and the members of the community. All students can express their opinions freely and share the resources of

learning. One student from Donglu Primary School said: “Now I realize that learning is not a selfish, but a shared activity.” Another student from Bailu Primary School continued: “Now I like to discuss things with my classmates, and even my mother is pleased when she finds that I have come to like talking and smiling in my studies.”

Persistence of the Traditional Forms of Teaching and Learning

Traditional teaching in China was strongly teacher-centered and knowledge-centered. This formed a teaching style according to which the teachers impart knowledge while the students passively receive it. The teaching assignment is to ensure that students grasp the systematic knowledge accumulated by human beings during their history. The teaching method consists of the teachers speaking and demonstrating, and arranging exercises for the students to do. The relationships in the classroom consist of the teachers giving lessons while the students listen, the teachers asking questions from the students and the students answering, the teachers writing and the students copying, and the teachers giving information while the students receive. This procedure has been constantly criticized by Professor Ye Lan from Huadong Normal University. He argues that this meant that giving a lesson was simply a matter of carrying out the teaching plan. In effect, it meant that the teachers and the students were expected to stick closely to the teaching plan, rather than do anything that is irrelevant to the plan. Teachers expected their students to think and answer in the way that the teaching plan envisaged, and if the students did not respond in this way, the teachers would persist in guiding them until they obtained the predetermined answer. The students actually play only a supporting role, just to help the teacher achieve what the teaching plan stipulates. As a result, few students learn actively or do well in their studies. Hence, it is common to see the following scenario: the fixed teaching plan becomes “an invisible hand” controlling the teachers and students and obliging the students to learn around it. The classroom becomes a stage on which the “the play of the teaching plan” is enacted. The teachers play “the leading parts,” and some good students are given “supporting roles,” while most of the students fill the role of “extras,” and in most cases they are just “the audience or listeners” (Ye, 1999, p. 223).

In rural primary schools, the traditional way of organizing teaching and learning still persists, and the idea of an examination-oriented education is still deep-rooted. By observing teaching conditions in other grades and communicating with the teachers of other subjects, we found that the dominant pattern in rural primary schools is still the traditional form of teaching and learning. For example, one teacher from Donglu Primary School said:

During the teaching process, I emphasize the importance of knowledge and seldom organize and guide the students to discuss. What I teach in class is mainly drawn from the textbooks. I select the contents which are likely to come up in the exams and I ask my students to practice these again and again, in the hope that they will get good marks.

Another teacher from Bailu Primary School noted:

It is difficult for me to stimulate the interest of my students in learning, and I seldom use the question-answer teaching style.

PERSPECTIVES ON THE PROFESSIONAL DEVELOPMENT OF TEACHERS

For a long time, primary school teachers in China have been accustomed to imparting knowledge by keeping strictly to the fixed syllabus and textbooks, and they have not dared to step outside these limits. Heavily influenced by these traditional ideas, before beginning to carry out the Learning by Doing experiment, the two teachers had never thought of developing textbooks and cases for themselves. So when the specialists asked them to have a try, they were not confident about doing it. For example, Li said timidly and overcautiously: "I have no idea where to start," and the other teacher, Wei, said, excited but worried: "OK, let me have a try."

In science education based on learning by doing, the topics should be drawn from the everyday life of the rural children and be closely related to their living experience. The topics should stimulate the interest of the students in exploration and offer them an opportunity to experience the great joy of scientific research through the activities of thinking, doing, and learning. The two teachers spent a lot of time on deciding on the topics to be used. Li had already had some experience of applying learning by doing methods in science education because she had previously taken part in an experiment for a short period of time. So when she had to select the topics, she thought it would be best to take into account the real needs of the children and what they were interested in. She said to her students: "We will have an amusing class because I am going to ask you what problems you have met, and then what are you most interested in?" The students responded actively in many different ways, such as:

I want to know why everyone has a nose on their face. (Student 1)

Why do electric fans blow? (Student 2)

How does a tadpole grow up into a frog? (Student 3)

I want to know how a silkworm grows up. (Student 4)

Li collected dozens of questions, and after discussing with the principal and experts, she opted for the topic The Life of the Silkworm. There were several reasons for this choice. First, Donglu Village has a tradition of raising silkworms, and since almost all of households raised silkworms, the children were familiar with them. Second, many teenagers raised silkworms for fun and were keen to extend their knowledge of them. Third, the children had learned the text of Silkworm Girl in grade 2 and so they already had some indirect knowledge of silkworms.

When Wei was faced with the idea of applying learning by doing methods in her science teaching for the first time, she analyzed carefully the features of the local community and remarked that the rural children were familiar with such means of

transportation as handcarts, tricycles, and bicycles. So she thought: “Why not develop a case study on the wheel? I hoped that this would help the children to learn about the science existing around them and that science is everywhere in their lives.”

After deciding on the topics, the two teachers set about designing the courses. At the beginning, they found it difficult to start and just developed two or three lessons according to their understanding of the principles for using learning by doing methods. For example, Wei designed an interesting fairy tale, the White Rabbit’s Pumpkins Are Ripe, as an introduction to the topic. Li used another method to lead into the topic. She let her students draw pictures to show the whole life cycle of a silkworm and inspired them to think about “How could a silkworm become a white girl on earth? How many times does a silkworm cast off its skin? Why not keep some silkworms?” She used this approach because the students in her class had just learned the text of the *Silkworm Girl*.

Both of these methods had the advantage of arousing the children’s interest. The students in both schools took an active part in the lessons and were full of enthusiasm. In fact, many unexpected things happened during the classes, and the teachers often encountered new practical problems that affected their instruction design and practice, and they had to adjust their teaching and solve the problems in order to deal with these situations. Li had prepared a lesson on the subject “Does the silkworm just eat mulberry leaves?” which was one of the most interesting questions raised by the students. According to the materials she collected, she learned that the silkworm eats not only mulberry leaves but also many other types of leaves, such as those of the elm tree, romaine lettuce, and asparagus lettuce. But above all, the silkworm prefers the taste of mulberry leaves. A chemist had distilled mulberry leaves at 132–157 degrees Celsius and obtained a kind of oily substance such as vinyl alcohol or ethanol in a test tube, which gave off a smell similar to peppermint. When some was dropped onto paper, silkworms 30 centimeters away could smell it. Li wondered whether a silkworm would eat other kinds of leaves if its nose was blocked up. So she set up an experiment, asking the students to find the silkworm’s nostril and then to glue it so that the sense of smell of the silkworm would be blocked. But actually, since it was difficult for the students to find the nostril of the silkworm even with the help of a magnifying glass, some students came to the conclusion that the silkworm did not have a nostril at all. At this stage, even the teacher became puzzled and did not know how to proceed with this lesson. She discussed this situation with the experts and found that she could have improved her work in three different ways. Firstly, she should have identified the nostril of the silkworm herself first before setting up the experiment so that she could guide the students in their observations. Secondly, she should not have limited the students to seeking an answer only to the question of whether the silkworm just eats mulberry leaves. She should have encouraged them to design experiments for themselves, and maybe they would have come up with better ones. Thirdly, the lesson should have been designed to be more interesting and significant, helping the students to master the knowledge by creating and carrying out experiments they had devised themselves. With the guidance of the experts, the

teacher redesigned the lesson. She asked each group to put different kinds of leaves into the box in which the silkworms were kept and to observe their reaction. They soon discovered that the silkworms did not touch any of the other leaves and only sought out and ate the mulberry leaves. Then she asked each group to put one silkworm into another box with mulberry leaves cut in different shapes such as a square or rectangle and to observe their behavior and make notes on it. She let each group keep the selected silkworms that did not have access to mulberry leaves and observe the differences between them and those which ate mulberry leaves, for example, whether they spun silk or made a cocoon.

By having to design courses for themselves, the ability of the teachers to adapt the form of the instruction and to teach effectively has greatly increased. For example, the teacher said:

I feel we're now on friendly terms. I am glad to explore subjects together with my students, and there has been no barrier between us. Now I have become more active in my thinking and I am really happy that I have changed in this way. (Li, female teacher)

Another teacher told:

I find the biggest change in myself is in my teaching method. Now I dare to try to develop courses. I now pay more attention to details and I often pose questions to my students as well as to myself. I am continuously looking for certainties and can bring forth new ideas and make progress in that way. (Wei, female teacher)

Research into teacher development has become a topical subject in the research on educational reform in China, and it has also been an important subject in the context of the reform of education around the world. The new curriculum requires the teachers not only to change their old ideas but also to change their traditional roles. In the relationship between teachers and students, the new curriculum requires teachers to be the promoters of student learning. In the relationship between teaching and research, the new curriculum also requires teachers to be researchers into teaching. In the relationship between teaching and the curriculum, the new curriculum requires the teachers to be the builders and developers of the curriculum. In the relationship between the school and the community, the new curriculum expects the teachers to be open to communication with the local community.

CONCLUSIONS

Challenges in Managing Curriculum Changes

The examination-oriented educational system that has been in operation for a long time is a constraint on curriculum change. According to many researchers from the field, after more than 20 years, the educational reform based on student-centered teaching methods has had no significant impact on Chinese teaching and learning (see, e.g., Liu & Dunne, 2009, p. 472; Wang, 2011, pp. 157, 163). The data from this study is consonant with these findings.

The Culture of the Examination in Chinese Society

The imperial examination system that originated in the Sui and Tang Dynasties was designed to select various talented people for roles in the feudal society during its development over 1,300 years, and has also had a great influence on Chinese traditional culture. One of the results was the peculiar examination culture that came into being in China. The idea that those students who find that they can master the subjects of their studies will be entitled to a specific position still influences Chinese students in their understanding of examinations. From a very early age, and through senior middle school, college, and studying for a master's degree, the students have had to take different examinations. They devote themselves to this under the impression that this is the only way to gain genuine knowledge and to succeed. In impoverished rural areas, the influence of this idea is even more deep-rooted because the only choice for rural students, if they wish to change their destiny, may be to attend school, and then college. As a result, they pay great attention to acquiring knowledge and succeeding in examinations. Poor students are imbued with the idea that only if they work hard can they extricate themselves from poverty and move away from the rural areas.

The Evaluation Orientation of Educational Administrative Departments

Although the new curriculum reform, which is based on the intrinsic quality of the education, has been extended nationwide, most of the educational administrative departments in the rural areas still follow the traditional evaluation methods. They assess educational quality in a school and the effectiveness of the teachers in terms of the students' school records. In rural areas, the phenomenon is even more common. It is not rare to see various certificates of merit put up on the wall in the principal's office in rural primary schools, showing, for instance, that grade 1 in Zhaozhen Primary School got the best results in the whole town in the math final exam in the first semester of the 2005–2006 school year. Such diplomas motivate the principals and teachers to seek ever higher marks in exams, and as a result, the students have been drowning in “a sea of exercises” ever since they were very young.

Over Concern of Teachers with the Academic Records of Students

Interviewing 59 primary school teachers in Chenzhuang Town, we found that half of the teachers admitted that they have a partiality for students who achieve higher academic records in exams. More than two thirds of the teachers concentrate on topics that are likely to appear in the exams and make the students practice these over and over again, in the hope of the students getting good marks in the exams. In the interviews, most of the teachers admitted that they pay a great deal of attention to the students' scores. They think of students achieving high marks as good students, a conception having a significant impact on those students who still have not formed their own self-conceptions. All children are eager to be good students for their teachers and try

to get good marks so as to be praised by the teachers. Over time, rural children have become very sensitive and anxious about exam results.

The Ardent Expectations of Parents for Their Children

As a principal of a rural primary school told us: “The parents evaluate the teachers’ teaching, the level of the school’s operations and the principal’s management mainly on the basis of the students’ academic records. They give importance only to these records.” Through interviews with the parents, we found that nearly all of the parents hope that their children will go on to college and obtain a good job rather than become farmers like themselves. These ardent expectations make them pay great attention to their children’s school reports. In this respect, one teacher said frankly that “the parents are unwilling to buy a pair of scissors for their kids’ studies, but if their children need materials related to exams, they will buy them without the slightest hesitation.”

In short, the exam culture in China has led to the deep-rooted ideas underlying the examination-oriented education and the orientation of the evaluation by educational administrative departments. As a result, the teachers perceive teaching as the process of simply transmitting the elements in the teaching plan. They are concerned only about the details in the textbook and teaching plan. They focus on the scores but are not concerned with how to help the children grow up healthily and acquire a correct value system. Examination-oriented education also leads the parents to view learning only as a preparation for exams. All of these factors are a constraint on the reform of the basic education curriculum and the advance of science education. Thus, the time has come to change the current evaluation method, since it is only in this way that we can deepen the curriculum reform and make it effective.

Challenges in Professional Development

The Lack of Scientific Knowledge of the Teachers

For a long time now, secondary normal education in China has put the stress on the liberal arts, while teaching of science and engineering has been weak. This has led to the present situation in which primary school teachers are short of scientific knowledge, and this will probably restrain the further development of teaching based on learning by doing. As Li said: “I have never raised silkworms and I [am] unfamiliar with their habits and characteristics. How can I conduct a class on this subject for the students?” Wei said: “I know nothing about the fundamentals of wheels except the fact that wheels can save labor.” Such an inadequacy of scientific knowledge results in the rural primary school teachers feeling a lack of confidence in their ability to design, teach, and organize a science class. In addition, they often fail to understand the basic idea of learning by doing. For instance, the consultants and a teacher designed a class in which the silkworm was used to show that children can learn better by hands-on experience. However, Li believed that winter would not be a suitable season to have such a hands-on class, since there were no silkworms in winter. The above example

shows that the teacher knew so little about the silkworm life cycle that she did not realize that silkworms did in fact still exist in the winter but that they were hibernating.

The Low Capacity of the Teachers to Develop the Curriculum

For a long time, the teachers have been used to teaching strictly according to the teaching plan and the textbooks designed by the Central or Local Government. However, they have not been effective in developing, using, and reconstructing curriculum resources and they have little confidence when developing teaching plans for new subjects. They do not know how to identify teaching resources from the community, how to choose the topics of courses, or how to design and evaluate a curriculum because they are accustomed to following the usual practice. Once they are asked to design a curriculum, they often feel quite helpless. In contrast to the way they approach other subjects, teachers who carry out hands-on science education should attach considerable importance to studying and improving themselves continually. In addition to being trained in fields that are relevant to their work, they should seek to master more scientific knowledge and new teaching ideas which will help them with their own needs in teaching.

Challenges in the Cooperation between the School and the Community

Financed by Plan China, some rural primary schools in the experimental areas in Shaanxi Province have strengthened their connections with the community, and many villages have set up a school-community committee to support the development of the schools. On each committee, there are at least one female teacher, one female villager, and three children who take part in the management of the school. Additionally, the schools can extend the education by programs aimed at the parents and villagers. For example, in April 2005, two teachers from two rural schools taught the villagers about basic computer operations and asked their students to demonstrate to the villagers how to operate a computer and how to search for information online on agriculture.

As society develops, the connections between the school and the community will become closer and closer, and at the same time, the cooperation between them will face more and more challenges. In the first place, there is the question of how the community could participate in the school management efficiently and give advice on school development. In the second place, how could the school make constructive suggestions for the development of the community? In the third place, how could the school help the villagers to improve their level of knowledge and the acquisition of information? In the fourth place, how could the school lead the villagers to understand the reform of the basic education curriculum and the significance of science, music, and art for a more rounded development of their children? In the fifth place, how could the community and villagers be a source of teaching material for the school and acquire an intimate understanding of the students' development during their time in school?

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PART THREE

**REFORMING
TEACHERS' WORK
IN A COMPARATIVE
PERSPECTIVE**

EIJA KIMONEN

8. PHILOSOPHICAL PERSPECTIVES FOR TEACHERS' WORK

*Focusing on American and Indian
Outdoor-Oriented Education with
International Connections*

INTRODUCTION

This chapter will address some basic philosophical perspectives for teachers' work. It attempts to identify the essence of the developmental trends pertaining to the history of ideas in the field of education in socially different countries. The examination will focus on the philosophical background of outdoor-oriented education, specifically in the United States and India. Additionally, the study will present some of the philosophical connections between education in the United States, India, the early Soviet Union, and revolutionary China. The study is part of a broader research project the purpose of which is to examine the interrelationship between education and society during the 20th century (Kimonen, 2013, pp. 48–50). The overall aim is to document the existence of profound social and educational trends, policies, and patterns. A historico-hermeneutical approach is applied while making use of the comparative educational method. The interpretive process used in this epistemological tradition utilizes the canons of textual interpretation set down by Betti (1962) and the rules and phases of textual interpretation proposed by Danner (1979).

Ideas that have established the nature of an international school of thought can be adapted or assimilated to the national philosophical tradition as they cross national borders. According to Phillips (2004, pp. 56, 58), this kind of assimilation is possible if the new current of ideas is experienced as philosophically or ideologically fascinating and the national context is also receptive consequent to political, economic, or social reasons. The conditions in one's own country have thus created the need to experimentally utilize the experiences offered by other countries. The philosophical background of outdoor-oriented education in the countries of this study can be considered to rely both on the national philosophical tradition and on the reformist ideas represented by international schools of thought. The study also shows that a strong opposition to the influence of some international pedagogical ideas has surfaced in these countries over the course of time.

This chapter examines the philosophical background of outdoor-oriented education in the context of social change and trends in the United States and India. An additional interest is to consider the influence of international educational ideas on outdoor-oriented education in the early Soviet Union and revolutionary China from the perspective offered by the United States and India. The primary focus is outdoor-oriented activity education in the United States and outdoor-oriented work education in India. The discussion is divided into three main sections. Firstly, the underlying philosophical views of education are compared in the United States during the period of Early Industrialism (from approx. 1820 to 1940), and in India during the period of Indian Tradition (until the mid-1950's). Secondly, the underlying philosophical views are compared during the periods of Late Industrialism (from approx. 1940 onwards) and Indian Modernization (from the mid-1950's onwards). Finally, the main philosophical views of education are compared from the perspectives of the social trends in question.

A COMPARISON OF THE UNDERLYING PHILOSOPHICAL VIEWS
OF OUTDOOR-ORIENTED EDUCATION IN AMERICAN EARLY INDUSTRIALISM
AND INDIAN TRADITION

Pragmatism in the American Philosophical Tradition

The educational philosophy of outdoor-oriented activity education in the United States is based on pragmatism, traditionally considered the earliest independent American philosophical trend. At the time that pragmatism was being elaborated in New England, many different rival schools of thought already existed, influenced by Protestantism and by numerous other ideological traditions. The epistemological thoughts of pragmatism regarding the relation between meaning and action were initially formulated by the philosopher Charles S. Peirce (1839–1914) in his article *How to Make Our Ideas Clear* in 1878. According to Peirce (1960c, pp. 151–152), thinking is based on signs or conceptions, which are produced in experience. The meanings of the conceptions can be solved by studying their practical consequences (Peirce, 1960b, p. 258). The human being's consciousness and beliefs thus develop in close association with action (Peirce, 1960a, p. 230). The beliefs in reality, however, are not, in his view, based on personal experience, but rather develop in connection with objective action, which, in turn, is related to an infinitely continuing process (Niiniluoto, 1986, pp. 44–45, 48–50). Consequently, action is a prerequisite, goal, and guarantor of knowledge.

Peirce also presented a three-category classification of experience, which can be applied to interpreting human experience (Peirce, 1965, pp. 148, 152–153, 161–162, 170–171). When analyzing Peirce's classification of experience formation from the perspective of outdoor-oriented activity education, it could be argued that the first category of human experience (firstness) consists of feelings related to an authentic experience and its properties, while participating in activities within different learning environments. The second category (secondness) is seen in connection with the first

category and consists mainly of conscious observation as the individual participates in activities in school and outside the school. The third category (thirdness) combines action with thinking, whereby the experiences obtained in different learning environments gain a conceptual meaning.

Peirce's contemporary William James (1842–1910) interpreted the principles of pragmatism specifically from the perspective of an individual's experiences, expectations, and feelings. James (1891, pp. 295–297, 344–345) claimed that the source and origin of reality is subjective, which means that knowledge also expands on the basis of an individual's practical and esthetic interests. The significance of an idea is determined by its value and usefulness in the experience of the individual. Practice reveals truth, which is manifested as something good (James, 1963, pp. 30–31, 36, 98). Practical activity consists of valuable experiences that are linked to new incentives through action. The images in the stream of consciousness are also linked together in a similar fashion (James, 1983, pp. 48, 55–60). Therefore, according to the pragmatism-based functionalist approach to psychology, the human being is primarily a practical, thinking, and active creature. It has also been stated that such an individual is capable of adapting to social transformation in a democratic culture (Garrison & Neiman, 2005, p. 32).

Indian Philosophical Tradition

A philosophy of education based on an inherited philosophical tradition was developing in India at the same time as the indigenous inhabitants of the American continent were building their societies in what is now the United States. Indian philosophical tradition is generally understood to have arisen from India's original Indus Valley culture, which flourished between 3000 B.C. and 1500 B.C. as well as from the Indo-European culture that later spread into India over a long period of time (for a closer examination of the peoples speaking Indo-European languages, see, e.g., Doniger, 2010, pp. 81, 90–92). The roots of the written sources in the philosophical tradition extend to the *Vedas* (from approx. 1500 to 1200 B.C.) and *Upanishads* (from approx. 800 to 600 B.C.).

The *Mimamsa* School, one of the earliest trends in Indian philosophy, based its thinking directly on the *Vedas*, in particular, on the first two parts of each of them (Raju, 1992, p. 40). According to the adherents of this school, the purpose of life is unending activity and functioning; a person performs actions and enjoys their fruits as a continually alternating process in this life and the next (*ibid.*, pp. 82–83). According to Raju (1992, pp. 75–77), the *Mimamsa* doctrine concerning the validity of knowledge (*pramanyavada*) is based on the idea that knowledge or cognition is essentially true, and only occasionally false. Every item of knowledge or cognition can reveal only its own truth and the falseness of some other cognitions. Pragmatic action can confirm the truth of such cognition that has already revealed its truth. It has also been claimed that the meaning of every word or sentence is associated primarily with action.

The *Mimamsa* texts (from approx. the 400's B.C.) and their later explanations (from the early 700's A.D.) offer interpretations that can be compared to the aforementioned basic ideas of pragmatism, when analyzing the connection between meaning and action, even though they differ with respect to their philosophical foundations. The earliest Indian philosophers have been characterized as not having focused on the material world, external to humans, and its explanation, but instead primarily on the actual human ego, as the tradition of Indian philosophy is ultimately based on religious practice (for more closely on the earliest philosophical schools in India, see, e.g., Doniger, 2010, pp. 504–505).

John Dewey and the Progressive Education Movement in the United States

Pedagogical progressivism, a new philosophical mainstream of education, emerged in the United States at the turn of the 20th century (it was at its peak around 1920–1940). This powerful branch of pragmatism was connected to American philosophical tradition, particularly with regard to experimentalism, and, consequently, also constituted a national philosophical foundation for outdoor-oriented activity education. The progressive education movement (from approx. 1892 to 1957) was essentially based on school experiments of its major figure, philosopher John Dewey (1859–1952), as well as on his publications on the reform of teaching methods (see Dewey, 1940; 1950a; 1950b; 1953; Dewey & Dewey, s.a.). Dewey's thinking in the field of philosophy of education developed within the context of the philosophical trend of pragmatism and the social and economic changes taking place in the United States during the period of Early Industrialism. After studying philosophy at the Johns Hopkins University in Baltimore (from 1882 to 1884) with George S. Morris (1840–1889), Dewey moved to the University of Michigan in 1884 to teach philosophy (Dewey, 1971, pp. 14, 16, 19). By this time, he had been strongly influenced by the ideas of German philosopher G. W. F. Hegel (1770–1831) (see Dewey, 1960, pp. 3–11). After familiarizing himself with the psychological ideas of William James in particular, however, Dewey gradually adopted the epistemological tradition of pragmatism (*ibid.*, pp. 12–16), an American system of thought, that he applied to his studies as he also found an interest in educational sciences and the societal significance of educational procedures.

Dewey's thoughts in the philosophical field of education could be virtually interpreted to combine Hegel's view on dialectical change in society and the naturalistic evolution theory represented by Charles Darwin (1809–1882), to the extent that Hegelian social development is seen to take place gradually. Here, the absolute idealism developed by Hegel is replaced by the constant reconstruction of situations implemented by individuals and groups (for the influence of Hegelianism on Dewey's thought, see, e.g., Hickman, 1996, p. 148). In this analysis, Dewey was convinced that the individual is a unique living being who, through education, can not only reach his or her latent abilities, but also contribute to society, while actively adapting to the demands of the environment in a new industrialized and urbanized America (for more closely on neo-Darwinism, see Garrison & Neiman, 2005, p. 27). In essence, Dewey's pragmatism

could be described as a material counterpart to Hegel's absolute idealism. The following brief summary illustrates the significant role of Dewey's school experiments for the construction of his philosophical thinking in the field of education:

John Dewey was one of the most influential educational philosophers and progressive educators in the United States. After becoming interested in education and the social significance of educational principles, Dewey accepted an offer from the University of Chicago in 1894 to head the Department of Philosophy, Psychology, and Pedagogy (Dewey, 1971, p. 27). Inspired by the atmosphere of pedagogical reform in Chicago (see Parker, 1894, pp. iii–vi), he founded a laboratory school for his own teaching activities that served as a workshop for his students' personal observations, experiments, and research, eventually becoming an experimental school for progressive educational ideas (see Mayhew & Edwards, 1966, pp. 42–52). During this period, Dewey wrote his first significant works on education based on combining teaching with activity and school with life (see Dewey, 1940; 1950a; 1953). While Professor of Philosophy and Education at Columbia University in New York City from 1905 to 1930, Dewey published, in addition to innumerable philosophical essays, his main pedagogical work *Democracy and Education* (1916). He also made a visit to the early Soviet Union and was invited to lecture in China and some other countries (for more detailed information on Dewey's impressions abroad, see Dewey, 1929, pp. 27–28, 32, 160–161, 238–239; for biographical details, see Cremin, 1988, pp. 165–173; Gutek, 2011, pp. 351–358).

The ideas of Dewey's progressive pedagogics are based on the epistemological tradition of pragmatism and the naturalistic conception of the human being expressed by functionalism. According to Dewey (1933, pp. 201–202; 1950b, pp. 319–320; 1951, pp. 12, 38–39, 41–42), reality is evolutionary and changeable, as it is constructed through interaction between the human being and the environment. Knowledge is not related to absolute truth, but evolves from experience generated by active effort. It is constantly being corrected by new theory that is more in accordance with experience. Knowledge is thus an instrument for reconstructing experience and evaluating activity (Dewey, 1950b, pp. 89–90, 188–189). The reconstruction of experiences proceeds through problem solving based on reflective thinking. This involves recognizing and defining the problem, and testing the hypotheses made for solving it (*ibid.*, p. 192). The essential characteristics of reflective thought are the suggestion of possible solutions, the intellectualization of experienced difficulties, the proposing of hypotheses, the mental elaboration of ideas, and the verification of hypotheses by action (Dewey, 1933, pp. 107–115). Consequently, thinking is a means of mastering experience generated by action, which, in turn, promotes adjustment to the surrounding world (Dewey, 1950b, pp. 192, 401). According to such a view of an instrumental and experimental pragmatism, learning occurs best in connection with doing and the associated immediate experiences. For this reason, school teaching should also be combined with practical work.

According to Dewey (1953, pp. 42–45), the uniqueness and initiative of an individual are expressed as a desire to interact socially as well as to make and construct. These instincts also form the foundation for the need to investigate, invent, and express oneself artistically. The essential function of a school is to provide students with the

opportunity to develop their specific functional traits, albeit in close contact with the reality prevailing in society. Such a progressive school was to be “a genuine form of active community life,” rather than a separate place where lessons were learned (*ibid.*, p. 11). Therefore, the school aimed to be a part of the larger whole of functional social life, with teaching thus being linked to nature, production, and the other culture of the surrounding environment (*ibid.*, pp. 66–67). Students utilized the experiences of their daily life in school, where they acquired experiences that they could, in turn, apply outside school (*ibid.*, p. 73). By performing different work-related activities, the students familiarized themselves with the skills, current procedures, and principles needed in society (*ibid.*, pp. 10–11).

The conceptual features of experimentalism can be analyzed practically from the perspective of outdoor-oriented activity education by applying the three-level classification represented by Hlebowitsh (2007, p. 107). There the ideal relationship between education and society is outlined from the standpoint of the student, the educational program, and society (Table 1). According to a view of experimentalism, the ideal student is a problem-solver, who is socially conscious, democratically inspired, and capable of thinking, while actively participating in experiential activities based on collaboration in different learning environments. Similarly, the ideal educational program must contain problem-centered and goal-directed activities, this being consistent with authentic personal and communal experience. The student is oriented toward an ideal, democratic society, the strength of which is based on public social discourse and mutual consensus, and the citizens of which work in early industrial production and, increasingly, in the service sector.

No doubt exists that Dewey’s thought represented an understanding of education and its practices that was completely different from traditional mentalistic education that prevailed in the United States during the period of Early Industrialism. The traditional school was based on formalism, verbalism, and authoritarianism, whereas child-centered, progressive education was oriented to combine motor, social, and intellectual education with an emphasis on mental and moral consciousness (Dewey, 1953, pp. 131–132). The ultimate goal of education was to prepare students for personal responsibility and lead them to membership in a free, democratic society. When students try to resolve the problem situations that arise from the flow of ongoing activity in cooperation with other students, they learn to understand the social meaning of work and to cope with the demands of a new capitalist, industrialized state. Therefore, the integration of school education with activities and real life in the community was a prerequisite for progressive, experiential activity education.

Borrowing and Lending Educational Ideas Globally

The progressive trend in education developed within the sphere of influence of international reform-pedagogical ideals. The representatives of progressive pedagogics, such as John Dewey, William Heard Kilpatrick (1871–1965), and Helen Parkhurst (1887–1959), were influenced by both the national scientific tradition as well as

by European philosophers and pedagogues such as Herbert Spencer (1820–1903). Spencer's *Education*, written in 1861, attracted many enthusiastic readers in the United States. He wrote about a school that prepares children for life (Spencer, 1861, p. 8), emphasizing the educational ideas pertaining to freedom, independence, creativity, and activity propounded by Jean Jacques Rousseau (1712–1778), Johann Heinrich Pestalozzi (1746–1827), and Friedrich Fröbel (1782–1852).

Romantic naturalism, best represented in Rousseau's writings, grew into a modern, widely-known philosophical approach to education in the early twentieth century. An examination of the conceptual features of romantic naturalism described by Hlebowitsh (2007, p. 109) from the perspective of American outdoor-oriented activity education allows for the interpretation that romantic naturalism would see the ideal student as having an innate proclivity for self-education. This proclivity can be subjected to minimal adult guidance only by giving students an opportunity to engage in free activities within the context of open learning environments. The ideal educational program must also be content neutral with an emphasis on free activity. The student is oriented towards a fragmented, ideal society where various kinds of individual efforts occur in the communities of Early Industrialism.

Ideas created by American educational reformers also influenced European and Asian educators. Just as American progressives can be seen to have utilized European ideas when elaborating educational practices, American ideas soon found inspired followers in Europe and Asia. For example, Georg Kerschensteiner (1854–1932) in Germany, Pavel Blonsky (1884–1941) in the former Soviet Union, and Tao Xing-zhi (1891–1946) in China developed their own activity-based work school in the spirit of reform pedagogy (see, e.g., Danilchenko, 1993, pp. 118, 121–122; Darling & Nordenbo, 2005, p. 292; Xu, 1992, pp. 54, 59–60). The application of the philosophical ideas and reform-pedagogical methods associated with progressive education in the Soviet Union is illustrated in greater detail in the following summary:

The argument has been made that the writings of progressive educators “have been interpreted, misinterpreted, and modified, but they have influenced all movements in education since the turn of the twentieth century” (Ballantine & Hammack, 2009, p. 49). Similarly, copies of the pedagogical works of Western reform educators, such as John Dewey and Georg Kerschensteiner, were widely distributed in the Soviet Union after the Russian Revolution (Mchitarjan, 2000, pp. 113, 117). Russian school reformers had visited Europe and the United States in the early 1900's (see, e.g., Brickman, 1960, pp. 83–84; Skatkin & Tsov'janov, 1994, p. 50). Dewey himself visited the Soviet Union in 1928, discussing progressive ideas in education with Soviet educators and learning about the aims and teaching methods used in the Soviet school system (see Dewey, 1929, pp. 27–28, 32, 111–112, 123–125).

The decade that followed the revolution saw a range of school experiments – the era of reform pedagogics – when the unification of the country's dispersed school system into a labor school (*trudovaya shkola*) was planned with the support by the New Economic Policy. Between 1919 and 1920 the People's Commissariat for Education (*Narkompros*), which corresponded to the Ministry of Education, undertook several labor school experiments that followed the reform pedagogical principles in terms of the content

and timing of studies and the freedom and self-government of children in the Marxist spirit (see, e.g., Holmes, 1991, pp. 9, 32–35). By 1925, the school experiments had been established as a seven-year factory school, from which it was possible to continue studies in the apprenticeship training at factories and in technical schools (*teknikum*) (Löfstedt, 1980, p. 54).

The writings of Western reform educators impacted the educational ideas of the school reformists of the People's Commissariat, in addition to Marxist polytechnic education and Leo Tolstoy's (1828–1910) Rousseauian child-centered pedagogy. One of the school reformers, Pavel P. Blonsky, also developed his own unified labor school. Blonsky's labor school followed Western reform-pedagogical ideas. These included the active learning methods of instruction, experiential learning processes based on problem solving, practical and everyday activities for learning, and students' self-reliant attitude during educational processes (Blonskij, 1973, pp. 70–71, 78–79, 220–221). The project method of William Heard Kilpatrick and Helen Parkhurst's Dalton Plan were applied to teaching as the "complex method." The teacher's role became that of an instructor, organizer, or older comrade (see, e.g., Mchitarjan, 2000, pp. 121–122).

A radically different process of change in educational philosophy, compared to the course of events in the Soviet Union described above, was carried out on the Indian subcontinent. In addition to having the ancient philosophical tradition, Indian school reformers were recipients of powerful influences from the peoples that had entered the country as conquerors over the centuries. After a long period of Islamic rule (1206–1858), European colonial policy (from the 1500's onwards) resulted in the country coming under British rule (1858–1947). The expressed goal of the British administration was to instill Western culture in the Indians, including their educational philosophers. Western progressive educational ideas thus also made their way to India. In the early twenties approximately 50 schools were following the Helen Parkhurst's Dalton Plan (Olsson, 1926, p. 46). Others who utilized various syntheses of Western and Indian ideas included philosopher Rabindranath Tagore (1861–1941). He combined Hindu religiousness and closeness to nature with Western activity and self-administration in his educational ideas (see Tagore, 1921, pp. 127–128, 145–146; 1957–58, pp. 170, 173; 1961, pp. 70–75). Tagore based his thoughts concerning the freedom of the mind and will, that is to say, the world of human intelligence and morals, on Indian tradition, but he also wanted to derive benefit from Western culture and some of its educational practices (Tagore, 1921, pp. 82–85; 1961, pp. 222–223). In the teaching at his boarding school in *Shantiniketan Brahmacharya Ashrama*, Tagore combined music, excursions, nature study, sports in the Anglo-Saxon sense, the esthetic and religious piety of festivals, and activity in the surrounding community (see Pearson, 1917, pp. 16–17, 29–30, 33–34, 36–38, 41–42, 52–53).

Mahatma Gandhi and the National Education Thought in India

The first decades of the 1900's witnessed a struggle for independence in India that was also connected with the national education policy making. It arose in response to the further consolidation of British power and the consequent spread of Western culture.

The Hindu lawyer Mohandas Gandhi (1869–1948) rose to become the leading figure in the independence struggle. Gandhi's social-reformist thought has to be seen within the context of Indian cultural-historical tradition, as does his socio-political activity, first in South Africa and then in India during British rule. During Gandhi's effort in South Africa to achieve social and political improvements for the Indian minority, he developed a non-violent form of civil resistance, literally the idea of "firmness of truth" or "adherence to the truth" (*satyagraha*). This ideal was based on the Hindu phrases that were engraved in his mind, the message of the Christian Sermon on the Mount, and on the ideas of Russian writer Leo Tolstoy (Gandhi, 1959, pp. 25, 48–49, 99, 115, 194–195; 1961, pp. 109–110). *Satyagraha* was highly characteristic of the struggle for independence in India that involved aiming for self-sufficiency through truth (*satya*) and non-violence (*ahimsa*). This was the basis for the national program of self-sufficiency, a program that essentially also included a national basic school system.

The development of a national school system was crucial from the standpoint of obtaining independence in a situation in which the contradictory belief prevailed in the country that the British *Raj* was not only invincible, but also benevolent in offering its Indian elite a Western education considered superior to anything India could offer. According to Urban and Wagoner (2009, p. 244), a comparable context had prevailed in the United States between the 1890's and the 1930's, when government programs attempted to Americanize Native Americans using such means as moving their children from reservations to boarding schools. There, the children were openly taught to despise the national culture of Native Americans, including the language, customs, and values, since these were all seen as inferior to anything that European culture offered. From the viewpoint of conflict theory, such a process forced the Native Americans to abandon the ideals and beliefs of their own national identity in order to allow the conquerors to preserve their domineering relation towards the earlier inhabitants. The different views were deeply contradictory to each other, as they were linked to different life-sustaining value objectives and the associated concepts of the human being. In this context, national education thought in India naturally formed a vital cornerstone for the independence struggle, as its philosophical background of education relied on the philosophical legacy of the period of Indian Tradition. The following summary provides a background for Gandhi's thought on non-violence and self-sufficiency based on Tähtinen's work (1970, pp. 13–20):

Mohandas K. Gandhi, the father of Indian independence, is universally renowned and known as a proponent of non-violence. Gandhi's thought has to be seen within the context of both Indian religious tradition and his own socio-political activity in South Africa and India. After having qualified as a lawyer in England and failed in his career in India, Gandhi traveled to South Africa in 1893 to practice law there (see Gandhi, 1959, pp. 57–58, 67–73). Having experienced at first hand the oppression to which non-whites were subjected to in South Africa, he decided to give up his successful law office and to embark on his struggle for improvements in the social and political rights of the local Indian minority (see Gandhi, 1959, pp. 95, 155; 1961, pp. 96, 99–108). Realizing that efforts to work in the midst of the Indian population were futile, Gandhi developed a non-violent form of civil resistance, literally the idea of "firmness of truth" or "adherence to

the truth” (*satyagraha*) from Hindu sayings that had embedded themselves in his mind, the message of the Sermon on the Mount, and the thoughts in Leo Tolstoy’s books and letters (Gandhi, 1959, pp. 25, 48–49, 99, 115, 194–195; 1961, pp. 109–110; see also letters Gandhi, 1991, pp. 73–75; Tolstoy, 1968, pp. 21–22). As a base for his social and political activity and encouraged by the ideas of John Ruskin (1819–1900) on work (Gandhi, 1959, pp. 220–221), Gandhi, first established the Phoenix Settlement and, later, the Tolstoy Farm, with between 50 to 70 members. In this work center (*ashrama*) devoted to a common goal and household, Gandhi edited a newspaper, did handicrafts, cultivated land, and ran a school. He simplified living, eating, and clothing (see Gandhi, 1959, pp. 221–222; 1961, pp. 233–258).

Gandhi returned to India as a quite well-known social reformer in 1915 (see Gandhi, 1959, pp. 266, 276). Within three years he had become a religious, social, and political reformer, a national leader to whom people turned for help with a wide variety of problems. After having determined that India’s most difficult problem was its status as a colony, Gandhi began his public activity in the struggle for independence in 1916 with “truth” (*satya*) and “non-violence” (*ahimsa*) as his weapons (see Tähtinen, 1964, pp. 11–16; 1979, pp. 83–96; 1982, pp. 47–50). He established an *ashrama* for his activities (see Gandhi, 1959, pp. 291–292), in which the existence of a traditional religious settlement was combined with political activity. In 1920 nationwide opposition to cooperation with the British authorities began, using non-violent means. The campaign included as an essential element the effort to achieve self-sufficiency by boycotting everything foreign. This included imported products, schools, and the legal system as well as the law and the power that it granted. People held meetings and strikes in different parts of the country in addition to fasting and praying. Gandhi reformed traditional village industry and offered everyone a simple spinning wheel so that the villages could attain self-sufficiency (see Gandhi, 1948, pp. 73–74).

Gandhi considered his moral responsibility to be putting himself at the disposal of politics and business. According to him, political and economic institutions may include violence and exploitation. Centralized heavy industry is immoral because, in becoming mechanized, it furthers the interests of only a few people and necessarily leads to the exploitation of the working class (Gandhi, 1958, pp. 38, 42, 45). Industrialism results in unnecessary needs, unemployment, social alienation, and moral degeneration (Datta, 1953, pp. 113–114). Social freedom is based on a decentralization of political and economic power. Social justice prevails in a decentralized economy: The individual can influence economic decision making by monitoring the system and refusing to cooperate (see Gandhi, 1947, p. 7; 1948, p. 35). This natural law, truthfulness, which is above laws and social systems, is to be achieved without violence. A requirement for truthfulness is harmony between thought and deed, thus doing away with all exploitation (see Gandhi, 1948, pp. 14, 33, 35). Democratic decision making is possible only in an economically self-sufficient society; the ideal is a self-sufficient village community, the economic basis of which is handicraft production (see Gandhi, 1958, pp. 36, 45; for more details on Gandhi’s economic strategy discussed above, see Tähtinen, 1970, pp. 94–95; 1986, p. 27). Such a program for self-sufficiency was also firmly linked to the Indian basic school.

The Gandhian reformist-pedagogical ideal was based on the tradition of Indian philosophy. It thus formed the national philosophical foundation for the Indian approaches to outdoor-oriented work education. The present study sees Gandhi's educational thinking as being founded on a tradition in the theory of truth, that is to say, the philosophy of truth in action, the philosophy of *satyagraha*. According to Gandhi (1947, p. 7), social freedom, self-government, is achieved by acquiring the ability to resist authority when it abuses its position. This ability to resist, internal strength, is achieved by character building, by developing the courage, resilience, virtue, and unselfishness that are needed in goal-directed activity (Gandhi, 1948, p. 254). Consequently, the central function of education is to educate the heart. It is essential to learn to feel what the soul is and what hidden powers it contains in order to learn to internalize the fact that, in the struggle of life, hate may be conquered by love, lies by truth, and violence by one's own suffering (Gandhi, 1958, p. 140). Such a process of spiritual awakening should also be made a part of the development of the body and mind (Gandhi, 1948, p. 256).

A balanced education requires the holistic integration of physical, moral, and intellectual activity that is best achieved through the teaching of handicrafts. For this reason, a central responsibility of the school is to offer students the opportunity to develop attributes of personal character in the handicraft production or other lines of work provided by the locality (Gandhi, 1948, pp. 256, 258–259; 1962b, p. 59). The students familiarize themselves with the vocational activities required in the community, such as spinning, carpentry, and agriculture, thus engaging in in-depth studies concerning the fundamentals of their procedures and the different phases in the relevant working processes (Gandhi, 1948, p. 257; 1962b, p. 59). They develop themselves holistically in vocational work, the results of which they use to finance their schooling and the knowledge deriving from which they utilize outside the school (Gandhi, 1950, pp. 30–31; 1962a, p. 65; 1963, p. 36). According to Gandhi (1948, pp. 259–260), vocationally productive work education provides practice in the responsibility for doing a one's own share. This would allow for the silent revolution that would do away with the contradictions between social classes and lay the foundation for a just social order in a traditional Indian society.

The conceptual features of Gandhian neo-traditionalism can be examined from the perspective of outdoor-oriented work education by applying Hlebowitsh's (2007) three-level classification (Table 1). Neo-traditionalism allows the interpretation that the ideal student should be spiritually and morally fortified, adhering to the truth, self-reliant, and community-minded, while being familiarized with the vocationally productive activities needed in the community and participating in social service. The ideal educational program is also built around craft-related productive work to which the child's entire social and physical environment is linked. The student is oriented towards an ideal democratic society the citizens of which live in self-sufficient village communities and work in traditional crafts and agricultural production offered by them.

Such a philosophical trend in education undoubtedly represented an exceptionally radical idea about education and its practices in social thinking during the period of

Indian Tradition. Since productive crafts were assigned to the lowest groups in the caste system of colonial India, it has been argued that Gandhi's reform reversed the hierarchy, thus causing a conflict between the social classes (Kumar, 2005, p. 179). However, in the light of Gandhi's philosophy, the opposite interpretation could also be made: Neo-traditional, vocationally productive work education aimed at the education of the heart for the silent revolution that could eradicate the contradictions between social classes and provide a setting for a just social order in traditional Indian society. Therefore, school education had to be integrated with work and life in the surrounding community.

Comparisons

Table 1 provides a side-by-side comparison of the ideal state between education and society from the perspective of conceptual features in the United States and India. The primary focus in the United States is outdoor-oriented, experiential activity education, while in India it is outdoor-oriented, vocationally productive work education. In the United States, the phenomenon is viewed in the context of experimentalism during the period of Early Industrialism, and in India in the context of neo-traditionalism during the period of Indian Tradition.

Table 1. The Conceptual Features Emphasized in Experimentalism and Neo-Traditionalism from the Perspective of Outdoor-Oriented Education during the Periods of American Early Industrialism and Indian Tradition, Applying Hlebowitsh's (2007) Three-Level Classification

Aspect	Experimentalism	Neo-Traditionalism
Ideal education	The student is a problem-solver who is socially conscious, democratically inspired, and capable of thinking, while actively participating in experiential activities based on collaboration in different learning environments.	The student is spiritually and morally fortified, adhering to the truth, self-reliant, and community-minded, while being familiarized with the vocationally productive activities needed in the community and participating in social service.
	The educational program contains problem-centered and goal-directed activities, this making it consistent with authentic personal and communal experience.	The educational program is built around craft-related productive work, this linking a child's entire social and physical environment to it.
Ideal society	The strength of a democratic society is based on public social discourse and mutual consensus, and its citizens work in early industrial production and, increasingly, in the service sector.	A democratic society is based on the economic self-sufficiency of village communities, and its citizens work in traditional crafts and agricultural production.

The following section compares the views constituting the philosophical background for outdoor-oriented education in the United States during Late Industrialism and in India during Indian Modernization.

A COMPARISON OF THE UNDERLYING PHILOSOPHICAL VIEWS OF OUTDOOR-ORIENTED EDUCATION IN AMERICAN LATE INDUSTRIALISM AND INDIAN MODERNIZATION WITH INTERNATIONAL CONNECTIONS

Indian Modernization and Educational Reform

Over the course of time the national tradition of philosophy regarding the countries under study has been influenced by the international currents of ideas that have also been applied to educational practices. This has particularly been true when the country's political situation has been favorable to ideas introduced from foreign countries. Such a philosophical turn of education took place in India as the school institution was being urged to accelerate the extensive modernization process in the country, particularly since the third five-year period (1961–1966). Guided by Western specialists, the Indian Government made the decision to intensify national modernization with the help of the school institution that would now apply work education based on materialist values (*Report of the Education Commission 1964–66*, 1966, pp. 210–216). The present study indicates that the period of Indian Modernization emphasized an interpretation of the philosophical background of outdoor-oriented work education regarding it as being based on the ideas of neo-colonial work education. This interpretation was ultimately consistent with the view of dialectical-historical materialism. The basis of this view and its relation to education is briefly examined in the following.

The first ideas of dialectical materialism had been formulated in central Europe a few decades before the basic ideas of pragmatism were developed at Harvard University in the United States. This socialist theory, which concentrated on political economy and the development of society, offered a revolutionary alternative to the capitalist ideology based on free-market economy in the 1900's. Prussian-born social philosopher Karl Marx (1818–1883) and German socialist philosopher Friedrich Engels (1820–1895) developed a philosophical theory, according to which dialectics expresses the regularities of economic development, and, consequently, the regularities of all other historical development. According to Marx (1978, p. 250), a dialectical process of change and development, based on economic contradictions, determines the development of society. In the same manner, all other human activity is subject to the general laws governing the development of economic relations. The theory elaborated by Marx and Engels combines Hegel's conception of dialectical change in society with philosopher Ludwig Feuerbach's (1804–1872) view of materialism so that the historical development of a society is seen in the context of its materialistic conditions (Gutek, 1997, p. 232). In terms of its starting point, Marxism could be seen as a material counterpart to Hegel's absolute idealism. From the perspective of materialism, reality is objective, notwithstanding the observer's experience.

According to the dialectical-historical materialism of Marx and Engels, the historical conflict in society reflects the struggles between social classes. Here, the classes and their collisions are fundamentally determined by the degree of development in economic situations, as well as by the prevailing mode of production and the respective method of exchange (Engels, 1926, p. 22). This radical social development theory was also associated with the idea of polytechnic education originally presented by Marx and Engels in their publications in the 1840's. In Marx's (1968, p. 195; 1974, pp. 436, 439) writings, the term "polytechnic education" can be understood as referring to instruction in the general principles of production processes and the use of the methods and instruments of work utilized in socially useful labor. The goal of polytechnically combining work and education is to provide individuals with all-around skills and knowledge for a new socialist society, in which the nature of work and its duties change due to technical development. According to Marx (1978, p. 250), all human activities are determined by the general laws of economy. This stresses the essential importance of training young people to understand and evaluate phenomena in accordance with the social laws prevailing in economic relations. It is thus logical that polytechnic work education, which was also later applied in India, called for the integration of theory and practice, school and life, teaching and production.

In 1917, at about the same time as Gandhi had launched his public activity in the struggle for Indian independence, a revolution was successfully carried out in Russia by the Bolsheviks, that is, the representatives of the left-wing majority group of the Russian Social Democratic Workers' Party. A direct consequence of adopting a Marxist materialistic view of history in the Union of Soviet Socialist Republics, which had just been founded in 1922, was that productive work was included in the Soviet school curriculum. Particularly after the Soviet revolution, the socialist political movement found support from many of the Latin American and Asian countries that were subjected to Western rule. The national leaders of colonies could also hope for an escape from imperialistic policies through the social reform that was being applied in the Soviet Union. Among them, Jawaharlal Nehru (1889–1964), later the Chair of the Congress Party, sought a solution for India's national future. While residing in Europe between 1926 and 1927, Nehru familiarized himself with ideas that differed from the option offered by the British governance. He was introduced not only to Western parliamentary democracy and British socialism, but also to Marxism and its radical ideas. He visited the Leninist Soviet Union and revolutionary China. Nehru believed that socialism would be able to offer the inevitable means for solving Indian poverty and degradation issues after gaining independence if a large majority of Indians wanted it (Gopal, 1975, pp. 210–213). However, socialism, which would reflect Marxism-Leninism, represented different underlying value objectives from those promoted in the social, economic, and political practices of the India that was then gaining independence. This contradiction was further intimately linked with the diverse views regarding the direction in which society should be developed.

In 1950, the independent Federal Republic of India started to implement a domestic policy in accordance with Prime Minister Jawaharlal Nehru's thoughts. Referred to

as non-dogmatic socialism, this approach was based on ideas taken from Western parliamentary democracy as well as from socialism and secularism. Despite its uneven distribution of capital, the Indian economy was geared towards the Western style of industrialization, with socialism as the goal (Brass, 2001, pp. 2, 37; Gopal, 1984, pp. 162–163). Particularly since the implementation of the second five-year period (1956–1961), modernization was seen as the goal of societal development. Many Indians shared the belief that this could be achieved through investment in sectors such as steel production, engineering, and the chemical industry. The economic development model tied up with socialism also included protecting domestic procedures by impeding or limiting the importation of foreign goods and services with the means of the protectionism in the economy.

India had also chosen a rather eclectic approach to developing the country's educational and cultural life. In 1966 the authoritative Kothari Education Commission recommended that, in addition to the national tradition, one should also “draw upon liberalizing forces that have arisen in the Western nations and which have emphasized, among other things, the dignity of the individual, equality and social justice, e.g., the French Revolution, the concept of the welfare state, the philosophy of Marx and the rise of socialism” (*Report of the Education Commission 1964–66*, 1966, p. 20). The purpose of vocationally productive work education was now to emphasize a neo-colonial approach, which was basically rooted in dialectical-historical materialism. The Kothari Report presented exemplary Soviet programs of polytechnic work education as models that were adapted to the type of work-experience programs introduced as an integral part of Indian vocationally productive work education (*ibid.*, pp. 210–216). An increase in vocational orientation was set as a new goal for education, particularly in the upper secondary schools. Moreover, academic school education at all levels was supplemented with programs of science and technology-based work education.

If Hlebowitsh's (2007) three-level classification is used to analyze the specific conceptual features of neo-colonialism presented in the Kothari Report of 1966 from the more general perspective of outdoor-oriented work education, the conclusion could be that the ideal student is an intellectually capable and technologically literate individual who is being introduced to the changing activities and processes of vocationally productive work in society (Table 2). The ideal curriculum embodies work-experience programs the vocationally productive units of study of which are based on the application of technology and science in school and outside the school. The student is oriented towards an ideal, democratic society that relies on secularism and social equality, the citizens of which work in scientifically and technologically advanced production.

Resistance to Educational Change in China, India, and the Soviet Union

This study shows that many countries have also started to vigorously oppose the influence of international educational ideas once they have arrived in the country, even after these ideas have been in practice for several years. This chapter has previously stated

that progressive principles were applied in school experiments in China. Pedagogical progressivism gained particular popularity in China after John Dewey had lectured there for over two years between 1919 and 1921 (see Keenan, 1977, pp. 163–233).

According to Xu (1992), Dewey's ideas on education were applied intensively in school experiments in various parts of revolutionary China. The school programs emphasized learning, which is connected with doing and immediate experiences, and ultimately aimed at the social reform of the nearby area. In 1927, for example, Tao Xing-zhi established the Xiao Zhuang Normal School in the countryside outside the suburb of Nanjing for his education experiments. The school aimed to offer not only teacher training, but also reform the village community surrounding the school. Although the school experiment only lasted for three years, it strengthened the dialog concerning the status of progressive education in China. From the Guomindang administration's standpoint, the progressive inclination was seen to be increasingly connected to revolutionary factions and was considered a political threat. They decided that the progressive, communal school experiment based on work had to be discontinued. The Chinese Government at the time may have felt that the solution of the economic and social problems of the villages required identifying the point at which the renewal originated from the national cultural values of China (*ibid.*, pp. 37, 58–60, 116–117). The following brief account, based on the research of Xu (1992, pp. 59–60), illustrates the school experiment run by Tao Xing-zhi in more detail:

Xiao Zhuang Normal School started with thirteen students. In order to train them as teachers and educators, the school set up a central elementary school for the peasants' children to enable students to learn teaching in the real-life practice. As the Normal School expanded, it established four kindergartens for preschool education training, eight elementary and secondary schools for basic teacher training, evening schools for adult education, and a hospital, a carpenter workshop, and a tea house for vocational education. Besides teaching to teach in real school settings, the school also required students to immerse themselves in the rural life by having them work with the peasants, so as to transform their outlook and adapt them to the village life for village reconstruction.

The school's involvement in educating village children and participating in village life, together with its vocational branches, soon claimed it an important role in the village. In order to help village's development, the school also taught peasants agricultural skills, organized self-defense leagues, proposed road building projects, and assisted in the village administrative decision-making. For instance, when the scarce water supply became a problem, the school suggested that the villagers hold a town meeting, and the students participated as an advisory committee. A solution was reached after a democratic discussion and vote. During the process both students and peasants learned problem-solving by doing.

Compared with the parallel processes that took place in India during the late 1970's, the neo-colonial educational policies and westernization strategy can also be said to have finally come into conflict. For instance, Gutek (2006, p. 88) presents proof of a group of Indian educators criticizing the educational policy of India based on the modernization theory, because it was considered to represent a neo-colonial westernization strategy. The critics maintained that education and society could be

modernized by discovering means that are based on traditional Indian cultural values instead of on materialistic values. In essence, such a dissimilarity of values and ideals in China and India at the time could be associated with the systems of conceptions pertaining to the human experience. These are more broadly linked to the values that guide the life of an individual and a society, as well as to the beliefs related to the world.

Comparably, the reform-pedagogical school introduced by Pavel Blonsky in the Soviet Union eventually had to give way to the new Stalinist school in the 1930's. Even though the present study suggests that progressive and Marxist educational ideas have the same basis, if they are seen as material counterparts to Hegel's absolute idealism, progressive pedagogical ideas could be seen as being inevitably in contradiction with Marxist ideas as implemented in the early Soviet Union. There they represented different views regarding the direction in which society should be developed, and the values and ideals that play in the background. It is stated that "education is but one of the institutions in society, and the educational pendulum reflects broad social trends" (Ballantine & Hammac, 2009, p. 421). The following brief description of the demolition of reformist educational practices during the early decades of the Soviet Union illustrates this in greater detail:

While Pavel Blonsky was developing his own labor school, in the Ukraine, amidst great difficulties, experiments were taking place in an educational method that was the complete opposite of Blonsky's reform pedagogy. The creator of the new method was Anton Makarenko (1888–1939). As director at the Maxim Gorky Colony for juvenile delinquent war orphans between 1920 and 1927, Makarenko finally chose a collective education approach that was based on combining theoretical teaching with productive and practical labor in the Marxist spirit (see, e.g., Bruhn, 1973, pp. 207–210). One of the central features of Makarenko's educational collective was strict discipline obtained through education. The collectives were organized according to a military model. The whole pedagogical collective consisted of both primary collectives as well as of permanent or temporary labor and recreational collectives. Representative bodies were established to develop independent initiative and self-government and to strengthen the structure of the organization (Makarenko, 1965, pp. 50–53, 88–89, 91, 97–98, 139–141). Makarenko combined education with everyday life and its activities. In addition to studying, children worked in different phases of production in agriculture and industry; for example, they manufactured cameras and electrical equipment in production plants, obtaining vocational skills (*ibid.*, p. 128–129).

After the death of Vladimir Lenin (1870–1924), Josef Stalin (1879–1953) gradually became the country's leader. The goal of the Soviet Union's First Five-Year Plan (1928–1933) was to increase production through the collectivization of agriculture and the systematic industrialization of the country (*Summary of the Fulfilment of the First Five-Year Plan for the Development of the National Economy of the U.S.S.R.*, 1933, pp. 4–5). This social and economic renewal also required school reform, the goal of which was to train specialists for the new society (*ibid.*, p. 228). Reform-pedagogical school experiments associated with progressive education were abandoned – Makarenko was to become the most central person in Soviet pedagogy.

Essentialism and Educational Reform in the United States

In the United States, a philosophical shift in education occurred that was comparable to the Indian neo-colonial educational reform. The catalyst for this change was the threatening atmosphere that pervaded the country during the Cold War in the late 1940's. The school institution was needed to strengthen the power of national defense, particularly against the potential supremacy of the Soviet Union. During the period of American Late Industrialism, emphasis was placed on the idea that the philosophical background of outdoor-oriented activity education evidently relies on the principles of essentialist education, these being primarily consistent with the philosophical tradition of realism.

The basis of this educational trend, essentialism, lies deep in the history of the American school. The concept was introduced to the wider public in the late 1930's and early 1940's by William C. Bagley (1874–1946), a Professor at Columbia University who protested against the freedom, individualism, and engagement in activities promoted in progressive education (Gutek, 2000, p. 66). Essentialism is an educational theory rooted in traditional philosophies, particularly realism. Its ontological, epistemological, and axiological postulates are largely in harmony with the tradition of realism. From the perspective of realism, reality is objective, independent of the observer's experience, because reality consists of the physical world. Consequently, knowledge is built through the rational observation and interpretation of natural laws, which means that values are also seen as absolutes based on natural laws (for realism as a systematic philosophy, see, e.g., Gutek, 1997, pp. 36–40).

The essentialist theory of education became the dominant philosophical approach during the 1950's, a period in which there was a widespread fear of communism in the United States. As the critical educational debate was churning, it became clear that the leading politicians and authorities responsible for educational policies were ready to favor an essentialist educational philosophy, particularly after the Soviet Union launched the world's first satellite in 1957. The *National Defense Education Act of 1958* had the goal of training experts in science and technology for a society dominated by capitalist ideology (*National Defense Education Act of 1958*, 1959, p. 1581). Teaching was expected to emphasize academic expertise instead of Rousseauian child-centered education and its reform-pedagogical ideals.

The demand to increase the number of experts in the field of the natural sciences also resulted in the development pedagogical approaches of outdoor-oriented activity education represented by various programs of outdoor education and environmental education. These new approaches had originated in such reform-pedagogical movements as the camping education movement and the conservation movement. The course of development was promoted by the environmental awakening of the 1960's, which involved a new public awareness of the decline in environmental balance. The claim can be made that the supporters of essentialism now offered the opportunity to operate in a familiar philosophical context of education, even though the ontological and epistemological starting points of their approach differed completely from those of their predecessor, pedagogical progressivism. Unlike the representatives of progressive

pedagogics, essentialists stressed examining the natural laws of the physical world and mastering essential knowledge, rather than concentrating on the mode of learning (Armstrong, Henson, & Savage, 2009, pp. 268–269).

If the conceptual features of essentialism presented by Hlebowitsh (2007, p. 104) are approached from the perspective of outdoor-oriented activity education, the conclusion can be made that the ideal student has a rational mind, concentrating on the basics of school subjects, while natural and environmental phenomena are examined using scientific methods. The ideal curriculum embodies programs of outdoor education and environmental education the experiential, activity-based units of study of which are academic and subject-centered, with the contents being studied in a structured manner in school and outside the school. The student is oriented towards an ideal, democratic society that depends on the essential academic knowledge defined by experts in the different fields, while operating in high-tech industrial production and service-based sectors (Table 2).

Essentialist activity education gained new strength in the late 1970's. Those years saw the neo-essentialist movement require schools to return to teaching essential academic content, such as mathematics, natural sciences, and social studies (see Webb, 2006, pp. 331–332).

Comparisons

Table 2 presents a side-by-side comparison of the ideal state between education and society from the perspective of conceptual features in the United States and India. The primary focus in the United States is outdoor-oriented, experiential activity education, while in India it is outdoor-oriented, vocationally productive work education. In the United States the phenomenon is viewed in terms of essentialism within the period of Late Industrialism, and in India in the terms of neo-colonialism within the period of Indian Modernization.

New Philosophical Views and Ideals

In 1977 Western-minded, neo-colonial educational policy in India finally drifted into contradiction as the Congress Party's long period in power began to end, with domestic policy taking a more fundamentalist direction. The desire arose to utilize Indian traditional cultural values to find solutions for the reform of education and society. The Patel Review Committee published in 1977 a plan that approached the issue from the standpoint of Gandhian philosophy of basic education, but with a new, unexpected connection. According to the Committee Report, the philosophical background of outdoor-oriented work education apparently rests on separate, even contradictory views. The conclusions of the Report could lead readers to the view that socially useful productive work is based on the ideas of post-colonial work education; ideas that appreciate the Gandhian philosophy of basic education, but are linked to the philosophical views of rationalism as effectively as possible (*Report*

Table 2. The Conceptual Features Emphasized in Essentialism and Neo-Colonialism from the Perspective of Outdoor-Oriented Education during the Periods of American Late Industrialism and Indian Modernization, Applying Hlebowitsh's (2007) Three-Level Classification

Aspect	Essentialism	Neo-Colonialism
Ideal education	The student has a rational mind and concentrates on the basics of school subjects, while studying natural and environmental phenomena with scientific methods.	The student is an intellectually capable and technologically literate individual, while being introduced to the changing activities and processes of vocationally productive work in society.
	The curriculum embodies programs of outdoor education and environmental education with experiential, activity-based units of study that are academic and subject-oriented, and the contents of which are studied in a structured manner in school and outside the school.	The curriculum embodies work-experience programs with vocationally productive units of study that are based on the application of technology and science in school and outside the school.
Ideal society	A democratic society depends on the essential academic knowledge defined by experts in various fields, while operating in high-tech industrial production and service-based sectors.	A democratic society relies on secularism and social equality, and its citizens work in scientifically and technologically advanced production.

of the Review Committee on the Curriculum for the Ten-Year School, 1977, p. 6). From the perspective of rationalism, knowledge is primarily based on reason instead of experience, whereas the basic ideas of Gandhian *satyagrahism* maintain the importance of harmony between thought and deed. This kind of syncretistic view had confidence in the aim of promoting economic and technological reforms by breaking away from the colonial tradition and integrating the practices of work education with the national cultural tradition, and its work and customs.

The conceptual features of post-colonialism presented in the Patel Report of 1977 can be examined from the perspective of outdoor-oriented work education, again applying Hlebowitsh's (2007) three-level classification. Doing so could lead to the conclusion that, according to a post-colonial view, the ideal student should be an observing, investigating, and experimenting problem-solver, while being introduced to the activities of vocationally productive work needed in the community and participating in social service. The ideal curriculum embodies programs of socially useful productive work with the vocationally productive units of study that are based on the application of scientific principles and processes in school and outside the school. The student is oriented towards an ideal, democratic society that aims at secularism and social equality, the citizens of which work in scientifically and technologically advanced production. This kind of post-colonial work education was also associated

with education consistent with Hindu nationalist ideology at the beginning of the 2000's. Then India attempted to adapt to the neoliberal social change and related globalization aspirations. At about the same time, neo-essentialist activity education was utilized in the United States, with school institutions required to assist with the global competition that had developed in the context of the neoliberal social doctrine and intertwined global issues.

The following summarizes the philosophical background of outdoor-oriented education in the United States and in India. The different types of emphasis on these underlying philosophical views, as well as their pedagogical and social implications, are compared from the perspective of social trends.

THE UNDERLYING PHILOSOPHICAL VIEWS EMPHASIZED IN OUTDOOR-ORIENTED EDUCATION WITHIN THE SOCIAL CONTEXTS OF THE UNITED STATES AND INDIA

This study has shown that educational ideas transfer from one country to another and lead to new forms of education. Reformist educational ideas that have developed into international philosophical systems of thought have been integrated into national educational ideas in both the United States and India. However, some of these views have eventually been mutually contradictory due to their different value objectives and related conceptions of the human being. This contradiction has been simultaneously linked to a broader social change connected with vacillation in the mutual patterns of emphasis and influence between the social, economic, and political factors in society. Even views that have similar philosophical starting points, such as progressive and Marxist educational ideas, can be contradictory when they cross national borders. Although pragmatism and Marxism are material counterparts to Hegel's absolute idealism, the present study has shown that they are ultimately connected with different views concerning the direction toward which society should be developed. These phenomena are summarized in the following section from the perspective of social trends in the United States and India.

Table 3 provides a concise side-by-side comparison of the philosophical backgrounds, traditions, and views of outdoor-oriented work and activity education in the United States and India from the perspective of social trends. The philosophical background of outdoor-oriented education is explored in the United States with regard to experiential activity education, and in India with regard to vocationally productive work education. The underlying philosophical ideas and their contribution to ideal pedagogical implications and the nature of work in an ideal society are treated during the periods of Early Industrialism (from approx. 1820 to 1940), Late Industrialism (from approx. 1940 onwards), Indian Tradition (until the mid-1950's), and Indian Modernization (from the mid-1950's onwards).

In the United States, the national philosophical tradition of outdoor-oriented education is based on the ideas of progressive activity education, which rely on the epistemological tradition of pragmatism and the naturalistic conception of the human

Table 3. The Underlying Philosophical Views Emphasized in Outdoor-Oriented Education during the Periods of American Early and Late Industrialism and of Indian Tradition and Modernization

Aspect	Early Industrialism	Indian Tradition
Philosophical tradition in education	Emphasis is on progressive education, which is based on the epistemological tradition of pragmatism and the naturalistic conception of the human being expressed by functionalism.	Emphasis is on neo-traditional education, which is based on the tradition in the theory of truth, included in the philosophy of <i>satyagraha</i> and its Indian cultural-historical context.
Ideal pedagogical implications	Problem-centered and goal-directed activities are consistent with authentic personal and communal experience. School education is integrated with activities and real life in the community.	Craft-related productive work is linked to the child's entire social and physical environments. School education is integrated with traditional work and local life.
Nature of work in an ideal society	The citizens in a democratic society work in early industrial production and increasingly in service sectors.	The citizens in a democratic society work in pre-industrial handicraft and agricultural production.
Aspect	Late Industrialism	Indian Modernization
Philosophical tradition in education	Emphasis is on essentialist or neo-essentialist education, both of which are consistent chiefly with the philosophical tradition of realism.	Emphasis is on neo-colonial or post-colonial education, the former being consistent with dialectical-historical materialism and the latter with the philosophical tradition of rationalism.
Ideal pedagogical implications	The experiential, activity-based units of study are academic and subject-centered, and their structured scientific contents are studied within and outside the school.	The vocationally productive units of study are based on the application of technology and science within and outside the school.
Nature of work in an ideal society	The citizens in a democratic society work in high-tech industrial production and in service-based sectors.	The citizens in a democratic society work in scientifically and technologically advanced production.

being expressed by functionalism. In India, the philosophical tradition is based on the ideas of neo-traditional work education, which rely on the tradition in the theory of truth, included in the philosophy of *satyagraha* and its Indian cultural-historical context (Table 3). These traditions suggest that the ideal educational program in the United States is based on experience gained through problem-centered and goal-directed activities, whereas in India it is based on craft-related work that is connected to traditional production. In both approaches, learning is closely integrated into life in the surrounding community. Work is performed in the early industrial production of an ideal American society, or in the pre-industrial handicraft and agricultural production

of an ideal Indian society. Over time, international reformist-pedagogical ideas, such as Rousseauian child-centered education or Marxist polytechnic education, have also been adapted to the national philosophical traditions in the countries under study. In India the intention was to accelerate the extensive modernization process through education during the period of Indian Modernization in the 1960's. Consequently, the tendency arose to emphasize the view that the philosophical background of outdoor-oriented work education rests on the ideas of neo-colonial work education, this being primarily founded on the theory of dialectical-historical materialism. According to this tradition, the ideal educational program encompasses vocationally productive units of study that are based on the application of technology and science within and outside the school in order to be capable of working in advanced industrial production in an ideal society.

Both countries have seen the emergence of resistance to the application of international educational ideas over the course of time. In the United States, for instance, Rousseauian child-centered education and its reform-pedagogical values and ideals were criticized at the beginning of the Cold War in the 1940's and 1950's. As a consequence, during Late Industrialism a trend appeared promoting the mindset that the philosophical background of outdoor-oriented activity education can be seen as resting upon the ideas of essentialist education, the roots of which are primarily in the philosophical tradition of realism (Table 3). According to this tradition, the experiential, activity-based units of study in the ideal educational program are academic and subject-centered. These units are studied in a structured manner, both within and outside the school, in order to respond to the high-technology requirements of an ideal society. In India, a gradual shift in a more conservative direction has been noticed, with materialistic values being replaced by the modernization of education and society using means based on the traditional Indian cultural values. Thus, the 1970's saw Indian Modernization begin to emphasize the view that the philosophical background of outdoor-oriented work education was based on the ideas of post-colonial work education. These reflect the Gandhian philosophy of basic education, while also being linked to the philosophical tradition of rationalism. The ideal educational program is implemented in traditional contexts, as scientific principles and processes are applied to the vocationally productive units of study within and outside the school. This is how work could also be carried out in advanced industrial production in an ideal society. Such a trend was linked to an Indian modernization process in accordance with the Hindu nationalist educational ideology.

From the 1980's the economic and technological reform that India attempted to implement was connected to the reorganization of the world economy, being undertaken as a component of the World Bank's structural adjustment program. This is partly why the American and Indian school institutions started to be harnessed to international competition and the pursuit of economic wealth, particularly since the turn of the present century. The educational policies based on a business-like operational culture have also faced opposition in both countries (see, e.g., Darling-Hammond, 2004, p. 4; *National Curriculum Framework 2005*, 2005, pp. 9–10, 125). The new educational

policy developed in the context of a neoliberal social doctrine and intertwined global economic, political, and ecological issues. The United States started to develop outdoor-oriented activity education in keeping with a realism-inclined neo-essentialist educational theory (Table 3). This also implied the acceptance of robust efforts to standardize the experiential, activity-based units of study within the ideal educational program, while these were directed toward more scientific and technological practices to allow for national and international evaluation and comparison.

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RAIMO NEVALAINEN & EIJA KIMONEN

9. TEACHER COMPETENCES IN A CHANGING SCHOOL CULTURE

*A Comparative Analysis of Teacher Professionalism
in England and Finland*

INTRODUCTION

*How the Process of Change in School Culture Reflects
on the Teaching Profession*

In order to be successful, the process of educational change requires the teacher to have many pedagogical and professional competences. The teacher's professional development amounts to encountering change, living with it, and influencing it. Changes require the teacher to be sensitive and ready to anticipate the future. According to the Finnish Development Program for Teacher Education, an important teaching skill is the ability to analyze changes in the working environment together with members of the professional community and to determine which changes are central from the perspective of the further developing of teaching practice (*Opettajankoulutuksen kehittämisohjelma*, 2001, p. 7).

Since the 1990's, international comparative research projects dealing with the manner in which the process of change in the school reflects on both school culture and the teaching profession have been under way at the University of Jyväskylä. This chapter makes use of the outcomes derived from the following research projects:

1. A project on Teacher Quality organized by the OECD/CERI from 1992 to 1994 (Kimonen & Nevalainen, 1993);
2. A project on Teachers and Students as Active Learners organized by the OECD/CERI from 1994 to 1995 (Kimonen & Nevalainen, 2002);
3. A project on Curriculum Change in Primary Schools in England and Finland initiated by the Universities of York and Jyväskylä from 1993 to 1997 (Webb & Vulliamy with Häkkinen, Hämäläinen, Kimonen, Nevalainen, & Nikki, 1997); and
4. A project on Teacher Professionalism carried out by the Universities of York and Jyväskylä from 2001 to 2004 (Webb, Vulliamy, Hämäläinen, Sarja, Kimonen, & Nevalainen, 2002).

This chapter examines the professional development of teachers in the process of ongoing school change, particularly from the perspective of their pedagogical and dispositional competences. The objective is to clarify the type of pedagogical and dispositional competences teachers are required to possess in the process of change undergone by the school culture. The present study in particular tries to elaborate the material and results produced within the Teacher Professionalism research project of the Universities of York and Jyväskylä (Webb, Vulliamy, Hämäläinen, Sarja, Kimonen, & Nevalainen, 2004a; 2004b). The teachers who participated in this follow-up study were also involved in the aforementioned case study-based research projects (Kimonen & Nevalainen, 2000; 2001a; 2001b; 2002; 2005; Nevalainen & Kimonen, 2008; see also Häkkinen, 2000; Hämäläinen, 2000).

Changing Conceptions of the Teaching Profession

Teaching is a profession in which the practitioner dispenses over a comprehensive basis of information that is focused on educational work, is educational institution-specific, and is characterized by a high degree of teacher-specific autonomy and complex responsibility (see Robson, 2006, pp. 10–22). In Finland, these attributes of the teaching profession have been emphasized differently from the first years of the comprehensive school, dating back to the school reform of 1970, down to the present.

Between 1960 and 1980, teacher training emphasized the *teacher's pedagogical knowledge and skills*. A numerical evaluation of teaching skill based on the criteria developed by the Canadian educator S. C. T. Clarke (1970, pp. 408–414) and adapted to Finnish conditions by E. Lahdes (1977, p. 41) characterized the conceptions of the Finnish teaching profession up until the 1990's (see, e.g., Luukkainen, 2004, pp. 53–54). According to Engeström (1983, pp. 178–179), describing teaching skill in terms of the basic attributes or characteristics of an ideal teacher corresponds to a traditional view of teaching based on conceptualizing it as similar to the work done by an artisan within a system of apprenticeship. In this case, the *transmission meta-orientation* aspect of the teacher's professional orientation is emphasized, with the teacher being regarded as essentially a transferor of information and supervisor of learning (see Sahlberg, 1997, pp. 145–146).

In the Finland of the 1990's the teaching profession was, more than it had been previously, based on the *teacher's autonomy*, a commitment to help learners to become active learners, engagement in life-long learning, and collaboration with the provider and end user of education. Teachers have been encouraged to reform their teaching actively and, in doing so, to reform society as well. The purpose has been to empower the teachers of the postmodern era, providing them with an opportunity to influence the direction of efforts to reform and develop teaching. However, the teachers have not experienced the teaching reforms as having given them a greater feeling of empowerment or of having promoted their professionalism. Instead, they have experienced stress, work intensification, and de-professionalization because different attitudes and new approaches have been expected of them with respect to

approaches to teaching and ways of working. These expectations have run counter to their previous experiences with and ideas about the teaching profession, since they were based on the transfer of information using the methods provided by traditional pedagogy. In their opinion, the curriculum reform has both invalidated and reduced the value of their achievements (Webb et al., 2004a, pp. 87, 101). From the point of view of professional orientations, a *transaction meta-orientation*, according to which the teacher is the creator, encourager, and supervisor of the prerequisites for learning, was emphasized in the 1990's. Another central objective has been the teacher's effort to enhance the development of the learners' skills in the fields of study and problem solving (see Sahlberg, 1997, pp. 147, 151).

The change, however, did not take place overnight. Although schools and teachers were given space to renew themselves and develop new teaching methods, the old school traditions seemed to live on (Linnakylä, 2004, p. 152). According to Simola (2005, p. 461), teachers at Finnish comprehensive schools, despite educational reforms, appear to be pedagogically conservative and somewhat reserved in their relations with learners and their families.

The beginning of the first decade of the new millennium has seen the teaching profession characterized by an unprecedented emphasis on the *teacher's professional responsibility and accountability*. The new basic principles of the *National Core Curriculum for Basic Education 2004* have increased the external direction of the teacher's professional activity, utilizing the descriptions of good learner performance, and the criteria of final evaluation and self-assessments (*Perusopetuksen opetussuunnitelman perusteet 2004*, 2004, pp. 260, 262). According to Webb et al. (2004a, pp. 101–102; 2004b, pp. 174–175), the loss of autonomy and the increase in centrally planned education policy have not, however, reduced teacher professionalism because teachers expect that the changes will eventually result in less unnecessary work, thus leaving more resources available for teaching.

According to Luukkainen (2004, pp. 265–266, 302–304), the teaching profession of the future will be, more than previously, living in real time and pointing the way by a process that is both individual and increasingly communal. It will include the identification of the phenomena of the time and an intensive social consciousness. The teacher will be expected to be an ethical visionary as well as a person with an active interest in developing society. Core factors in the profession will be content management, promotion of learning, ethical objectives, a future orientation, social orientation, cooperation, and continuous self-development and work development – continuous learning. These features of the teaching profession emphasize descriptions of a *transformation meta-orientation* of the teacher. Sahlberg (1997, pp. 149–150) notes that the transformation emphasizes social growth and the development of personality as the goals of teaching and education. In this meta-orientation the teacher has the simultaneous role of both creator and member of the learner community.

The nature of the teacher's professionalism is significantly different in England than it is in Finland. If in Finland the emphasis lies on the teacher's autonomy and potential to exercise his or her influence, in England the current policy-oriented idea of the

teaching profession presupposes total adherence to the requirements set by the central administration. The teacher's professionalism has been weakened as a consequence of individual judgment having been removed as a factor. It has been replaced with detailed contents of the national curriculum accompanied by the increased authority of the organization, this combination further strengthened by performance indicators. The implementation of national literacy and numeracy strategies at the end of the 1990's emphasized the policy-oriented view of the teaching profession even further. Teachers were expected to assume the responsibility for developing their own knowledge and skills in accordance with what the government defined to be operational at the school level (Webb et al., 2004a, pp. 87, 90; 2004b, p. 170).

Teacher Pedagogical and Dispositional Competence

The concept of "competence" has been characterized by a wide diversity of definitions and conceptualizations. The term tends to be theoretically problematic, complex, and even disputed. However, during the last 15–20 years it has gradually become a keyword in the area of education and training (Illeris, 2009a, p. 84; 2009b, p. 1). The concept has acquired a number of meanings, although a general consensus seems to be lacking concerning the understanding of it (Ellström & Kock, 2009, p. 35). According to Gadotti (2009, p. 21), competence is not static, but something constantly developing and changing:

It is frequently associated with the ability to control complex situations, ability to utilize information, demonstrate effective use of our knowledge and ability to learn new things. At the same time, it is a significant concept in terms of its association with the ability to lead in complex and unforeseen situations, in different contexts, whether at work, in school, in the family, or in society.

Ruohotie (2003, p. 5) defines the term from an individual perspective as follows:

Competence can be defined as an individual property that causally explains the effectiveness that has been specified using certain criteria or success in assignments and working situations. The various competences can include motives, traits, conceptions of the self, attitudes, values, knowledge as well as cognitive and practical skills.

Ellström and Kock (2009, p. 35) define competence using the term "capacity," which consists of motor skills, cognitive factors, affective factors, personality traits, and social skills. They examine the concept both from an individual and a collective point of view:

[T]he term competence will be used to refer to the capacity of an individual (or a collective) to successfully (according to certain formal or informal criteria, set by oneself or by somebody else) handle certain situations or complete a certain task or job.

McDiarmid and Clevenger-Bright (2008, pp. 135–136) argue that in education the concept of capacity can be seen as an association for the idea of potential for growth. Accordingly, they define the term "teacher capacity" as "the potential for teachers to

continue to develop their knowledge, skills, and dispositions along the continuum.” We may recognize that in educational parlance the concepts of competence and capacity can be used interchangeably and even with other concepts. Jordan, Carlile, and Stack (2008, pp. 203–204), for instance, point out that a discourse of education often uses such terms as “skill,” “competency,” and “competence” loosely and interchangeably. They define these terms as follows:

Competence in a teaching role requires a complex coordination and integration of knowledge, skills, competencies and values ... Skill involves the performance of a particular action. The coordination of a set of skills with knowledge produces a particular competency which is necessary to perform a particular task. The integration of a set of required competencies with attitudes and values in context leads to competence in the performance of a role.

A broad view of competence can be found in many recent definitions of “teacher competence.” Pantic and Wubbels (2010), for example, define the concept of teacher competence “as inclusive of knowledge and understanding, skills and abilities, and teachers’ beliefs and moral values” (p. 698). Similarly, Nijveldt, Beijaard, Brekelmans, Verloop, and Wubbels (2005) adopt a broadly-based definition. They interpret the concept of teacher competence “as the ability of a teacher to deal adequately with the demands of the teaching profession using an integrated set of knowledge, skills and attitudes as manifested in both the performance of the teacher and reflection on his or her performance” (*ibid.*, p. 90).

We hold the view that “teacher professional competence” is a multifaceted and changing concept. Reiman and Johnson (2003, pp. 5, 11) present a useful definition for this study. According to their report, a teacher’s professional competence is bipartite, consisting of pedagogical and dispositional components. Pedagogical competence includes the teacher’s knowledge of the subject to be taught as well as of the learners. Other elements of pedagogical competence include effective planning, implementation, and evaluation of teaching, as well as class management. A detailed definition for “teacher dispositions” expressed by the National Council for Accreditation of Teacher Education (2001) is as follows:

[T]he values, commitments, and professional ethics that influence behaviors toward students, families, colleagues, and communities and affect student learning, motivation, and development as well as the educator’s own professional growth. Dispositions are guided by beliefs and attitudes related to values (cited in Rike & Sharp, 2009, p. 62).

Reiman and Oja (2006) propose that “professional interpretation, judgment and action should be the core characterizations of teacher disposition” (p. 130). A teacher’s ethical and reflective judgment, relationship skills, tolerance of ambiguity, as well as attentiveness and curiosity are components of dispositional competence (Reiman & Johnson, 2003, p. 11).

“Teacher professional development” can be seen as a comprehensive growth process in which the pedagogical and dispositional competences develop in a complex interrelationship with each other. Pickle (1985, pp. 55–59), for example, depicts a

teacher's professional development using three dimensions. In the following, these dimensions have been augmented using the characterization made by Meriläinen (1998, pp. 245–252):

1. The professional dimension includes:
 - Deep and diversified esoteric knowledge that can be further subdivided into subject knowledge, content knowledge, general pedagogical knowledge, curriculum knowledge, pedagogical content knowledge, knowledge of learners and their characteristics, knowledge of educational ends, purposes, and values, and of their philosophical and historical bases (see Shulman, 1987, p. 8);
 - A service ideal and consciousness of a calling, which manifest themselves as the desire to help students and thus acquire personal satisfaction from work; and
 - Affective neutrality, which is manifested as a balanced treatment of students and approval of being different.
2. The personal dimension includes:
 - Self-understanding and other understanding, based on the ability to place oneself into the position of another person, and succeed in different types of interactional relationships with learners, their parents, colleagues, or school administration officials;
 - Consciousness of need achievement, which tries to include a continuous effort to develop one's self and one's professional ability; and
 - Development of a personal style, which is based on the teacher's own personal style and personal philosophy.
3. The process dimension includes:
 - Abstract and critical thought, which appears as the teacher's ability to combine pedagogical principles by defining and predicting events on the basis of their abstractions as well as in the form of the ability to justify and defend personal decisions; and
 - Perspective, which appears as the ability to examine questions connected with teaching from as many perspectives as possible.

According to Meriläinen (1998), the students are, at the beginning of their career, usually most concerned with the issues bearing on technical, concrete teaching style, the objective of which is to enable them to complete teaching situations successfully. Increased training and experience will develop pedagogical and professional competences. This will result in a progression from mere technical ability towards a professional dimension that would include the internalization of the theory of teaching and the philosophy of education. The goal is a personal style of teaching that includes a certainty about the command of different situations and an understanding of one's self and others. From the perspective of a procedural dimension, an understanding of wholes and the connections between phenomena, as well as the attainment of a profound thinking skill are central elements of the teaching profession.

In this chapter teacher competence refers to the subjective experienced meaning structures that teachers connect to their pedagogical and dispositional competence. The idea of the competences required to work as a teacher can vary depending on such things as the type of context within which teachers work and the task and phase of development in which they are. The expectations directed at the teacher's pedagogical and professional qualifications will vary during different periods. The teacher's various competences allow an individual profile emphasizing the teacher's strengths and weak areas to be drawn (see Leino & Leino, 1997, p. 119; Uusikylä & Atjonen, 2000, p. 179). The teacher's competence areas can be divided into the following dimensions, presented by Their (1994, pp. 61–67):

- Cognitive competence, which means the knowledge and ability needed for a profession;
- Affective competence, in which such things are stressed as teachers' attitudes, values, and opinions, as well as their ability to tolerate changes and stress;
- Social competence, which means the ability to work and function together with other people;
- Personal competence, which depicts such things as the degree to which teachers know and understand people, their conception of other people and of themselves, and their self-confidence;
- Psychomotor competence, in which the manual skills based on perception are emphasized;
- Creative competence, this meaning imagination and the ability to visualize;
- Pedagogical-communicative competence, which includes the ability to produce, mediate, and receive knowledge;
- Administrative competence, in which abilities such as being able to administer, plan, develop, and organize work are emphasized;
- Strategic competence, meaning the ability to distinguish, define, and prioritize choices and actions; and
- Simultaneous capacity, which means the ability to work on several issues and assignments at the same time.

Different Ideas about Teacher Competence

According to the behaviorism-based didactic idea, teachers will be competent when they have mastered the knowledge and skills required by the curriculum and are able to design, guide, and control the teaching situations in which the learners adopt the teaching contents that have been defined in advance. In that case, teacher competence is determined through the outputs, and thus, the expediency of the teaching process appears in the results of tests (Rauste-von Wright, von Wright, & Soini, 2003, pp. 195–196). Lahdes (2000, pp. 122–123) describes the properties of the teacher on the basis of the general theory of teaching developed by Clarke (1970, pp. 178–179). A prerequisite for didactically designed teaching is that it has sufficiently clear objectives and that the teaching itself is an interaction event. In the theory, the basic features of

ideal teaching have been arranged into three levels inside which eight competences that are required of the teacher have been placed:

Level I. Necessary conditions for teaching – Setting the stage:

1. Mastering the subject matter;
2. Skill in communication;
3. Skill in developing interpersonal relationships;
4. Skill in developing and maintaining a social order; and
5. Skill in developing motivation and activation.

Level II. Necessary and sufficient conditions for teaching – Application:

6. Skill in the use and application of teaching strategies and methods of differentiation.

Level III. Necessary conditions for efficiency in teaching – Mastery of wholes:

7. Long-term planning of teaching and
8. Skill in using available appraisal methods and changing teaching organization.

The constructivist idea of the competence required of a teacher has, however, created new challenges for the teaching profession, since it imposes greater requirements on being a teacher than the traditional view does. Teaching based on the constructivist conception of learning emphasizes flexibility and learner readiness. Only the general educational goals and frameworks of teaching can be uniform in meaningful instruction. The aim is to create a learning environment that presents the learner with problems, tools, guidance, and support. Human beings are assumed to seek understanding of the world by looking for causes and explanations (von Wright, 1993, pp. 19, 30). Constructivism has many important implications for teaching:

- Teachers bring their prior conceptions to learning situations not only in terms of their subject knowledge, but also in their views of teaching and learning. These can influence their way of interacting in the classroom.
- Teaching is not the transmission of knowledge, but it involves the organization of situations and the design of tasks in a way which promotes learning.
- Evaluation of learning makes use of multiple criteria. Assessment is often authentic, and thus, it is interwoven with teaching and includes teacher observations and student portfolios

(see Kimonen & Nevalainen, 2002, pp. 34–35; Schunk, 2012, p. 261; von Wright, 1993, pp. 19–30).

From the constructivist perspective, requirements can, according to Rauste-von Wright et al. (2003, pp. 229–230), be imposed on the teacher that are analyzed below in accordance with the levels of teacher awareness presented by Wilenius (1987, pp. 70–74):

Awareness of goals:

- Teachers should master the subject area that they teach well in order to be able to function as model problem solvers even in unexpected situations.
- Teachers should be able to define the general objectives of the teaching period and keep them as their guiding star.

Awareness of methods:

- Teachers should understand, at the levels of both theory and practice, the pedagogical implications of the constructivist learning idea, such as the regulation of selective attentiveness, the regulation of information interpretation (the search for meaning), the contextuality in learning, the role of thought processes in learning, and self-reflection.
- Teachers should approach their objectives using flexible methods, having as their point of departure the learners' ideas and beliefs at the time. Teachers should emphasize the understanding of general principles and progress towards a network of interconnected knowledge and skills.

Awareness of situation:

- Teachers should master the skills of guiding the learning process. They must be able to function as supporters and facilitators, in addition to being able to create paradoxes and problems that students experience as challenging personal issues that awaken curiosity and further the learning process.
- Teachers should be able to regulate the emotional atmosphere of the situation and maintain a reasonable level of activity.
- Teachers should see the process of teaching and learning as one of interaction which presupposes relationship skills.

Knowledge of learners:

- Teachers should be able to understand how different learners from different backgrounds understand the phenomena of the field, the concepts, the methods of conceptualization, and the strategies of problem solving.

Research Methodology

The York-Finnish Curriculum Change project included document analysis, observation, and teacher interviews at six English and six Finnish schools during the period 1994–1996. Pseudonyms were used for the names of the schools. The methodologies used for the project as well as the school samples have been described in greater detail in the final report for the study (Webb et al., 1997, pp. 3–7). For the York-Jyväskylä Teacher Professionalism project, all the teachers who were still teaching in their original schools were re-interviewed, as were also some teachers in the original sample who had left, either to new teaching posts or to other jobs, or to retirement. Additionally, in each country one principal who had not been interviewed in the original study was also interviewed. The comparative sample thus obtained covered a total of 24 English teachers and 13 Finnish teachers (see Webb et al., 2004a, pp. 87–89). For this present examination, one new teacher at the Ranta-Sointula School was also interviewed.

Of the Finnish teachers who were interviewed, one had transferred to a teaching job at another school and four had quit teaching altogether. The relatively large number of teachers who had quit teaching is explained by the fact that two of the sample schools in the original study had been shut down. Both schools, Lahdelma and Suvila, were small. Of the English teachers who were re-interviewed, four had transferred to another

school and two had quit teaching. The semi-structured interviews with the teachers lasted between forty and seventy minutes. The analysis in this study is based on the following research question, the purpose of which is to study how teachers perceive pedagogical and dispositional competences: What are the most important occupation-specific knowledge, abilities, and attitudes that are required of teachers nowadays?

Each interview was fully transcribed and the Finnish interviews were translated into English for the comparative study. The analysis was carried out using a process of category generation and saturation that is based on Glaser and Strauss's (1967) constant comparison method (see Webb et al., 2004a, pp. 87–89). The reporting of the samples involved making the analysis both deeper and more abstract. Observations obtained from the research material and the conclusions based on them were compared with previous theory formation in pedagogics.

FEATURES OF TEACHERS' PEDAGOGICAL COMPETENCES IN THE CASE STUDY SCHOOLS

The Pre-Active Phase of the Teaching Process

Of the pedagogical competences of the pre-active phase of teaching, Finnish teachers put the most stress on good mastery of the subject matter and basic skills. A male teacher with 25 years of experience in the field, stated: "The presupposition is that a teacher should have good readiness to make it through a normal day. ... That how the teacher masters the subject matter." A versatile mastery of the mother tongue and of mathematics were regarded as being particularly important:

Mastering versatile skills in the mother tongue and mathematics, it's very important for you to be able to teach various approaches to them, starting right from the first grade. ... So I find that learning reading, writing, and arithmetic is still the most important thing, and that you write, drawing letters in an exercise book, even though we have computers here and text processing is already learned in preschool groups, but even so you have to know mental arithmetic. That means you have to add up tens and know how to do that when you don't have a calculator. These basic things, you know. (Finnish female teacher, 23 years of teaching experience)

In Finnish teacher training the emphasis is currently on the constructing of theory-in-use. With respect to this, one teacher considered changing the content knowledge of the subjects taught into pedagogical content knowledge in addition to considering the place of textbooks in the planning work. Many teachers experienced changing curriculum knowledge into pedagogical content knowledge to be problematical when they can replace a curriculum with a textbook. A teacher also gives thought to the importance of approaching teaching holistically. Teachers are expected to consider their own work and think about how it takes place. One teacher we interviewed said:

In that respect we are always telling learners to filter information through their own mind, and, in the same way, teachers should also consider their own work and think about how it takes place. That is something that I find extremely important. ... This is one of the

challenges that teachers have to face and another thing is to put the textbook aside. That is the second thing that should absolutely be taken into account, right now, as we are doing the new curriculum, because it will never be carried out in practice if we are still going to have the textbooks, which actually function as the curriculum. ... That is one thing that hinders development and I think that all the teachers should think about their own work, even though the salary is based on the numbers of hours taught, they should consider all the different aspects in their profession. It isn't just teaching children different things, it is much more than that. ... Yes, it is particularly comprehensive activity with children. (Finnish male teacher, 22 years of teaching experience)

The teachers at small schools in particular emphasized the skill of planning effective teaching (see Vulliamy, Kimonen, Nevalainen, & Webb, 1997, p. 109). Teaching a combined grade requires that teachers have many special skills that will enable them to predict the progress of teaching in a heterogeneous teaching group. As one Finnish female teacher said:

I myself have used a notebook in which I have prepared lessons. I really have prepared them and I still prepare them sometimes. ... I marked the things I was going to talk about aloud with a red pen, those things the learners were to do silently and with a blue one. And when you glance at it quickly, you are able to use the 45 minutes fairly well. ... If there are a lot of learners, then you notice it, when you divide the blackboard into sections and write examples there right after you have taught some math problem. They go up to the board to solve them, and you notice at once that a-ha, these and these things must still be revised and explained. When you go through them together, you will really be spared several weeks of work. ... Well, to begin with, how to teach combined grades, teachers should be taught how they manage with a combined grade, I mean that you can't expect them all to just sit there, in a semicircle quietly, for heaven's sake. And the teacher is sitting back there and talking to all of them at the same time, you know, you should understand that at first you talk aloud for 20 minutes to one grade, while you quickly give the other an assignment so that they can start working at once. And then you switch the roles in the middle of the lesson and check that everything is all right. It really isn't difficult to teach a combined grade if you prepare lessons carefully. If you know, how the technique works. (Finnish female teacher, 23 years of teaching experience)

Most of the teachers who participated in the follow-up study began to teach because they wanted to work with children and help them to develop to their full potential. The most important reason that the teachers enjoy their work was the pleasure they take in working with and being committed to children. According to them, the core abilities needed were the ability to motivate and develop children's learning and to boost their confidence and self-image (Webb et al., 2004b, p. 181). A prerequisite for the ability to understand a child is that the teacher have a deep knowledge of things such as the manner in which the students develop and the style with which they learn. As one Finnish teacher said:

I think that a teacher should be aware of those things, but probably the most important thing is for there to be a sense of respect in the school on both sides, so that teachers would learn how to respect their learners, and the learners would learn how to respect adults. It should be a two-way process. (Finnish male teacher, 22 years of teaching experience)

The demands placed on teachers' work have been continuously increasing. Work with immigrant students, for example, is demanding a large variety of new skills associated with cultural competence. On the other hand, Finnish teachers think that the manner of approaching inclusion has been problematic. The pedagogical issue most often raised by teachers concerns the lack of knowledge and skills when supporting a learner who needs special education. The majority of the teachers who were interviewed felt that coping with the learners' individual differences and learning difficulties was the greatest source of stress (Webb et al., 2004a, p. 93). According to one of the teachers, the policy of inclusion also creates challenges for teacher training:

That you can take into account any learning difficulties that might appear, that you are able to deal with them while taking care of normal teaching work as well. There have to be means, there have to be methods. The same method is not the right one for every learner, so, in my opinion, you must have a pedagogical facility to cope. ... And then I hope that already in the Teacher Education Department there would be some sort of course on special education for recognizing these difficulties, you know, for the future teachers, so that they would be able to recognize dysphasia and difficulties in reading and writing. Otherwise you have to go through a process that takes years here at school and then you don't know what is wrong with the child, and the child is taken care of in a family counseling center, even though he or she might actually have learning difficulties. The child should be helped right from the start. (Finnish female teacher, 23 years of teaching experience)

Teachers must be able to create good conditions for teaching and master different teaching techniques. Since the early 1990's Finnish educational policy has favored active learning approaches that include experiential learning, inquiry and problem solving-based learning, and cooperative and self-directed learning (Kimonen & Nevalainen, 2005, pp. 624–627). The Finnish teachers felt that the bases of the *National Core Curriculum for Basic Education 2004* give the teachers a considerable degree of latitude in selecting and interpreting subject content in addition to increasing the degree of freedom to try alternative teaching methods. Teaching was regarded as being at its best when it reflected the teacher's personality, preferences, and strengths (Webb et al., 2004b, p. 182). Thus, across schools there are large variations in the implementation, and despite all attempts at reform, teaching methods could well remain unchanged (Kimonen & Nevalainen, 2005, pp. 624–627, 630–631).

Of the pedagogical competences belonging to the pre-active phase, the English teachers emphasized thorough familiarity with the subject matter and curriculum. As one teacher with 10 years of experience put it: "I think you have to have obviously a wide understanding of many subjects that you are teaching. I think you have to be very clear in what you want to teach and how you are going to do it." In particular, the teachers emphasized a mastery of the mother tongue, mathematics, and the sciences. According to an independent survey, English teachers use about a third of their working time for lesson preparation and marking, and over a third of it for actual teaching (Angle, Fearn, Elston, Bassett, & McGinial, 2009, p. 13). Some teachers,

even though quite experienced, participating in the follow-up study, told that tests guide their planning of teaching:

I think that you have to have a really firm grasp of the curriculum and be confident about delivering it. Particularly if you are at the top of the school where you are teaching year six because so much relies upon test results nowadays. ... they also have to be very aware of what expectations are at the end of Key Stage II and what the secondary school expects to some extent. It makes me sad to say this, but they have to know what is in the tests, they have to build the knowledge of what those tests at the end of Key Stage II are. ... The whole year six is geared toward those tests at the end and that makes me sad, but at the same time I know that I have got to do the best for those children and they expect to do well. (English male teacher, 22 years of teaching experience)

The Interactive Phase of the Teaching Process

Of the competences belonging to the interactive phase of the teaching process, the teachers placed the most emphasis on skills connected with the organization of teaching and human relationship management. In particular, teachers working at small rural schools regarded organizational skills as being of central importance:

It is the ability to organize things. We have rural schools and in each one of them there is a combined grade, grades 3 to 6. You must be able to organize things in the group in such way that learners can learn things, even though there are learners of different ages and the group is extremely heterogenic. It is much more demanding for a teacher than working with one age group and a certain grade. You have to take many things into account. (Finnish male teacher, 22 years of teaching experience)

Of course, when you have four grades in the same class, many people who have never been teaching a combined grade think that it is not possible to work there. The alternating course system helps with some subjects, but math and English, there you proceed from one grade to another. Actually you have to. But it is surprisingly easy to get used to it when you have become familiar with the system and after children have gotten familiar with the system the teacher is using, so it will go just fine, but at once it might seem, you must be more able to organize things than in a normal grade of one age group only. (Finnish male teacher, one year of teaching experience)

The teachers regarded the ability to manage the classroom, establish contact with the learners, to maintain a positive interaction based on empathy in the classroom, and to communicate in pedagogical situations as important competences:

In the first grade it is group management. The learning environment should be peaceful, and the children would learn to listen you. ... Groups are so big. It is impossible to learn if the basic things are not in order first. (Finnish female teacher, 14 years of teaching experience)

I suppose they would be the old, old skills of meeting people and being face to face with them, a sort of empathy, emphatic skills that form the basis. How should I put it, it takes an open mind, that is you must put up with differences, even accept and tolerate them. Mm, so you mustn't take such a, such a tough attitude towards anything, though

of course you should have your own opinions, but in that way you could, could bear all the various, various things that there are also in our own society anyhow. (Finnish male teacher, 10 years of teaching experience)

Well, obviously it is the ability to get along with children and young people. I think that is the main thing, it is a sort of innate ability which you can't necessarily learn by studying and educating yourself. I suppose it is checked already at the point when you apply for admission to the teacher training program. ... At least I believe that you can't learn it, either you have it or you don't, the ability to establish a contact and so on. Of course you can develop that ability, but you can't actually learn it. That is one thing and it surely has to be, must be. ... Well, things that are connected to the ability of getting along with children are for example: you must be able to be strict, but sometimes also empathize with children, you have to understand them. (Finnish male teacher, one year of teaching experience)

One of the Finnish teachers thought it important to learn to function in a goal-directed manner in a teaching situation and to make proper use of pedagogical moments during the school day. It is also essential to listen to the learners, be quiet during the lessons, and withdraw to the sidelines during the learning process. By listening, the teacher can focus attention on such things as the communication between students and problem solving models used by students working in groups. The art of listening is essential for teachers if they are to be able to function pedagogically at precisely the right moment (Rose & Howley, 2007, p. 94; Schultz, 2003, pp. 16–18). A Finnish male teacher with 22 years of teaching experience told us that:

In my opinion, the most important thing is to know how to be quiet. ... So actually I have realized it only lately, since Freinet has been a really important figure to me in pedagogics and he used to emphasize the fact that a teacher should be quiet. Of course I should be leading and supervising the action, but I should know how to draw aside so that the learner has the chance to do the thing on his or her own. And on the other hand, you need to learn how to use the pedagogical moment. (Finnish male teacher, 22 years of teaching experience)

The teachers participating in the study emphasized that they needed not only basic abilities but also the knowledge and skills allowing them to use audiovisual and digital teaching equipment as well as computer programs (see Uusikylä & Atjonen, 2000, p. 154). The increase of information technology in schools also creates new challenges for the teaching profession (see Luukkainen, 2005, pp. 132–133). Writing in 2006, Ilomäki and Lakkala claimed that using information technology in teaching was still quite rare in Finland. At that time the problems experienced by Finnish teachers in using this new technology were centrally connected with the fact that teachers did not yet know how it could best be applied in their own teaching. They thought that development of pedagogical models to support their understanding of new applications, thus furthering their professional development, would be of the utmost importance (Ilomäki & Lakkala, 2006, p. 188). As two Finnish teachers said:

Of course you also need the know-how, and what is also required of a teacher are computer skills, you have to be more and more prepared to work with computers. That

is something that has become more and more important during the past 10 years, you need those skills ... I trained myself a bit, I went to courses that were, let's say, some sort of training for responsible computer technology workers. All sorts of small things. I got more familiar with the job all the time and that was probably one reason why I later changed my profession. (Finnish resigned male teacher, 10 years of teaching experience)

Of course the skills, knowledge, skills ... I mean the ... Information technology is beginning to be, it has also taken its place in the lower level of the comprehensive school, and people don't imagine anymore that it would be something that is in the move, changing, revolutionary. And perhaps, perhaps teachers already have all the necessary know-how on computers, although we run behind the hackers, but anyway we are in advance of a normal child in the lower level of the comprehensive school, using an adult's logic. I mean, when you have spent some time with computers. (Finnish male teacher, 10 years of teaching experience)

The teachers who participated in the follow-up study regarded a central component in the teaching profession to be the ability to motivate students and develop their learning as well as to reinforce their self-confidence and self-image (Webb et al., 2004a, p. 93). Additionally, the English teachers placed particular emphasis on skills connected with the teacher's pedagogical-communicative competence. The teacher should, in their opinion, have the skills to communicate with children in pedagogical situations, establish good relationships with the children, create a positive learning environment in the classroom, and listen to the children as well. The skill of making use of information technology also came to the foreground. Of considerable importance is the skill of using and applying different types of teaching methods. As one experienced English teacher put it:

The teacher might tend to teach in their own preferred style and they are not aware of the need to do things differently. So what we have been trying to do is raise the teachers' awareness of that need and to give them ideas and ways forward by introducing ways of teaching using different methods, and it is quite exciting and stimulating. ... I think that a teacher has to know that if a child is to do well, they have got to feel good about themselves and they have got to get rid of all anxieties and things that are interfering in their learning. You can do that by creating the right sort of environment in a classroom, one that is a very positive environment where children feel safe and they are not put down, that their progress is going to be recognized and valued. (English female teacher, 37 years of teaching experience)

The Post-Active Phase of the Teaching Process

Of the competences belonging to the post-active phase, the Finnish teachers mentioned the ability to evaluate students' learning and the teacher's own activity. At the beginning of the current decade, the National Board of Education published a book in which the criteria for good student learning was described. The criteria for good mastery of different subjects was also presented later within the framework of the *National Core Curriculum for Basic Education 2004*. Some of the Finnish teachers who participated in the study felt that defining the criteria for good mastery demonstrated a lack of

confidence in the teacher's professional skill. However, some of them were confident that the abstract criteria of good mastery leave a sufficient amount of latitude for teachers to add their own interpretations (Webb, Vulliamy, Hämäläinen, Kimonen, Nevalainen, & Sarja, 2004, p. 24). The follow-up study showed that the teachers' enthusiasm for self-evaluation abated over the years, it being replaced by doubts concerning the effectiveness of self-evaluation. Self-evaluations in the schools have become a superficial practice and their results are used only rarely for developing schools and advancing teachers' professionalism (Webb et al., 2004a, p. 100).

Teachers in England considered themselves to be under tremendous pressure because of the Government's "Standards Agenda." According to it, the work done by a teacher is closely monitored by such procedures as setting a strict set of learning objectives, national tests, school inspection reports, and public rankings of schools, teachers and students based on performance criteria (ibid., p. 98). The competences belonging to the post-active phase of the teaching process were, however, not emphasized in the teachers' responses in the interviews. One English teacher with 22 years of experience emphasized the skill to reflect on his work: "Think before about what they are doing, obviously plan it, but reflect on what you have done afterwards and move forward from there."

THE PROFESSIONAL DISPOSITIONS OF THE TEACHERS AT CASE STUDY SCHOOLS

The Teachers' Predispositions Concerning the Profession

Some of the most general values connected with the teaching profession that appeared in the responses given by Finnish teachers were respecting and loving children as well as the ability to encounter children as people. Persistence and assertiveness, on the one hand, as well as tolerance, patience, and briskness on the other, were the most important principles that teachers associated with the teaching profession. Central was also the teacher's own self-knowledge, benefitting from personal strengths, and following the times. One of the teachers also emphasized the importance of a teacher knowing the learner's specific and general human rights as well as the legislation dealing with teaching. According to Dall'Alban and Sandberg (2006, p. 400), in addition to the skills that develop with experience, another central component in professional development is gaining a deeper understanding of what one actually is doing when teaching. This is evidenced by the following thoughts of two female Finnish teachers concerning the values and attitudes that provide the background for teaching.

The good things in teaching are that, first of all, you love that child, and face that child as a human being, and you can give it a lot of positive feedback. Also, I find a certain kind of vigor, strength, keeping the reins – empathy and vigor in one person, toleration, but at the same time target-oriented guidance. A lot of stimuli, ideas, skills, but most of all toleration . . . Well, if you think about it from a deeper level so that you gain a stable value system and realize that education and teaching are in focal position. It is deeply rooted

inside you. You need to balance your goals with regard to your value system. (Finnish female teacher in an urban school, 20 years of teaching experience)

And then the persistence in education. That you are able to maintain your own principles from day to day. Principles concerning both meanings and education, because those ... we sort of sow them. And I think the sowing, the things that we create, they will probably not show for a number of years. You don't necessarily ever get feedback from the child. So this is like working in good faith. You just have to cast the seeds and hope that they will start to grow. (Finnish female teacher in a rural school, 20 years of teaching experience)

With respect to the teacher's professional dispositions, many of the English teachers emphasized ethical and moral competences, of which the most important characteristics were, above all, fondness for and caring about children. Teachers must love and be committed to their work. The following thoughts appropriately illustrate these dispositions:

So I think that you have got to have faith in your beliefs and I think that you have got to stand up for what you think is right for your children regardless of what is the fashion and what is in ... You have got to keep a good sense of proportion and above all you have just got to keep loving the job and loving the kids. (English male teacher, 35 years of teaching experience)

Concerning the teacher's personality-based characteristics, the English teachers focused on flexibility, adaptability, a methodical approach, and a good sense of humor. Additionally, the teachers emphasized enthusiasm, perseverance, energy, and patience. The teachers saw the ability to show a variety of talents in learning expertise as a crucial disposition. Teachers should also believe in their own abilities and produce good learning results.

The Competences Required by the Work Community

According to the Finnish teachers who participated in the study, a crucial characteristic required in the work community was social competence, as a female teacher with more than 18 years of teaching experience said: "The ability to cooperate is most important, then the will and the ability." In particular, the development of school culture presupposes that the teacher will be ready to cooperate and will possess skills in interaction, relations management, and communication. A teacher is required to have social competences when cooperating with learners or colleagues, but nowadays also with the school's various interest groups. These dispositions that are needed in the work community are illustrated by the following thoughts expressed by the teachers:

In modern society, a teacher has to have lots of social skills, specifically, how to deal with a learner with some special difficulties that are the result of family problems or some other things. How do you relate to that kind of learner and how do you discuss such learners and their situation with the parents? So the social skills, their importance, have become strongly emphasized. (Finnish male teacher, 10 years of teaching experience)

A capability and will to cooperate are the most important things. And especially the will to do things together. The only way to develop this work is to do it cooperatively. (Finnish female teacher, 14 years of teaching experience)

I see that half of the work consists of school development. That entails evaluation, cooperation between school and home, social environment, various kinds of visits, excursions with learners, and paper work. ... As concerns curricular issues, they take a lot of time as the work is done together with many, many people. And the other half consists of basic teaching work. (Finnish male head teacher, 25 years of teaching experience)

In the work community, teachers also need pedagogical leadership skills that appear in teaching situations as well as in different types of classroom events when they are constructing classroom culture. They do this by using power, leading communication, and guiding the study process. In this manner, teachers exert influence as ethical leaders in the development of the learners' world of values (Salo, 2007, pp. 30–31). The Finnish teachers who participated in the study stressed that the important characteristics of a pedagogical leader include flexibility as well as the abilities to organize one's own work and to both give and tolerate feedback. Teachers working at small schools also emphasized their ability to maintain a school, something which a teacher with 23 years of experience expressed as follows: "These things should really be discussed, like what you have to put in the records, and how, and what must be filled in, and what you can throw in the dustbin and so on. ... Yes, how things actually are dealt with the school board and with parents and the Municipal Board of Education and so on."

Flexibility is important, that is that you don't stick to your own views all the time, for example when dealing with parents and different kinds of learners. ... Of course you must have your own way of doing things, but there has to be flexibility or else you will make things very difficult for yourself. (Finnish male teacher, one year of teaching experience)

What is required is flexibility and that you are ready to engage yourself in unpaid work, because our salary is still based on the lessons we give. ... And well, it includes the working plan and then reporting, your own part, doing your own share. Then we have vast plans and material for circles and doing all that, reporting about them. Internationalism is one big thing, which occupies lower levels of the comprehensive school. ... And then a thing that you must know is how to organize your own work. Think about it carefully, what I am going to aim at and what I am going to leave aside. How effectively things are done. The sort of utmost thoroughness that marks our teachers is not ... it is not possible to do things in that way anymore, as it was possible before. (Finnish female teacher, 15 years of teaching experience)

The teachers who participated in the follow-up study said that the teacher's job responsibilities had extended to many areas, these including curriculum development work, school self-evaluation, and extracurricular activities. Some of these new requirements had also improved their professional competences (Webb et al., 2004b, pp. 172–173).

The teachers from England stressed that a teacher should be well prepared to do cooperative work in the work community. As a female teacher with 27 years of work

experience put it: “You have also got to be much, much better with people I think than you had to be back in the 70’s. ... You have got to be approachable to parents. ... You have got to be good with the people that you are working with because I think nowadays ... there is more working together with colleagues.” In particular, the ability to understand parents and caretakers is nowadays an important and challenging part of the teaching profession (Webb et al., 2004a, p. 97). Teachers must also have the ability to organize and plan their work and be able to function in it flexibly.

You need a sense of humor, without a doubt, I think you need to be very organized. I think that you have to be a really good communicator, not just with children, but I think that you need to work as a team and you need to talk to other people as well. I think that is the biggest ... I think that is very important really to do that. (English female teacher, 10 years of teaching experience)

In English schools teachers are required to have strong self-confidence and a high degree of personal commitment and energy if they are to retain their personal values against the background of inspection reports, league tables, and other official instruments of conformity (Parker-Rees, 2000, p. 30; Webb et al., 2004b, pp. 184–185). Even though many of the teachers who were interviewed emphasized diligence and enthusiasm as characteristics required for cooperation, teachers also have to know how to allocate the amount of time used to plan, evaluate, and report on teaching:

They have got to be very strong. Strong to control the workload and strong against any attacks that they may have in or outside of school. ... They have got to be very capable of organizing themselves, because it could completely take over their lives. ... There is a tremendous amount of stress in the job of meeting the requirements. (English female teacher, 31 years of teaching experience)

“[A teacher] is creative and I think nowadays the classroom has to look more of an appealing place,” said one of the English teachers who was interviewed. Similarly, an English male teacher with 29 years of experience stated that a teacher must have something else to contribute to the school, for example, the ability to play football, run a chess club, or give computer courses. Nevertheless, the English curriculum reform has reduced teachers’ opportunities to implement creative ideas and plan their work, thus developing ideas that motivate and inspire children (Webb et al., 2004b, p. 173). This study provides a clear indication that the nature of teachers’ work has changed. The teachers in this study suggested that it is essentially important to accept the changes taking place in education and consider how they are significant for their own work. Teachers must also be able to accept criticism of their work and relate to it constructively.

Professionalism and Maintenance of Competences

The Finnish and English teachers were unanimous in their opinion that the crucial attributes of a modern professional teacher are enthusiasm and engagement, participation in continual learning, and constant upgrading of skills. The Finnish teachers who were

interviewed were relatively satisfied with the in-service education and training. It did not, however, provide them with sufficient additional resources to understand the curriculum reform plan or its implementation (Webb et al., 2004a, p. 96; 2004b, p. 184).

The follow-up study demonstrated that a teacher's professionalism can be enhanced using school-based in-service training as well as by conducting research on teaching. This research should focus on understanding and promoting children's learning, in addition to allowing teachers themselves to assume responsibility for the nature and direction of their professional development (Webb et al., 2004a, p. 102; see also Muijs, Harris, Chapman, Stoll, & Russ, 2005, p. 104). Such collaboration-based maintenance of individual professional competence requires that the teacher be ready on several levels for life-long learning and studying how students learn, as well as how they, as teachers, teach.

IMPLICATIONS FOR THE ORIENTATIONS TO TEACHER PROFESSIONALISM

The objective of this chapter is to examine the pedagogical and dispositional competences required of teachers in an ever-changing school culture. [Table 1](#) presents the main implications for the orientations to teacher professionalism from the perspective of the competences of the teachers who participated in the follow-up study. The following paragraph considers the characterizations for the orientations to teacher professionalism in the light of interpretations given by Ivor Goodson, Andy Hargreaves, and Eric Hoyle.

According to this examination some teachers participating in the study regarded the central issue in teachers' work to be the delivery of subject content requiring a teacher to be familiar with the subject matter and curriculum. This aspect was emphasized by some of the teachers, both Finnish and English. We can interpret that, in essence, the teachers may be viewed as experts in content knowledge reflecting the restricted orientation to teacher professionalism (for restricted professionalism, see Hoyle & John, 1995, p. 123).

The objective of the classical orientation to teacher professionalism is to develop and clarify the knowledge base and scientific principles required for teaching (for classical professionalism, see Goodson & Hargreaves, 2003, p. 128). On the basis of the research, this orientation tries to classify and collect the practical information that is necessary in teaching. Many teachers involved emphasized the skills of planning effective teaching and classroom management, as well as the skills of organizing teaching and work, and of communicating in pedagogical situations. These teachers were following the classical orientation to teacher professionalism in their work. According to Kyriacou (2012), "a number of writers have argued that the skillful use of didactic teaching is still the most efficient way of teaching" (p. 107).

Some Finnish teachers regarded as important such factors as the reflective and self-evaluative skills as well as the utilization of teachers' own self-knowledge. It is possible that they implemented the practical orientation towards teacher professionalism (for practical professionalism, see Goodson & Hargreaves, 2003, pp. 129–131). Some

Table 1. Features of Teacher Competences from the Perspective of Orientations to Teacher Professionalism

Orientations to Teacher Professionalism	Features of Teacher Competences
<i>Restricted professionalism:</i> This approach values the expertise based on individual autonomy. The teacher is concerned with the daily aspects of teaching, carrying out his or her duties in an intuitive manner in the classroom.	This aspect was emphasized by some of the teachers, both Finnish and English, the central one being the delivery of subject content, requiring a teacher to be familiar with the subject matter and curriculum
<i>Classical professionalism:</i> The aim is to develop and clarify the knowledge base and scientific principles required for teaching. It is essential to collect and classify the practical information on the basis of the research.	Most of the teachers stressed the skills of planning effective teaching, organizing teaching and work, communicating in pedagogical situations, and the ability to evaluate learning.
<i>Practical professionalism:</i> The aim is to achieve harmony between the teacher's practical knowledge and understanding. Reflection on the teaching experiences is central.	The Finnish teachers under a school culture that heightened teachers' opportunities to exert their influence and professional empowerment put stress on the reflective and self-evaluative skills, and the ability to utilize self-knowledge.
<i>Flexible professionalism:</i> A typical feature is the practical expertise emerging from the daily realities of the school and the community. This may lead to a narrow view of teaching since it is possible that those outside the profession can direct and control the thinking of teachers.	The English teachers operating under accountability school cultures emphasized the ability to allocate the amount of time used to plan, evaluate, and report on teaching, and the abilities to accept criticism and to be able to function in the ever-changing working environment.
<i>Extended professionalism:</i> Collaboration between teachers, students, colleagues, parents, and other interest groups associated with the school is important. The teachers put special emphasis on the significance of social competence in teaching and in the working community.	The Finnish teachers regarded as problematic the application of inclusion and the genuine utilization of schools' self-evaluations in their developmental work. The English teachers experienced difficulty with the external pressures caused by strict control of the teacher's work.
<i>Complex professionalism:</i> The teacher's work is increasingly complex. In the globalizing and complex world the teacher must demonstrate competences needed in areas such as those requiring cooperation, problem solving, and thinking.	The core competence was the ability to use teaching methods and information technology. In Finland, methods that support active learning and work associated with immigrant students were seen to be a particularly challenging aspect.
<i>Principled professionalism:</i> This view tries to focus on the caring concerns which should lie at the heart of professionalism. It is central that the shared expertise is developed from clearly agreed moral and ethical principles.	The teachers in both countries felt that establishing and developing good relationships in their work is significant. The features of a modern teacher were enthusiasm, engagement, participation in continual learning, and the continuous upgrading of skills.

English teachers tended to emphasize issues such as the teacher's ability to allocate the amount of time used to plan, evaluate, report on teaching, and accept criticism, as

well as the ability to function flexibly in the ever-changing working environment. We may say that the teachers adopted the flexible orientation to teacher professionalism (for flexible professionalism, see Hargreaves & Goodson, 1996, p. 10; Kubow & Fossum, 2007, p. 212).

According to the view of extended orientation to teacher professionalism, teachers should put special emphasis on the significance of social competence in teaching and in the working community (for extended professionalism, see Hargreaves & Goodson, 1996, p. 17). While implementing this orientation, many teachers in the study faced considerable drawbacks in their daily work. An area experienced as problematic by the Finnish teachers was the application of inclusion and the genuine utilization of the self-evaluations given by the schools in their developmental work. The English teachers, in contrast, experienced difficulty with external pressures caused by strict control of a teacher's work.

The challenges and demands placed on teachers' work have undergone a radical increase. The view of complex professionalism may be found in the work processes of some Finnish teachers (for complex professionalism, see Hargreaves & Goodson, 1996, p. 18; Kubow & Fossum, 2007, p. 212). According to these teachers, teaching methods relying on active learning were seen as a particularly challenging aspect. In addition, work associated with immigrant students and multiculturalism required a wide variety of new professional competences. We can also conclude that the features of principled professionalism may be seen in the work done by teachers in both countries (for principled professionalism, see Goodson & Hargreaves, 2003, p. 132). Most teachers in our sample felt that the attributes of a modern professional teacher are enthusiasm, engagement, participation in continual learning, and the continuous upgrading of skills.

Teachers clearly do not have a single integrated view of professionalism. Swann, McIntyre, Pell, Hargreaves, and Cunningham (2010) note that "there are clearly a considerable number of different aspects of their professionalism that concern teachers, but each is considered on its own merits, not in opposition to others. There is too wide a diversity among teachers in their thinking about professionalism" (pp. 566–567). Their conclusion suggests that the English teachers' thinking about their professionalism seems to reflect facets of traditional teacher professionalism. The inner key construct is the teachers' sense of commitment, this being represented by two components: 1) the professional expertise to do complicated work, and 2) the teacher profession to be trusted by the government and the general public. The features of this kind of traditional professionalism are not, however, held in opposition to any newer components.

CONCLUSION

The foregoing presents the pedagogical and dispositional competences of Finnish and English teachers required by the changing school culture. Of the pedagogical competences of the pre-active phase of the teaching process, the teachers in both

countries emphasized mastery of the subject matter especially in mother tongue skills (Finnish or English) and mathematics. The teachers in the small schools put particular stress on the skill of planning effective teaching. The Finnish teachers regarded as problematic the inclusion approach due to their deficient knowledge and skills. The problem for the English teachers was the dominating position of examinations as early as in the planning stages of teaching. Of the competences of the interactive phase of teaching, the teachers of both countries regarded the creation of good relations with children, listening to the learners, and communication in pedagogical situations to be important skills. The skill of using information technology in teaching was also seen as important. The central competences of the post-active phase were, according to the Finnish teachers, the ability to evaluate students' learning as well as the teachers' own activity. The Finnish teachers experienced different levels of self-evaluation as problematic for genuine utilization in the development process of the schools. The English teachers, in contrast, experienced the pressure from external control as problematic.

Dispositional competences depict teachers' qualifications for professional practice as members of a working community. Ethical and moral dispositions form the basis for professional competence. The teachers in both countries regarded the ethical and moral inclinations associated with the teaching profession to be important. These were respecting and loving children as well as fondness for and caring about children. The central characteristic for working in a community was social competence. Further demands on the teacher were a high degree of self-confidence, personal commitment, and energy. We can justifiably conclude that teachers are increasingly required to be able to accept criticism in their work and to adopt a constructive attitude to it. An essential feature is the ability to accept the changes occurring in education and the ability to deliberate on their significance in the teacher's own work. Central characteristics of today's professional teacher are enthusiasm and engagement, as well as participation in continual learning and constant upgrading of skills. The professional qualities of teachers may be developed using school-based in-service training and by researching their own teaching and learning. Similarly, the maintenance of individual professional competence requires many skills in life-long learning and in studying the students' learning processes as well as one's own teaching.

Table 2 is an attempt to outline the pedagogical and dispositional competences required of teachers in a changing school culture. Pedagogical competence includes skills and knowledge that can be connected with the pre-active, interactive, and post-active phases of teaching. During the pre-active phase of the teaching process teachers, guided by their own practicality ethic and theory, make multi-leveled plans concerning objectives, contents, and teaching methods. Pedagogical competence also includes their knowledge about the context, as well as of the learners, their parents, and their families. The competences relevant to the interactive phase of the teaching event include the skill of applying teaching methods and functioning in a goal-directed manner in the teaching situation. In authentic situations based on active learning, the skill of reflecting and evaluating learning, as well as pedagogical-communicative skills

Table 2. The Areas of a Teacher's Pedagogical and Dispositional Competences in a Changing School Culture

Areas of Pedagogical Competences	Areas of Dispositional Competences
<p><i>Pre-active phase of teaching</i></p> <ul style="list-style-type: none"> – Information about the curriculum and mastery of subject matter – The ability to plan teaching effectively – Information about context: <ul style="list-style-type: none"> – familiarity with and development of the school context – familiarity with the neighborhood and the ability to benefit from the resources that it offers – familiarity with the society and the ability to benefit from the resources that it offers – the ability to benefit from the resources offered by different interest groups – Information about teaching methods – Information about learners: <ul style="list-style-type: none"> – understanding and respecting learners – learning styles, features of development – information about parents and families 	<p><i>Professional prerequisites for entering teaching</i></p> <ul style="list-style-type: none"> – Ethical and moral competence – Personality-based competence – Conative competence – Affective competence – Cognitive competence – Psycho-motor competence – Metacognitive competence
<p><i>Interactive phase of teaching</i></p> <ul style="list-style-type: none"> – The ability to apply teaching methods – The ability to function intentionally in the teaching situation – The ability to reflect and evaluate learning in authentic situations – The ability to differentiate teaching – Pedagogical-communicative competence <ul style="list-style-type: none"> – the ability to communicate in a pedagogical situation – the ability to manage the classroom – the ability to organize – the ability to manage interpersonal relationships – interactional ability – the ability to listen – the ability to express oneself in speech and writing – the ability to benefit from information technology 	<p><i>Professional activity in the work community</i></p> <ul style="list-style-type: none"> – Social competence – Administrative competence – Innovative and creative competence – Competence to reflect on one's own work – Strategic competence – Capacity to do several tasks simultaneously
<p><i>Post-active phase of teaching</i></p> <ul style="list-style-type: none"> – The ability to evaluate the learner's progress – The ability to assess one's own performance – The ability to develop a curriculum 	<p><i>Maintenance of professional competences</i></p> <ul style="list-style-type: none"> – Readiness for life-long learning – Readiness to study teaching – Skill at developing theory in practice

are of crucial importance. Key competences in the post-active phase are the evaluation of learning, the self-evaluation of teaching, and the ability to develop a school-based curriculum. The dispositional competences depict the teacher's prerequisites to function as an active teacher and member of a work community. The basis for dispositional competences is created by ethical and moral inclinations. These include the teacher's values, commitments, and professional ethics. Some of the professional competences, such as cognitive competence, are acquired during a teacher's pre-service training. For the individual teacher, life-long learning and forming a theory-in-use are both essential components of professional development. A readiness to reflect on and study teaching also facilitates participation in the professional development of a collaborative school culture.

Contemporary teachers work in conditions where continuous change, cultural dispersion, and increasing diversity in all areas of life are commonplace. According to Niemi and Jakkuri-Sihvonen (2006, pp. 45–46), teachers' competence must include a readiness to analyze these circumstances, to draw conclusions, and to make decisions to adjust to situations. They must be able to effect any necessary changes. Teachers need high quality academic and pedagogical knowledge in their work. The new professionalism carries social and emotional, as well as technical and intellectual components. These are needed to establish emotional bonds with and among children, as well as to lay down the building blocks of empathy, tolerance, and commitment to the public good (Hargreaves & Lo, 2000, p. 34). In the eyes of many prominent researchers "Finland contains essential lessons for societies that aspire, educationally and economically, to be successful and also sustainable knowledge societies – beyond an age of low-skill standardization" (Hargreaves, 2008, p. 22). A future giving our children the best tools for critically dealing with continuing change can be built by developing a highly qualified profession that brings about improvement through commitment, trust, cooperation, and responsibility. These are just some of the signs of possible reform pathways to be taken from Finland's educational theory of action (Hargreaves, 2008, p. 22; see also Hargreaves & Shirley, 2009, p. 55; Hopkins 2007, pp. 31–32; Sahlberg, 2011a, pp. 70–73).

Teacher education is generally perceived to play a fundamental role in supporting and encouraging reform within the education profession (see, e.g., Sahlberg, 2011, pp. 182–183; 2012, pp. 1–2). In order to maintain this role, teacher education must be continuously developed. It must be based on high-quality international research of education, learning, and teaching. Ideally, teacher education would transform the traditional, reproductive learning into innovative and cooperative learning, and, as far as possible, link it to local, national, and international expert networks. In this way, learning can be related to its natural context. Ideal teaching is multi-disciplinary, problem-oriented, holistic, and contextual. Accordingly, the philosophical basis of the education process is the idea that reality is constructed through the interaction between a person and the environment. Knowledge is developed by the experience generated by active effort. It is constantly enhanced by new theory that better explains the experience; thus, theory is a tool for reconstructing experience and evaluating

activity. Thinking is consequently a means of mastering the experience generated by activity, which, in turn, promotes our adjustment to the world around us. According to this view, reality is best organized through activity and immediate experiences (Kimonen, 2013, pp. 308–309, 315).

An exploratory and experimental approach in the development of teacher education calls for ever-intensifying national and international cooperation between teacher education institutes, teacher training schools, and the departments responsible for specific disciplines. Research creates foundations for developing the teacher profession. It gives future teachers skills for analyzing teaching and education work. Additionally, it provides them with various theoretical approaches to both the learning processes and their practical implications.

The following is a brief outline of an ideal teacher education. It includes modules concentrating on research of teaching and learning, and has the professional development of a teacher and transformation of school culture as its objectives:

1. *Promoting metacognitive and self-regulatory processes in active learning.* The aim of teacher education is to promote metacognitive skills in the processes of active learning. It is essential to make the prospective teachers reflect on their own experiences and observations obtained during teaching and education work in the light of their text books. This enables the students to connect the knowledge, skills, and attitudes thus gained to models of thinking and action within their own cognitive structure. The purpose is to fortify the inner models into metacognitions that would enable the students to further control their own professional growth based on *transformative learning*. The idea is to make the future teachers create their own aims and thus to act in a meaningful and insightful way to reach them in the individual or group learning processes.
2. *Encouraging the development of understanding of pedagogical knowledge.* The precondition for the professional dimension in teachers' work is deep and diversified *specialist knowledge*. This means that prospective teachers should have a thorough understanding of content knowledge. They should also have expertise in general pedagogical knowledge as well as pedagogical content knowledge that includes knowledge of curriculum, learners, and educational contexts. Additionally, they should have deep understanding of educational ends, purposes, and values, and their philosophical, sociological, and historical bases (see Shulman, 2004, p. 227).
3. *Contextualism.* Teachers' professional development should demonstrate the implications of *principled professionalism* by representing teachers who actively contribute to the surrounding community. Core factors in the teaching will be promotion of social orientation, cooperation, and continuous work development in order to enhance:
 - teachers' commitment to work with their colleagues in a school culture based on cooperation, and in which problem solving involves mutual help, support, and shared expertise, and
 - teachers' professional interdependence, which implies that they work at school, relying on their own professional competence, but simultaneously

- act collaboratively with other interest groups in the community (see Goodson & Hargreaves, 2003, p. 132).
4. *Supporting the professional development of a teacher.* The features of *new professionalism* in teaching include enthusiasm and engagement in continuous learning and upgrading of skills. Teacher professionalism can be developed through school-specific continuing education and research on one's own work. In order to maintain their professional competence, teachers must be ready for lifelong learning as well as to conduct research into students' learning and their own teaching.
 5. *Meeting the new global challenges of education and teaching work.* Teachers acquire the tools necessary for meeting the new challenges posed by globalization in their educational and teaching work if teacher education robustly focuses on the development of different *learning environments*. These include multicultural and intercultural cooperation, promotion of data and communications technology in teaching, and the networking of schools. The teacher of the future will be expected to be an ethical visionary who is interested in actively participating in the development of society.

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10. THE REFORM AND DEVELOPMENT OF TEACHER EDUCATION IN CHINA AND JAPAN IN AN ERA OF SOCIAL CHANGE

Trends and Issues

As the world increasingly becomes a global society, many people consider education to be an important avenue for national development. The preparation of new teachers and the ongoing professional development of the current teaching force are both regarded as the keys to educational improvement (Cobb, Darling-Hammond, & Murangi, 1995). One example of this thrust is seen in two important East Asian countries: China and Japan. With the rapid and deep social transformation in those countries since the 1980's, education, particularly teacher education, emerged as a critical issue. Teacher education in China and Japan has entered an age of great transformation. This chapter describes a comparative study of the teacher education transformation in the two countries in this global era, including looking at the background, goals, contents, and problems of the reforms and developments.

BACKGROUND OF THE TEACHER EDUCATION REFORM AND DEVELOPMENT

Before examining the measures of teacher education reform, we need to look at the context and background of teacher education transformation in China and Japan. A clear description of the context and background may not only explain the necessity for the transformations, but also help us understand the direction of the transformations more clearly.

China

The contextual and background factors behind the teacher transformation in China are undoubtedly very complex and diversified, and they cannot be explained in simple words. However, the following three factors are the most important ones for explaining the context and background of the teacher education reform and development in China since the 1990's.

Social Transformation

Although academics dispute the characteristics and contents of the current social transformation in China, there is broad consensus that the country is in an era of great transition. To understand the influences of the transformation on teacher education reform and development, the following two kinds of transformation deserve special attention.

Transformation from an Agricultural Society to an Industrial and Information Society

From the angle of transformation of social patterns, China is experiencing a social transformation of a dual nature; that is, the transformation from an agricultural society to an industrial society on the one hand, and the transformation from an industrial society to an information society on the other. As Wang has pointed out, China's social transformation is not the "fast-food operation" and "remodeling updating" within the framework of agricultural society – industrial society; more importantly, it is embodied in the leapfrog development in social development paradigm and transcendence in the form of civilization, this being reflected in the method of wealth creation and qualitative rotation of productivity structure (Wang, 2000). That is, seen from the angle of motive power, the leading and pilot momentum for China's social transformation is undoubtedly the developmental process of information, knowledge, and a network-based society (Wang, 2003). In other words, the impact that the developmental process of such a society has had on China's social transformation is more fundamental. In order to meet the demands of information, knowledge, and network-based society, the 16th National Congress of the Chinese Communist Party clearly put forward the construction of a learning society as an important goal. The construction of a learning society creates new requirements for teachers and teacher education. It requires that teachers not only aim to develop students with lifelong learning desire and abilities, but also become lifelong learners themselves, acting as models for society as a whole. In order to cultivate teachers with the desire and abilities for lifelong learning and development, it is necessary to reform teacher education in accordance with the idea of lifelong learning and education and construct a lifelong learning system for school teachers. Teacher quality and teacher education in China in the early 1990's was clearly unable to meet this demand.

Transformation from the Planned Economy to Market Economy

Since 1949, China's economic system reform has undergone a transformation from a planned economy to a socialist market economy. In the early 1980's, the Chinese Communist Party wanted great efforts to be made to develop the socialist commodity economy. Some ten years later the Party proposed that the establishment of a socialist market economy should be the goal and direction for China's economic system reform. With the transformation of the economic system from a planned economy to a market economy, the feature of a market society has become increasingly prominent, this being mainly reflected in the competition mechanism gradually replacing the mechanism of

decision-making by a minority of people, and the regulatory government gradually transforming into a service-oriented government. With the transformation of the economic system, the closed teacher education system compatible with the planned economic system has increasingly shown its unadaptability. It should be pointed out that social transformation has accelerated the collapse of the old teacher education system, while also providing the impetus for the initiation and development of a new teacher education system.

Primary and Secondary Education Reform

In June of 1999, the Central Committee of the Chinese Communist Party and the State Council of the People's Republic of China issued the *Decisions on Deepening Educational Reform and Promoting Quality-Oriented Education in an All-Round Way*, which clearly defined the guidelines and fundamental strategies for comprehensive promotion of quality education in China, pointing out the direction for constructing the Chinese education system in the 21st century (CCCPC & SC, 1999). The promulgation of the *Outline for Basic Education Curriculum Reform* by the Ministry of Education in 2001 started a new round of primary and secondary education curriculum reform in China (DTE of MoE Ed., 2009, pp. 219–223).

The primary and secondary education reform that aimed to transform education from being examination-oriented to quality-oriented has changed the roles of school teachers. In accordance with the requirements of quality-oriented education, a teacher should not only impart knowledge, but also provide guidance, supervision, and evaluation for students in their learning lives. A teacher should be a designer who can establish a democratic, equal, and interactive relationship with students and create student-friendly learning environment, an inquirer who is reflective and collaborative with advanced educational ideas and thoughts, and a subject specialist who can carry out curriculum development.

Changing the roles of teachers is bound to present new requirements for teacher education. The teacher education system compatible with the old primary and secondary education found it difficult to satisfy the developmental needs of quality education. Therefore, the focus of teacher education reform has become how to reform teacher education and establish a new teacher education system that is compatible with the transformation of primary and secondary education toward quality education. The *Outline for Basic Education Curriculum Reform* clearly required that “normal universities, colleges and schools, and other colleges and universities and training institutions involved in pre-service and in-service education of school teachers should adjust their educational and training goals, specialty setting and curriculum structure, and reform instructional methods in accordance with the goals and contents of primary and secondary education curriculum reform” (ibid., pp. 219–223). The *Suggestions on Further Strengthening of In-Service Training for the New Curriculum of Basic Education* by the Ministry of Education also emphasized that, in order to improve the educational quality, normal universities, colleges and schools, and in-service training

institutions should strengthen the consciousness of serving primary and secondary education, be close to primary and secondary schools as well as to the practical demands of the new curriculum reform; reform teacher education and training modes; and update teaching content and methods in accordance with the requirements of the new curriculum reform (ibid., pp. 594–596).

Changes in the Relationship between Supply and Demand of School Teachers

The shortage of teachers in China continued from 1949 until the 1990's. Faced with this situation, teacher education institutions had to prepare and send as many of their graduates as possible to primary and secondary schools in order to meet the needs of expanding education. Since the late 1990's, however, the relationship between supply and demand of teachers has changed mainly due to the following three factors.

The first factor is the decreasing school-age population with the implementation of family-planning policy. Due to the family-planning policy, including the one-child policy, the school-age population of primary and junior high schools has gradually decreased since the late 1990's. The second factor is the expansion of higher education. The numbers of students enrolled in higher education institutions has grown rapidly since 1998, which has made it increasingly difficult for graduates to find jobs. Meanwhile, more students in senior high schools are willing to apply for normal colleges and universities and specialties in teacher education. Moreover, a large number of graduates from teacher education colleges and universities, which are not using the name of a normal college or university, are choosing teaching as their career. The expansion of higher education has thus strongly influenced the supply and demand relationship of school teachers. The third factor is the improvement of teachers' economic and social status. Since China's reform and opening up, the Chinese Government has taken various measures to improve teachers' economic and social status. Although the economic and social status of teachers in China today is not as high as it is internationally, China has taken a big step forward compared to the situation before the reform and opening up, and this has had a strong influence on the supply and demand relationship of school teachers (Gu & Tan, 2004, pp. 72–73).

Due to the influences of the three factors above, the shortage of school teachers has already eased since the beginning of this century. The number of teachers in primary and junior high schools has decreased gradually. If we say that the change of supply and demand of school teachers make it possible that teacher education changes from a quantity-oriented system to a quality-oriented one, then the primary and secondary education reform accounts for the necessity of the change.

Japan

Japanese social structure has been characterized by change since the mid-1980's, and it is changes associated with teachers and teacher education that have brought about Japan's teacher education reform since the mid-1980's.

Rapid Changes of Social Structures

A general survey of the reports submitted by various government councils since the mid-1980's shows that the most important factor behind Japanese teacher education reforms is coping with the rapid changes of social structure. Having moved into the 1980's, Japan achieved its goal of catching up with the developed Western countries and entered a transition period to set new targets. This transition period was characterized by internalization, informationization, low fertility, an aging population, and a society with a notably higher level of education, among which the transition from an industrial society to an information society or a knowledge-based society is most characteristic of the transformation. In a knowledge-based society, rapid changes in social structure and knowledge require the function of school education to change from knowledge transmission-centered education to education for nurturing a "zest for living," which also means that teachers should not only become more professional, but also continuously renew their professional knowledge and abilities in order to adapt to the changes.

Profound Changes among Students

If the long-term aim for Japanese education in general and teacher education in particular is to cope with the rapid changes of social structures, the urgent problem for Japanese teacher education is to deal with the changes among students characterized as "educational pathology." Educational pathology, such as school violence, bullying, non-attendance at school, and the worsening issue of juvenile delinquency, has lasted since the mid-1970's and has become a major social concern (Rao, 2006). The emergence and sustaining of educational pathology has led to profound changes occurring among students. Of these changes, the tendency to escape from learning deserves special attention. Profound change means that teachers cannot continue with traditional ways of teaching and must absorb knowledge from the latest educational research to understand their students in greater depth in addition to upgrading their professionalism to deal with the changes among students.

Severe Shaking of Public Trust on Teacher and Teacher Education

School teachers were highly respected in Japanese society for a long time, especially after the enactment of the *Teaching Personnel Development Law* in 1974. The relationship between schools and society and between teachers and parents was harmonious. However, the emergence and spread of educational pathology has worsened the social image of teachers since the mid-1980's. Teachers who were once highly respected have faced more and more questioning and distrust from parents and the public as well. The distrust of school teachers has also led to distrust of teacher education. Against such a background, teachers and teacher education became the target of the reform. Therefore, upgrading teachers' professionalism to regain the public's trust on schools, teachers, and teacher education has become a persistent slogan of Japanese

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teacher education reform since the mid-1980's. The reform concerning teachers is not just an area of education reform, but also one of its most important focal points (Kudomi, 2005).

Change in the Relationship between Supply and Demand of School Teachers

Under the open-system principle, postwar Japanese teacher education has been provided by two types of universities. The first are those that were previously specialized teacher training colleges and became national universities of education, or, alternatively, became the faculties of education in national universities. The second type is universities in the private and municipal sectors. There was a system of labor division between the two types of universities, with the former mainly focused on teacher education for primary school teachers, and the latter mainly on teacher education for secondary school teachers. To a certain extent, this division actually maintained an appropriate balance between the supply and demand of school teachers. However, coupled with a decline in the school-aged population since the mid-1970's, there emerged an over-supply of qualified teachers throughout the 1980's and the 1990's. At the turn of the century, though, as the teachers of the postwar baby boom generation started to retire, the number of recruited teachers increased sharply, especially in urban districts and the primary school sector.

GOALS OF THE TEACHER EDUCATION
REFORM AND DEVELOPMENT

China

From 1949 until the 1990's, teacher education in China was basically a quantity-oriented education system that focused on coping with the shortage of school teachers as a result of the expansion of primary and secondary education. Many reasons can be presented for the shortage of school teachers, but two are of paramount importance. The first reason is the expansion of primary and secondary education due to the increasing population since the establishment of People's Republic of China in 1949 and the implementation of the nine-year compulsory education since 1986. The second reason is that the teaching profession lacked attractiveness for young people due to its low economic and social status and a high turnover rate. For these reasons, the shortage of teachers continued for quite a long time after 1949. Faced with this situation, teacher education institutions had to prepare and send as many of their graduates as possible to schools in order to meet the needs of expanding education. In this way, teacher education in China was quantity-oriented for a long time, without time and room to attend to the improvement of quality.

However, with the development of teacher education, the shrinking of the primary school-age population, and a teacher surplus at the primary and junior high school level, the *quality* of teachers became the problem, rather than the *number* of teachers.

Since the end of the 1990's, Chinese teacher education has witnessed a change from being quantity-oriented to being quality-oriented. In 1993, the National People's Congress passed the *Law of Teachers*, which identified teaching as a profession and stipulated that teachers are professionals whose duties are to educate and teach. This was the first time in the history of Chinese education that teaching had been accorded this status. As this law shows, the quality-oriented teacher education reform in China aims to improve teachers' professionalism and to promote teacher professionalization.

To promote teacher professionalization, the Government has adopted the following important policies. The first is the upgrading of teachers' educational credentials. According to the *Law of Teachers* of 1993, the lowest requirements for obtaining teacher certificates of kindergartens and primary schools, junior high schools, and senior high schools are a secondary normal school certificate (high school diploma), a junior normal college or teachers' college certificate (sub-degree), and a four-year normal university or college diploma (Bachelor's degree). This requirement is lower than those in many developed countries. Therefore, the *Action Plan to Revitalize Education in the Twenty-First Century*, issued in 1999, and the *10th Five-Year Plan for the Construction of the Teaching Force of Primary and Secondary Schools*, issued in 2001, suggested that the requirements for the minimum educational credentials of teachers of each school stage should be raised to a higher level (MoE, 1999; DTE of MoE Ed., 2009, pp. 251–257).

The second policy is the implementation and improvement of the teacher certification system. China has gradually abandoned the original system of academic certificates to establish the teacher certification system since the 1990's. The teacher certification system was introduced in 1993, when the *Law of Teachers* was enacted. This clearly provided for the implementation of a teacher certification system. The State Council promulgated *The Regulations of Teacher Certification* in 1995, which clearly stated that "Chinese citizens working as educators at all levels of schools and other educational institutions shall obtain relevant teacher certificates in accordance with the law" (The State Council, 1995). "Those who want to apply for the teacher certificate without the educational credentials required by the *Law of Teachers*, should pass the teacher certificate examination organized or recognized by the state" (ibid.). For the better implementation of *The Regulations of Teacher Certification*, the Ministry of Education promulgated the *Measures for Implementation of Regulations of Teacher Certification* in 2000, specifically stipulating the subject of main responsibility in the implementation of teacher certification, specific procedures, operational methods, and so forth. This led to the full implementation of the teacher certification system in China. The *Guidelines of the National Program for Medium and Long-Term Educational Reform and Development (2010–2020)* issued in July of 2010 proposed a national standard, provincial examinations, and county recruitment system for the access and management of teacher certificates (The State Council, 2010).

The third policy is the development of professional standards concerning teachers and teacher education. In order to deepen the teacher education reform, to regulate and guide teacher education curriculum and instruction, and to construct a high-quality

professional teaching force, the Ministry of Education issued the *Teacher Education Curriculum Standard* (Trial) in November of 2011. The standard has three basic ideas. The first is educating students, which primarily means that teachers are facilitators of student development whose professional development is realized in the process of studying and helping students grow healthily. The second is practical orientation, which means that teachers are reflective practitioners whose professional development is achieved in the process of studying their own experience and improving their own teaching behaviors. The third idea is lifelong learning, which means that teachers' professional development is achieved in the process of continuous learning and continuous improvement of their own capacities (MoE, 2011a). In order to promote teachers' professional development and to construct a high-quality professional teacher force, the Ministry of Education published the trial *Professional Standards for Kindergarten, Primary, and Secondary School Teachers* in 2012. According to the trial professional standards, the four key ideas in the standards are teacher's morality as a priority, student-centered, competence-focused, and lifelong learning (MoE, 2012).

Although the *Law of Teachers* of 1993 identified teaching as a profession, the law and subsequent policies and regulations did not clarify the specific requirements for capacities of the teacher as a professional until the aforementioned standards (especially the professional standards for teachers) were issued. Although these standards have only recently been promulgated or published, they have been discussed extensively for a long time. Therefore, they are not only guidelines and regulations for Chinese teacher education reforms in the future, but to a large extent can also be seen as a summary or integration of the ideas and thoughts about teacher capacities and teacher education quality since the late 1990's. Through these standards we can understand what kind of teachers and teacher professionalism has been required in the Chinese teacher education reform until now.

The two kinds of standards are not only based on the concept of teaching as a profession, but they also share nearly the same image of teachers and teacher professionalism. Both standards prioritize teacher's professional ethics, practical competence, lifelong learning, and respect for students.

Japan

Japanese teacher education reform since the mid-1980's has aimed at "regaining the public trust in teachers" and "improving teachers' professional competence" (Kudomi Ed., 2008, p. 4). Enhancing teachers' professional competence can be described as the most fundamental goal of Japanese teacher education reform since the mid-1980's as it forms the basis and precondition for winning the public's trust in teachers. What kind of professional competence or professionalism has been sought after in Japanese teacher education reform since the mid-1980's? In order to answer this question, we need to examine the following three council reports.

Policies and Measures to Improve Teachers' Capacities

The report of the Educational Personnel Training Council (EPTC) of 1987, based on the notion of teaching as a profession, argued that a teacher must have a sense of mission as an educator, deep understanding of human growth and development, educational love for students, professional knowledge about areas such as subject matter, wide and rich cultural orientation, and practical competence based on the aforementioned capacities. It can be observed that the core of professionalism in this report is practical competence. Although the concept is not clearly defined, either in this report or the second report of the National Council for Education Reform (NCER, 1987) on which the EPTC report of 1987 was based, practical competence is understood more in technical terms and in terms of the overall spirit of the second NCER report and increasingly severe phenomenon of educational pathology. In other words, it is understood more as practical competence to cope with the problem of educational pathology and to adapt to the needs of the school-sites (Sakamoto, 2009).

Policies and Measures for Improvement of Teacher Education for the New Era

Based on the understanding that teacher capacities are the combination of knowledge and skills supported by love for and a sense of pride in and an identity with teaching as a profession, the EPTC report of 1997 approached teacher capacities from the following two perspectives.

Firstly, it divided teacher capacities into the capacities required at any time and the capacities required especially in the future, with the emphasis on the later based on the consideration of tackling the problems facing schools at present and satisfying the needs of future school education. The EPTC report of 1997 regarded teacher capacities listed in the EPTC report of 1987 as the capacities required at any time, and argued that the capacities required especially in the future mainly included the ability to act from a global viewpoint, a capability to cope with changes as an adult, and the capability required in the teaching profession.

Secondly, the report emphasized the need for teachers to have a specialty and rich individuality. The report maintained that the uniform requirement of teachers should be avoided in the future when considering what teacher capacities were required, but instead to guide and promote teachers to establish their own specialty and expand their individuality on the basis of ensuring that all teachers are equipped with common basic and core capacities.

As summarized in the EPTC report of 1999, entitled the *Smooth Linkage between Preparation, Recruitment, and In-Service Training of Teachers*, the EPTC report of 1997 put forward proposals to improve teacher preparation, mainly with the aim of preparing teachers with a sense of mission, specialty, individuality, and the competence to adequately deal with the problems of the school sites. In other words, the EPTC report of 1997 still focused on practical competence, while especially emphasizing a sense of mission, specialty, and individuality. It can be observed that this report

showed a deeper understanding of teacher professionalism because it noticed the human dimension of teacher development, regarding the importance of integration of professionalism, humanity, and sociality in teacher development (Sakamoto, 2009).

Creating Compulsory Education for the New Era

Based on the consideration of dealing with the impending retirements of a large number of school teachers and regaining the public trust on teachers, the report of the Central Council for Education (CCE) of 2005 argued that excellent teachers should have the following three capacities:

- A strong passion for education (a sense of mission and pride in the teaching profession and love for and a sense of responsibility for children, etc.);
- A solid ability as educationalists (the ability to understand children, guide students and teams, build a class, etc.); and
- Comprehensive human power (rich humanity and sociality, general knowledge and cultural orientation, interpersonal skills such as etiquette, etc.) (CCE, 2005).

The third of these capacities is newly proposed and deserves special attention. Comprehensive human power is mainly human qualities associated with the personality formation of children according to its components listed in the report of the Central Council for Education (CCE) of 2005. It can be said that the formulation of comprehensive human power in the CCE report of 2005 highlights the emphasis on human qualities of teachers, based on the formulation of practical competence in the EPTC report of 1987 and a sense of mission, specialty, and individuality in the EPTC report of 1997 (Sakamoto, 2009). After examining the understanding of teacher professionalism of the main council reports related with teachers and teacher education since the mid-1980's in Japan, we can summarize the following two characteristics.

Firstly, most of the capacities that are strongly required of teachers are related to the “competency to tackle educational problems,” but they are not linked to the “ability associated with subject teaching” (Iwata, 2006, pp. 89–90). There are two reasons for this: One is that Japanese students continuously achieved excellent results in international tests, such as PISA and TIMSS, which shows to some extent that there is no urgent problem with Japanese schools and teachers in improving students' academic abilities. The other reason is that, since the mid-1970's it has become urgent for schools and teachers to cope with the problems of educational pathology.

Secondly, this chapter has above shown that the EPTC report of 1987 focused on the technical aspects of practical competence, the EPTC report of 1997 emphasized a sense of mission, specialty, and individuality, and the CCE report of 2005 stressed comprehensive human power. The requirements for teacher capacities since the 1980's have shifted from a focus on the development of the teacher as a professional practitioner (professional development) to one on the development of the teacher as a person (personal development), noticing the need to integrate professional and personal development. There are both traditional and practical reasons for the emphasis on human qualities and personal development of teachers in Japan. Japan has a tradition

of attaching importance to human qualities of teachers influenced by the culture of Confucianism. In a practical sense, teachers hoping to cope with problems like educational pathology must attach greater importance to cultivating students' new scholastic abilities, such as interest, willingness, and attitude. Teachers cannot be expected to cultivate such new scholastic abilities with only technical competence. Before cultivating students' human qualities, teachers themselves should be equipped with human qualities.

MEASURES FOR TEACHER EDUCATION
REFORM AND DEVELOPMENT

China

Generally speaking, the features of teacher education reform in China since the late 1990's can be summarized into three aspects: improvement of the quality of school teachers, structural reform of Chinese teacher education, and construction of a lifelong education system for school teachers.

Improvement of the Quality of School Teachers

As mentioned earlier, overstaffing began to occur at primary and junior high schools at the turn of the century. However, overstaffing does not mean that there is a sufficient supply of qualified and competent teachers for primary and secondary education. By the end of 2001, approximately 3.19 percent of teachers at primary schools, 11.19 percent at junior high schools, and 29.26 percent at senior high schools had not achieved the standard provided for by the *Law of Teachers* of 1993 and other regulations. Even some of the teachers who are in compliance with the requirements are not competent enough. Under such circumstances, improving the quality of school teachers has become an important task.

Improvement of Teachers' Professional Ethics

Professional ethics not only regulate teachers' work, but are also the main factor influencing the growth of children. Therefore, it is not inconceivable that teachers' professional ethics receive wide attention. Moreover, according to the classical concept of profession, professional ethics or the service ideal is an important criterion or trait of a profession. Therefore, attaching importance to teachers' professional ethics is the proper meaning of promoting teacher professionalization. However, China has attached great importance to the professional ethics of teachers in its teacher (education) policies since the turn of the century, not only with the long-term vision of promoting teacher professionalization, but also out of the present consideration of coping with the moral decline of teachers. The reason why the issue of teachers' professional ethics has become a social problem is relevant to the declining tendency of teachers' professional ethics with the recent development of market economy. Specifically, this includes problems that regularly occur among school teachers, such as the

loss of enthusiasm for work, corporal punishment of students, and excessive utilitarianism.

In the light of the above situation, the policies concerning teachers and teacher education have focused on improving teachers' professional ethics in China in recent years. The *Action Plan to Revitalize Education in the Twenty-First Century* issued in 1999 proposed that "the overall quality of the teaching force should be greatly improved, and especially the improvement of teachers' professional ethics should be strengthened" (The State Council, 1999). Moreover, documents such as the *Decisions on Deepening Educational Reform and Promoting Quality-Oriented Education in an All-Round Way* in 1999, the *Construction of the Teaching Force of Primary and Secondary Schools* in 2001, and the *Suggestions on Teacher Education Reform and Development* in 2002, all emphasized teachers' professional ethics, regarding professional ethics as the essential professional capacity of teachers (MoE, 1999; DTE of MoE Ed., 2009, pp. 251–257, 261–266). In January of 2005, the Ministry of Education put forward specific measures for improving teachers' professional ethics by issuing the *Suggestions on Further Strengthening and Improvement of the Construction of Teachers' Professional Ethics*. The document *National Guidelines for Educational Reform and Development for 2010–2020*, issued in 2010, reaffirmed the importance of improving of teachers' professional ethics, regarding it as the primary content of construction of high-quality professional teaching force (The State Council, 2010).

To sum up, four main measures to improve teachers' professional ethics have been implemented in China since the 1990's. The first is utilizing mass media to implement promotional activities on teachers' professional ethics. The second is strengthening the education of teachers' professional ethics. The Ministry demanded that the education of teachers' professional ethics be put into in-service training for every teacher and implemented in diverse forms. The third measure is the development and improvement of codes of professional ethics. The State Education Commission and the National Trade Union of Education jointly issued the *Codes of Professional Ethics for Primary and Secondary School Teachers* in 1991. The Ministry amended it after widely seeking public suggestions and issued a new one in September of 2008. The new document includes the following six articles: loving the country and abiding by the law, doing one's work well and making a contribution, loving one's students, imparting knowledge and educating people, being a model for others, and lifelong learning (MoE, 2008). The basic contents of this new document on professional ethics not only inherits the tradition of Chinese teachers' professional ethics, but also reflects the fundamental requirements for teachers' basic moral qualities and professional behaviors in the new situation of economic, social, and educational development. The fourth measure to improve teachers' professional ethics is rigorous evaluation and assessment of teachers. Performance in this area is an important basis for teachers' annual assessment and engagement of professional titles.

Improvement of Teacher's Pedagogical Competence

Teacher's pedagogical competence is the core of teachers' professionalism. In order to improve this competence, the Ministry of Education began to strengthen in-service training since the 1990's, especially at the end of the decade. The in-service training of teachers in China since the era of reform and opening consists of training for both educational and non-educational credentials. Seen from the relative status in in-service training and their content changes, the training of school teachers in China since the reform and opening can be divided into three phases. The first phase focused on compensatory in-service training for teachers without the required educational credentials (from 1978 to 1989). The second was the transitional phase from the compensatory in-service training for those without the required educational credentials to the continuing education for those with the required educational credentials (from 1991 to 1998). The third phase focuses on the continuing education for those with the required educational credentials (since 1999) (Rao, 2008).

The document on promoting quality-oriented education of 1999 proposed that teacher's pedagogical competence "shall be treated as the focus of pre-service and in-service teacher education to improve teachers' abilities of implementing quality-oriented education," and "the continuing education with all teachers as its targets and 'backbone teachers' as its focus shall be implemented so as to significantly improve the overall quality of primary and secondary school teachers" (The State Council, 1999). In accordance with the spirit of this document, the Ministry of Education issued the *Regulations on Continuing Education for Secondary and Primary School Teachers* in 1999, which has defined the contents, categories, organization and administration, infrastructure standards, examination and verification, awards and penalties of continuing teacher education. According to this regulation, all in-service primary and secondary school teachers are required to complete a 240-hour training within five years (one cycle of training), which equates to 48 hours every year (MoE, 1999). This is the most comprehensive regulation concerning in-service training issued recently and builds a basic framework of the Chinese continuing education system.

The Ministry started the Project of Continuing Education for Primary and Secondary School Teachers in 1999. The project aimed to improve the quality of the entire teaching force by focusing on the training of backbone teachers. The backbone teachers can be identified as the most experienced and effective teachers in their schools and regarded as leaders of the teaching force. The main achievements and contents of the project can be summarized as follows. Firstly, off-the-job in-service training for one million backbone teachers of different levels was implemented between 2000 and 2003. The Central Government allotted 100 million yuan (approx. USD 12 million) to train the 10,000 backbone teachers at the national level. Provinces (autonomous regions, municipalities) implemented off-the-job training for 90,000 backbone teachers at provincial levels. Districts (cities) implemented off-the-job training for 900,000 backbone teachers at district levels. Secondly, the in-service training for all primary and secondary school teachers was implemented, this focusing on teachers' professional ethics, information technology, and the competence to implement quality-oriented education. Thirdly,

in-service training (especially continuing education for non-educational credentials) of teachers has been institutionalized. Through the implementation of the project, not only was national regulation on training of teachers developed, but also a series of laws or regulations about training of teachers was promulgated at the provincial (autonomous regions, municipalities) level. With these regulations as legal guarantee, training of teachers has been institutionalized.

To implement the requirements of the *New Action Plan to Revitalize the Education* for 2003–2007, the Ministry issued the Program of In-Service Training for All Primary and Secondary School Teachers for 2003–2007 in 2004 and began to implement a new round in-service training for all school teachers, mainly consisting of two training programs in accordance with the guidelines for all teachers, with a focus on backbone teachers and a preference for rural teachers. The new round of training centered on new ideas, new curriculum, new technology, and teachers' professional ethics (DTE of MoE Ed., 2009, pp. 299–310, 632–635). In implementing a new round of in-service training for all school teachers, the Ministry highlighted the following two kinds of training. The first is the training for homeroom teachers. In order to improve homeroom teachers' capacities, especially their abilities to implement moral education, the Ministry started a special in-service training program in August of 2006 and subsequently incorporated it into the program for in-service training for all school teachers. According to this program, anyone wishing to become a homeroom teacher must receive 30 hours of training, either before starting to teach or within half a year after being such a teacher from that year. The contents of the training mainly include basic norms for teachers' work, education and guidance for students' mental health, design and organization of classroom activities, classroom management, moral education of adolescents, and related educational policies, laws, and regulations (*ibid.*, pp. 739–741). With the implementation of the program, the in-service training for homeroom teachers has been institutionalized. The second is the training of teachers for cultivating teachers' competence of applying the new technologies in their teaching. In order to improve teachers' competence of utilizing information and communication technologies in their teaching and to promote the effective use of these in teaching, the Ministry decided in April of 2005 that a variety of ways and means would be utilized so that each school teacher would receive no less than 50 hours of training, mainly on effective integration of the new technologies and subject teaching from 2005 to 2007 (*ibid.*, pp. 708–713).

In order to strengthen the construction of the teaching force, especially the improvement of the teacher quality of rural schools, the Central Government allocated 50 million yuan to support the Ministry in implementing the National Training Program for Primary and Secondary School Teachers in 2009. The program, which aimed to offer demonstrations and guidance by providing timely assistance and promoting the reform, offered in-service training for 450,000 school teachers, 82 percent of which were rural school teachers (GO of MoE, 2010). In 2010, the Central Government allocated 550 million yuan of special funds for the national training program for teachers. The recently started 2010 program, including the Demonstration Program

for Training of Primary and Secondary School Teachers and the Training Program for Midwest Rural School Teachers, offered training for 1.15 million school teachers in 2010, among which 1.1 million teachers are in rural schools, accounting for 95.60 percent of the total number of teachers participating in the training (MoE, 2011b).

Structural Reforms

In recent years, the structural reform of Chinese teacher education has been mainly embodied in two dimensions of the teacher preparation (pre-service education) stage: one is horizontal restructuring; that is, opening of teacher preparation, and the other is vertical restructuring; that is, upgrading all teacher preparation into higher education level (Rao, 2007).

Opening of Teacher Preparation: Horizontal Restructuring

In China, teacher preparation as “normal education” was undertaken from 1950 until the early 1990’s under a single and closed system in which specialized normal schools, colleges, and universities were the only legal institutions for preparing and training teachers. This was also the only responsibility of these normal education institutions.

Since the 1990’s, however, Chinese teacher education has showed a tendency to open. As a breakthrough of the reform, many normal colleges and universities began to set up non-teacher education specialties or programs, striving to become comprehensive or multi-discipline higher educational institutions. According to the incomplete statistics about the specialties in normal colleges and universities, by the end of 1990’s, non-teacher education programs or specialties made up 50 percent of all specialties in most national normal universities. In addition to the setting up of non-teacher education specialties, the wave of amalgamation of higher education institutions since the early 1990’s has also had a huge impact on the existing normal education system. According to statistics (MoE, 2006), about 90 former teacher education institutions, such as NN [local or regional name] teachers’ college, or NN normal school, were merged with 136 institutions including general universities, professional colleges, and vocational schools, which previously had no relationship with teacher education (ibid.).

The trend of diversification and opening of teacher education in China was influenced greatly by the establishment and continuous improvement of the socialist market economic system, and was also a result of the teacher education policies of the Chinese Government over the past few years. The policy goal of Chinese teacher education reform in recent years has been to build a diversified and open teacher education system. The *Law of Teachers* in 1993 specified that graduates from normal schools, colleges, and universities should find jobs in schools and educational institutions, and encouraged graduates from other colleges and universities to teach in general primary and secondary schools or vocational schools. The *Law of Teachers* actually revealed the clue of the direction toward the establishment of a diversified and open teacher education system. The *Decisions on Reform and Development of Basic Education*

by the State Council and the *Construction of the Teaching Force of Primary and Secondary Schools*, launched in 2001, proposed further improvements to the open teacher education system, with independent and specialized normal colleges and universities. The above policies and regulations broke away from the traditional closed teacher education system in China, establishing the direction toward diversification and openness of teacher education system at the national policy level (DTE of MoE Ed., 2009, pp. 197–206, 251–257).

As a result of many factors, including national teacher education policies, a new pattern of teacher education in China has taken shape, with both normal educational institutions and comprehensive higher education institutions currently involved in teacher education. Although normal higher education institutions (using the name of normal colleges or universities) still exist, many of them have developed into comprehensive universities with multi-disciplines. While many non-normal higher education institutions (not using the name of normal colleges or universities) are involved in teacher education through amalgamation of other normal education institutions or setting up faculties or programs of teacher education.

According to the Department of Teacher Education of the Ministry of Education, in 2006, the number of non-normal colleges and universities providing teacher education at undergraduate level reached 234, with graduates of teacher education accounting for 33.4 percent of the total national graduates of teacher education. The number of non-normal colleges and universities providing teacher education at junior college level reached 253, with graduates of teacher education accounting for 58.3 percent of the total national graduates of teacher education at the same level (ibid.). Non-normal colleges and universities have already become an important force in Chinese teacher education. The monopoly that the institutions of teacher education used to have in the past half century has been permanently replaced.

Upgrading All Teacher Education to Higher Education Level: Vertical Restructuring
 Since teachers' certificates are closely related to their educational credentials in China, teacher preparation is implemented in corresponding educational stages. Specifically, teacher preparation was undertaken in three-level institutions for a long time in China, with four-year normal universities and colleges preparing teachers for senior high schools and vocational schools, two-to-three-year junior normal colleges preparing teachers for junior high schools, and normal schools at secondary education level preparing teachers for primary schools and kindergartens.

Since the end of the 20th century, with the implementation of the policies and measures to upgrading teachers' educational credentials, the teacher preparation system itself has stepped gradually into a process of upgrading. The *Decisions on Reform and Development of Basic Education* issued by the State Council in 2001 stated clearly that "teacher education restructuring should be upgraded to realize the transition gradually from three-level teacher preparation system to two-level teacher preparation system" (DTE of MoE Ed., 2009, pp. 197–206). The *Construction of the Teaching Force of Primary and Secondary Schools* of 2001 required that "the restructuring of

the layouts, levels, and types of normal schools, colleges, and universities should be upgraded to actualize the reasonable integration of normal schools, colleges, and universities with other institutions involved in teacher education within respective provinces (autonomous regions and municipalities), making the level of teacher education institutions transit timely from ‘three levels’ to ‘two levels’” (ibid., pp. 251–257). The National Working Conference on Teacher Education held in 2002 clearly put forward that the three-level teacher education system, consisting of junior college, undergraduate, and graduate levels (termed as a new three-level), should be formed gradually in order to fully upgrade school teachers’ educational credentials.

During the process of upgrading teacher education to higher education level in China, the development of graduate-level teacher education deserves special attention. Graduate-level teacher education in China has developed since the 1990’s along two lines. The first is graduate teacher education undertaken in the frame of professional degree education. Professional degree education (i.e., Master of Education) for in-service school teachers and educational administrators that has been implemented since 1996, is offered mainly in a part-time manner. The Ministry of Education issued the *Suggestions on How to Carry out the Work of Cultivating Full-Time Professional Degree Graduate Students* in 2009, deciding to expand the extent of recruiting fresh graduates as full-time professional degree graduate students. According to the suggestions, the Master’s program in Education began to change from only recruiting in-service school teachers and educational administrators to recruiting both fresh graduates and in-service educational staff, and from only offering part-time education to offering both part-time and full-time education (MoE, 2009). By October of 2011, there were 88 higher education institutions offering Master’s programs in Education (Secretariat of National Council of Professional Degrees for Education, 2011).

The second route is graduate teacher education undertaken in the frame of academic degree education. At the time when Master’s degree programs in Education could only provide part-time graduate teacher education for in-service educational staff, some universities began to implement graduate teacher education as pre-service teacher education in the frame of the academic degree graduate education. The “4 plus 2” model of graduate teacher education (four years of undergraduate education plus two years of graduate education) has been implemented since 2001 in some national normal universities, such as Beijing Normal University, is one of the most important experiments. Although different universities have implemented the “4 plus 2” model in different ways, they share the common purpose of integrating professionalism and academicism to prepare high quality, research-based teachers.

With the rapid development of full-time Master’s degree programs in Education, the graduate teacher education in the frame of academic degree education, like the “4 plus 2” model, is witnessing a weakening tendency. It can be expected that the full-time Master’s degree program will become the main stream and direction of graduate teacher education in China in the near future.

Up to now, the reform to upgrade teacher education to higher education level has already made some progress. Some secondary normal schools have become junior

normal colleges or have been merged into other higher education institutions. Some junior normal colleges have developed into local multi-purpose colleges. Four-year normal colleges and universities have been further intensified. According to the Department of Teacher Education of the Ministry of Education, China's four-year normal colleges and universities increased from 87 to 96 from 1999 to 2005. During the same period, junior normal colleges decreased from 140 to 58 (including 17 newly built ones) and secondary normal schools decreased from 815 to 228 (62 schools for kindergarten teachers included). In the 21st century, the educational credentials of school teachers have also been significantly improved (see the 1991–2007 editions of *Educational Statistics Yearbook of China*. Beijing: People's Education Press).

Construction of Lifelong Learning System for School Teachers

In order to construct a lifelong learning system, teachers should be lifelong learners, and the teachers' lifelong learning system should also be the model for a lifelong learning society (Guan, 2004). Based on such an understanding, constructing a lifelong learning system for school teachers has been regarded as an important goal for teacher education reform and development in China. The concept of lifelong education is an educational assumption that focuses on the re-organization and restructuring of the entire education system based on the two basic axes of vertical and horizontal integration that are essential to the reorganization of the teacher education system in China.

Continuity: Vertical Integration

Lifelong teacher education not only means that the "length" of education should be increased, but it also means terminating the situation of pre-service, induction, and in-service education institutions remaining separated and refusing to cooperate with each other. It is necessary to establish a collaborative system in which various teacher education institutions at different stages of teacher education are clear about their respective roles and fulfill their respective responsibilities, and keep mutual exchange. This approach is termed vertical integration.

Historically, the pre-service and in-service teacher education systems in China were separated into two different fields. The pre-service teacher education was implemented in general teacher education institutions, while the in-service education was mainly undertaken in adult education institutions such as teacher training schools and institutes of education. The two kinds of institutions carried out their own duties separately.

Since the 1990's, the serious shortcomings and deficiencies of the separated system have often been raised, mainly including the following three aspects. Firstly, mutual exchanges did not exist between pre-service and in-service education institutions, and the continuity of the contents between them was not considered. As a result, in-service training duplicated pre-service education in contents and was not practical enough. Secondly, the expected effect of training could not be achieved because its level provided by training institutions was regarded as lower than the pre-service

education. Thirdly, there was a great waste of human, financial, and material resources due to the duplicating allocation of educational resources between pre-service and in-service education institutions (Zhao, 2000).

As early as 1993, in order to solve the above problems, Shanghai began to integrate teacher education, with the Shanghai Institute of Education, Shanghai Second Institute of Education, and Shanghai Junior Normal Colleges for Kindergarten Teachers merged into East China Normal University, forming the College of Continuing Education and the College of Pre-School and Special Education in East China Normal University. The reform of teacher education integration by merging pre-service and in-service education institutions has received support from the Ministry of Education, especially since the beginning of this century, and has spread nationally. Normal universities, normal colleges, and junior normal colleges have set up special colleges or departments in charge of in-service training of school teachers and have actively participated in the training. According to the Department of Teacher Education of the Ministry of Education, there were 265 provincial and municipal institutes of education in 1990. With the merger of higher education institutions, most of these were merged into normal education institutions and other higher education institutions, with 64 remaining in 2005 (Rao, 2007).

Network: Horizontal Integration

Promoting the lifelong learning and development of teachers requires the construction of a lifelong learning system in which teachers can learn anytime and anywhere. An important precondition for the construction of such a lifelong learning system for school teachers is the integration of various teacher educational opportunities and resources. This is termed horizontal integration.

An important characteristic of teacher education reform and development in recent years that has helped achieve horizontal integration is the utilization of distance education based on information technology to build a teacher education network. One of the most representative examples is the Program of the National Union of Teacher Education Networks launched by the Ministry of Education in September of 2003. According to the *Guiding Suggestions on Implementing the Program*, it aimed to integrate resources and construct a teacher education network system covering urban and rural areas across the country by taking modern distance education as a breakthrough and fully mobilizing the initiatives of educational institutions of all levels and all types. This system integrated pre-service and in-service education, as well as the systems of teacher education institutions, a satellite TV and radio network, and an Internet connection. It enabled high-quality teacher education resources to be co-constructed and shared (DTE of MoE Ed., 2009, pp. 612–616).

In sum, the Program of the National Union of Teacher Education Networks is designed to construct an open and efficient lifelong learning system for teachers. According to the Ministry of Education, the major work of the current phase centers around four areas (ibid., pp. 612–616). The first is the construction of the Union of Teacher Education Networks at the national level. On the eve of Teacher's Day

of 2003, the Ministry declared the formal establishment of the National Union of Teacher Education Networks, with 12 institutions as its members. In the field of education for educational credentials, the members of the networks began to cooperate in recruiting students and developing curriculum in September of 2004. By March 2006, the members of the networks had enrolled 400,000 students for educational credentials and 500,000 students for non-educational credentials. The second area is the construction of the networks at the provincial level. In 2005, Sichuan Province established the Provincial Union of Teacher Education Networks; subsequently, Fujian, Shanghai, and Henan, and other provinces, autonomous regions, and municipalities also established respective unions at the provincial level.

The third area is the promotion of the reform and construction of in-service training institutions at the county level. Due to historical reasons, for a long time, some institutions with similar properties, functions, and tasks existed at the county level, these including the Teacher Training School, the Section for Teaching and Research in Schools, sub-stations of Radio and TV University, and a station for audio-visual education. Their targets of service were basically primary and secondary teachers. The separate establishment of these institutions easily led to a waste of resources and low efficiency. Therefore, in order to vigorously promote the integration of resources at the county-level and actively build the County Teachers' Learning and Resource Centers and form the public service systems of the Union of Teacher Education Networks Program, the Ministry of Education issued the *Guiding Suggestions on Strengthening In-Service Training Institutions at the County Level* in 2002, clarifying the nature and tasks of the institutions for training of teachers at county level and the basic principles and requirements for constructing those institutions (ibid., pp. 605–608). In 2005, the Ministry issued the *Circular of Carrying out the Assessment and Accreditation of Model In-Service Teacher Education Institutions at the County Level* and the *Assessment Standards of Model In-Service Teacher Education Institutions at the County Level*, aiming to improve the quality of teacher training institutions at the county level by assessment (ibid., pp. 698–707).

The fourth area is the construction of a school-based in-service training system and schools as learning communities. In China, the concept of school-based training was first mentioned in the *Suggestions on Implementing the Project of Continuing Education for School Teachers* by the Ministry of Education in 1999. It proposed that primary and secondary schools should make school-based teacher training plans, establish training portfolios for each teacher, and implement various forms of school-based training. School-based training has become a complementary approach to full-time off-the-job training as it can adapt to the actual situations of wide geographic distribution of school teachers, heavy training tasks, shortage of training funds, and the difficulty of the off-the-job training for many teachers. Therefore, school-based in-service training has become the most popular topic in the field of training of teachers in China since the turn of the century and its effect has been recognized by more and more people. At present, most schools, particularly in the cities, regularly offer school-based training for their teaching personnel. Teachers can be mentored in basic skills

training, collaborative lesson planning, participatory observation, modern technology training, or online teacher education during the school holidays or vacations.

Japan

Teacher Preparation Reform Focused on Practice and Collaboration

Teacher preparation in Japan after the Second World War has been conducted under the two major principles: teacher education in universities and an open system for teachers' certificate. According to the *Educational Personnel Certification Law* (EPCL) enacted in 1949, all school teachers are required to hold a relevant teacher certificate, which can be obtained from any university that provides the course as long as it satisfies legal requirements and receives approval from the Ministry of Education. The policy of teacher education in universities under the open system has not only involved a lot of universities in teacher preparation and provided Japanese teaching profession with sufficient reserve force, but it has also played a great role in postwar Japan's prosperity and development through preparing well-educated teachers. However, a range of problems has emerged in Japanese teacher preparation under these two major principles. One problem has been the lack of a quality insurance mechanism in teacher preparation. This lack has led to the loss of public trust in the teacher certificate and to skepticism or dissatisfaction with teacher preparation quality. The teacher preparation reform since the 1980's has been undertaken under such a background for the purpose of restoring public trust.

Curriculum Reform with the Emphasis on Practice

The *Educational Personnel Certification Law* (EPCL) has not only shaped the frame of the teacher certification system but also framed Japanese teacher preparation after the Second World War. The law has experienced numerous amendments since it came into force, including three major revisions since the mid-1980's (in 1989, 1998, and 2007). The basic tendency of Japanese teacher preparation curriculum reform for more than 30 years can be seen from the amendments added nearly once per decade.

The Amendment of 1989. According to the recommendation of the report of the Educational Personnel Training Council (EPTC) of 1987, the EPCL, the *Detailed Rules for the Implementation of EPCL*, and the *Law for Special Regulation Concerning Educational Personnel* was amended. From the perspective of the teacher preparation curriculum, two aspects in the amendment of 1989 deserve special attention. One is the raising of the standard of teacher certificates, especially the minimum number of credits for subjects related to pedagogical education. The other is the setting up of subjects related to special activities (two credits) and subjects related to student guidance (excluding educational counseling and career guidance) (two credits) within the field of subjects related to pedagogical education, and the addition of one credit to teaching practice (the credits for teaching practice in primary and secondary school changed respectively from four and two to five and three credits) for the purpose of

strengthening guidance before and after teaching practice. The implication of increasing credits for teaching practice for upgrading students' practical competence was obvious. It should be noted that raising the number of credits for subjects related to pedagogical education, especially credits of student guidance and specific activities also aimed to improve the practical competence of prospective teachers. As mentioned above, improving practical competence in Japan mainly refers to improving the competence of dealing with educational problems.

The Amendment of 1998. This amendment was based on the proposals of the EPTC report of 1997, which include two proposals to improve teacher preparation curriculum. The first of these is the introduction of the third group of subjects related to subject matter education or pedagogical education (students can choose either one), in addition to the two groups of subjects related to subject matter education and subjects related to pedagogical education. The purpose of this is to give universities more autonomy in curriculum development, expecting more creative curriculum development by the universities, and giving students more freedom and room for self-directed choice of subjects according to their own willingness and future career, and, further, expecting that the strength and individualities of students would be developed through focused study. The second proposal intended to:

- reduce the credits for subjects related to subject matter education, increase the subjects related to pedagogical education with the overall credits requirements remaining unchanged, and change the specific subjects among those related to pedagogical education, including setting up a new subject known as the Comprehensive Seminar for the Teaching Profession (two credits),
- strengthen teaching practice for prospective junior high school teachers (increasing credits from three to five),
- reinforce subjects related to student guidance, educational counseling, and career guidance (increasing credits from two to four for prospective primary and high school teachers and setting up a new two-credit subject of educational counseling for prospective kindergarten teachers), and
- make foreign language communication and computer literacy required subjects.

Among those recommendations, the one that deserves the most attention is the one regarding setting up a subject, specifically the Comprehensive Seminar for Teaching Profession. The purpose of the new subject lies in the students' acquisition of fundamental capabilities to act with a global perspective. The subject is expected to be implemented in the form of discussion-centered exercise, with the hope that prospective teachers can obtain a proper understanding of social realities through field observation, participation, and survey, develop lesson plans and teaching materials, and implement simulated teaching in a trial manner from the angle of teaching students. The setting up of this new subject means more attention being paid to the overall capacities of the teacher as a person. The proposals of the Educational Personnel Training Council were realized and practiced in the *Educational Personnel Certification Law* (EPCL) and its related regulations. The new teacher preparation curriculum based on the new EPCL was first implemented with new teacher education students in 2000.

The Amendment of 2007. The Amendment of 2007 was based on the proposals of the report of the Central Council for Education (CCE) of 2006. The policy of improving quality standards of teacher preparation program is the priority among the three proposals of the report. In order to improve the quality standards of teacher preparation program, recommendations were put forward to set up a new compulsory subject known as the Practical Seminar for the Teaching Profession, and to strengthen and improve teaching practice, guidance for teaching, functions of the committees for the teacher preparation program, and post-evaluation and review of teacher preparation programs. The most representative of these and the most related to curriculum structure and content is the proposal to set up the Practical Seminar for the Teaching Profession (2 credits). According to the CCE report of 2006:

The Practical Seminar for the Teaching Profession (temporarily called) aims to finally confirm whether prospective teachers' capacities, obtained from the subjects within the teacher preparation program and activities outside the program, have been organically integrated into the minimum capacity for teaching compared with the image of school teacher to be developed and goals of the teacher preparation program by the universities with authorized teacher preparation programs. This Practical Seminar has the function of 'compiling learning' for all academic years. It is expected that through this course, students will start their teaching lives more smoothly as they will be able to recognize what issues face them in the future and add to their knowledge and skills in accordance with their needs. (CCE, 2006)

The Practical Seminar for the Teaching Profession clearly functions as final confirmation and output management of teacher preparation quality, as well as integrating subject matter knowledge and pedagogical knowledge with theoretical and practical knowledge. With the amendment of the EPCL in 2007 and its related regulations, the Practical Seminar for the Teaching Profession replaced the Comprehensive Seminar for Teaching Profession and became a compulsory subject. From the above, we can observe that Japanese teacher preparation curriculum reform since the mid-1980's has a strong practical orientation and an intention of constructing integrated and systematic teacher preparation.

Apart from being framed by the EPCL and its related regulations, Japanese teacher preparation curriculum reform in recent years is also influenced by a report submitted by the Japan Association of Universities of Education (JAUE) in March of 2004, entitled *A Study on the "Model-Core Curriculum" for Teacher Education – A Proposal on Creating Curricula with "Core Subjects for Teacher Education" as Their Cornerstone*. Recognizing that the close relationship between various experiences at educational fields and the chances for scientific reflection is crucial for creating teacher preparation curricula at universities, the JAUE report recommended that the designing and developing of teacher preparation program should be based on core subjects with experience and reflection in a circular cycle, and highlighted the necessity of collaboration among teacher educators in the university. The basic aim of the model-core curriculum proposed in the report was to set up core subjects in teacher preparation, providing prospective teachers with opportunities to experience

educational fields from the very beginning of teacher preparation in order for them to get to know about educational fields, accumulate the experiences of working with students, and arrange research activities combined with those experiences in university in-class instruction in order for the cycle between experience and reflection to work (JAUE, 2004). The JAUE report has greatly influenced universities involved in teacher preparation, particularly all the national universities and faculties of education that have conducted similar activities as proposed by the JAUE report, although in different forms (JAUE, 2006). As Yasuyuki Iwata has pointed out, it has become a mainstream of Japanese teacher preparation curriculum reform at the undergraduate level to systematically design and arrange curricula with experience and reflection in the circular cycle (Iwata, 2006).

Construction of Teacher Preparation System Based on Collaboration and Partnership

The goal of teacher preparation depends not only on the balance of the curriculum structure and appropriateness of curriculum content, but also on the capacities of the faculties involved in teacher education, especially on whether these faculties share common philosophy and goals about teacher education and whether they can collaborate well with each other. Based on such understanding, one of the most important tasks in Japan since the mid-1990's has been to construct a teacher preparation system based on collaboration and partnership.

As a solution to problems such as the inconsistency of teaching contents of subjects related to pedagogical education, the EPTC report of 1997 proposed that "each university should introduce the elective system, strengthen the learning guidance in teacher preparation curriculum, promote coordination and information exchange between different subjects based on comprehensive perspectives and from the angle of implementing teacher preparation with uniqueness or features, and properly maintain organization such as the Committee for Teacher Preparation Curriculum (CTPC)" (EPTC, 1997). The report also proposed full use of organizations such as the CTPC and strengthening of the partnership system between universities, local boards of education, and schools in implementing teaching practice in order to secure the integration and consistency between teaching practice and its prior and post guidance, as well as between subjects such as course instruction, student guidance, and teaching practice.

The EPTC report of 1999 put forward some reform proposals based on the analyses of longstanding problems in Japanese teacher preparation. The problems identified in the report can be summarized as the following three aspects:

1. The universities were not philosophically clear about what kind of teachers they should prepare. They usually just provided minimum subjects directly related with the requirement to obtain a teacher certificate when developing teacher education programs and recruited faculties without properly considering whether they were really qualified for teaching.
2. There is no consensus among the faculties involved on the goal of teacher preparation as cultivating professionals, which led to the lack of comprehensiveness and systematicity in teacher preparation.

3. More emphasis was given to the subject matter related to faculties' research, while pedagogical matters related to problem-solving in school fields received insufficient attention.

To deal with the aforementioned problems, the EPTC report of 1997 made certain proposals, such as greater flexibility in teacher preparation curriculum and strengthening subjects related to pedagogical education. These came into practice with the partial amendment of the EPCL. However, the EPTC report of 1999 argued that simply amending the EPCL would not solve the problems. Instead, the report made proposals to construct a teacher preparation organization system. The most important of these proposals are as follows. Firstly, universities providing teacher education programs should develop teacher preparation curricula in a systematic manner based on the images of school teachers they are going to prepare. Faculties in those universities need to know their roles in implementing the programs and provide more practical education. Secondly, an organized, sustainable, and collaborative partnership system should be constructed between universities and local boards of education. The report noted that although there were some similar organizations, such as associations that aimed to improve teacher capacities at local and national levels, and to connect and cooperate with each other in the field of teaching practice, the partnerships were basically centered on information exchange about teacher recruitment and in-service teacher education curriculum at the graduate level. Problems remained regarding issues such as how teacher preparation in universities could better meet the requirements of the school fields and how in-service teacher training conducted by the local boards of education could make the most of resources and strengths of universities. Therefore, the EPTC report of 1999 proposed that the connection and partnership system between universities and schools should be transformed from one focused on information exchange to one that was organized, sustainable, and collaborative.

The CCE report of 2006 reaffirmed the problems in teacher preparation that had been pointed out in the EPTC report of 1999, and stressed the importance of teacher preparation organization system as the key to improving teacher preparation programs. In order to construct a system in which all involved parties are responsible for operation and instruction of teacher preparation curriculum, the 2006 report stressed that the universities providing teacher preparation programs should enforce the central role of the Committee for Teacher Preparation Curriculum (CTPC) in the operation of the teacher preparation program of the entire university system. The report also proposed that, in order to make sure that teacher preparation programs at universities meet the requirements of the school fields, it is necessary for the universities, through the window of the Committee, to listen to the expectations and voices from school fields and local boards of education concerning teacher preparation programs and reflect these in instruction and education. This would, in turn, construct a system in which the teacher preparation curriculum could be improved in accordance with the needs of school fields and the society (CCE, 2006).

Organizations like the CTPC have already been set up in most Japanese universities to provide teacher preparation programs. The universities are also

striving to establish and strengthen collaborative partnerships with local boards of education and schools.

Systematization and Institutionalization of In-Service Teacher Education

Although the article on in-service training was included in the *Law for Special Regulation Concerning Educational Personnel* in 1949 and the institutionalization of training was proposed by the EPTC report of 1958, under the title of the *Policies and Measures to Improve the Teacher Education System*, the Japanese were engaged in providing enough teachers for the expanding school system. This left them no room to seriously consider the issue of in-service training for a long time after the Second World War. The Japanese Government did not start to think seriously about and implement in-service training policy until the beginning of the 1970's (JSSTE, 2002, pp. 88–89). After the mid-1980's, in particular, teacher training in Japan entered a new era. During this period, in-service training policies have been developed in two main areas: the systematization of training and the institutionalization of training. The former can be regarded as the developmental inheritance of the policies of the 1970's and the latter is the new development and key points since the mid-1980's.

Systematization of In-Service Training

Diversified, sufficient, and coordinated in-service training opportunities are indispensable for teachers' lifelong development. Accordingly, the second report of the National Council for Educational Reform (NCER) proposed that the respective roles of the state, prefectures, and municipalities should be made clear in order to maintain an organically integrated training system (NCER, 1987). The EPTC report of 1987 also recommended maintaining a coordinated and integrated system in order to provide teachers with training opportunities at a suitable time with relevant contents and suitable methods (EPTC, 1987). The report was driven by proposals in the council reports that the Japanese Government should continuously promote the systematization of in-service teacher education and make great progress, with the in-service teacher education system already developed. These could basically meet the needs of teachers' lifelong development.

Based on its targets, the Japanese in-service training system includes training for beginning teachers, backbone teachers, and school administrators. From a training perspective, it includes in-service training for teachers' degrees, renewing teacher certificates, updating professional knowledge and upgrading abilities, and compensatory or corrective purposes. Based on the content of the training, it includes the in-service training in accordance with teachers' years of teaching experience, the staff's functions or responsibilities, and school subjects or educational projects. From the perspective of the sponsors of the training, the system includes the training sponsored by the Government, universities, educational research organizations, schools, and teachers. In terms of the locations of the training, there is in-service training inside and outside schools. The training itself is either mandatory and voluntary training. Among the

above training, the training provided in accordance with teachers' years of teaching experience is generally known in Japan as fundamental in-service training and is the training that is vigorously promoted by the Japanese Government. The training for beginning teachers and for teachers with 10 years of teaching experience as mandatory training is implemented in all prefectures in Japan.

Institutionalization of In-Service Training

Diverse and systematic in-service training opportunities are of value only as long as they are used sufficiently and effectively. Therefore, since the mid-1980's, Japan has taken the following measures to guide and promote teachers to make full use of training opportunities.

Firstly, the teachers' obligation to participate in in-service training is stipulated in the law. This obligation is different from the regulations on the training of ordinary civil servants, since the regulations on training of teachers stipulate not only the Government's responsibility to provide it, but also the teachers' duty to participate in training. Furthermore, it is different from the stipulation of the *Law for Special Regulation Concerning Educational Personnel* enacted in 1949, which provided that educational civil servants, that is, public school teachers, are obliged to participate in training. *The Fundamental Law of Education* of 2006 stipulates that "teachers of the schools prescribed by law shall endeavor to fulfill their duties, while being deeply conscious of their noble mission and continuously devoting themselves to research and self-cultivation" (MEXT, 2006, p. 6). According to this provision, all teachers, including national, public, and private school teachers, must participate in training.

Secondly, training was made mandatory for beginning teachers and for teachers with 10 years of teaching experience. The training for beginning teachers was implemented in many prefectures as early as the 1970's. In 1989, in accordance with proposals of the EPTC report of 1987, the Japanese Government made the training compulsory for these induction-phase teachers by amending the *Law for Special Regulation Concerning Educational Personnel* of 1949 and other related laws. Training for teachers with 10 years of teaching experience began in 1993 and was included in the category of mandatory training in 2003. Making the two most important fundamental in-service trainings mandatory not only means that the Government must attach great importance to the training, but also that teachers are required to actively participate in the training.

Thirdly, the teacher certificate renewal system was introduced, with the purpose of strengthening the intensity of removing unqualified teachers from the teaching force, and of encouraging teachers to participate in in-service training continuously in order to adapt to the changes taking place in society. According to the regulations of the teacher certificate renewal system, a teacher's certificate is only valid for 10 years. The teacher certificate holder must attend a 30-hour Seminar for Teacher Certificate Renewal within two years of the certificate expiring.

The fourth measure was the implementation of a new teacher evaluation system. In 2000, Tokyo began to implement an evaluation system for educational civil servants. Kanagawa, Osaka, and other prefectures followed. Against this background, the Ministry

of Education, Culture, Sports, Science and Technology commissioned 47 prefectures and 13 designated cities to carry out a three-year study on teacher evaluation in 2003. It also committed itself to implementing a performance and ability-oriented teacher evaluation system nationwide in 2006. Along with the institutionalization of the new teacher evaluation system is an identification system of unqualified teachers and an award system for excellent teachers implemented since January 2002. Under the system, teachers who have been identified as lacking the necessary competence must attend training aimed at improving teaching abilities. At the end of the training, the teachers must receive evaluation in order to determine whether they will be allowed to return to the workplace, be removed, or be transferred to another position. Although the identification system of unqualified teachers is implemented separately in many prefectures, it can also be regarded as a new content of the teacher evaluation system as it also includes evaluation in the stage of identifying unqualified teachers and, at the end of the training, for qualifying such teachers. All in all, the institutionalizing Japanese teacher evaluation system is both an absolute evaluation and a relative evaluation that aims at both “ability building and performance assessment”. Its overall objective is to “award excellence and remove incompetence” (JSSTE, 2002, p. 184). This teacher evaluation system undoubtedly has the intention and effect of motivating teachers to actively participate in in-service training.

Upgrading and Integrating Teacher Education

Upgrading of Teacher Education to the Graduate Level

As noted by Manabu Sato, Japanese teacher education after the Second World War was the highest in the world at the time. The upgrading of teacher education from a secondary education level before the end of the Second World War to a higher education level was indeed a landmark reform, as it was not until the 1970's that universal implementation of teacher preparation in universities could be seen even in developed Western countries (JSSTE, 2008, p. 23). After entering the 1970's, Japan, starting with the establishment of a process known as new universities of education focused on in-service teachers' re-education and started to promote the process of upgrading teacher education through graduate education. After the mid-1980's, Japan firstly promoted graduate teacher education under the existing frame of academic degrees and graduate education system, and then, since 2000, has accelerated the process of upgrading teacher education under the new frame of professional graduate education.

Firstly, under the existing frame of academic graduate education system, the setting up of graduate programs was encouraged in universities and faculties of education. Both the NCER report of 1986 and the EPTC report of 1997 proposed that the establishment of graduate programs should be accelerated in order to promote teachers' re-education and to upgrade the education and research standards of universities and faculties of education. According to these proposals, the *Educational Personnel Certification Law* (EPCL) was partially amended in 1988 with the ammendment being enacted in 1989, this resulting in the creation of an Advanced Certificate, a new certificate that required

a Master's degree as its basic qualification. Against this background, the process of establishing graduate programs was further promoted in universities and faculties of education. By 1996, all the universities that had faculties of education (at that time the number was 48, including three new universities of education) established graduate programs, with a total enrollment of 4,026 students that year. The graduate programs of these universities focus on cultivating teachers with higher professionalism and higher quality in specific areas and implementing re-education for improving the quality of in-service teachers (CCE, 2006). From the perspective of constructing a new system for in-service training of teachers, the EPTC report of 1998, entitled the *Future of Utilizing Master's Degree Programs in Teacher Education*, made such suggestions as incorporating graduate education opportunities into the training system for teachers, relaxing the terms and maximum periods of graduate programs, diversifying teaching and education approaches and methods, and facilitating educational and instructional environments (EPTC, 1998). Along with policies to encourage universities and faculties of education to establish graduate programs, it offered teachers teacher education opportunities in addition to taking measures to encourage teachers to participate in graduate education so that they could obtain advanced certificates. The Leave System for Further Studies in Graduate Education has been practiced since 2001. According to the System, teachers in all public schools who had a regular type 1 teacher's certificate or a special teacher certificate could, with the permission of their employers, ask for unpaid leave, going to study for a graduate degree at a domestic or foreign university for not more than three years.

Secondly, universities were encouraged to establish professional graduate schools of education in order to provide graduate-level teacher education under the new frame of professional degree and graduate education. The report of the Central Council for Education of 2006 proposed that the professional graduate school system, which concentrated on cultivating highly specialized professionals, be utilized to provide teacher education of a high standard. According to this proposal, the establishment standard for graduate schools was amended, this providing the legal basis for the establishment of the professional graduate school of education. The establishment of 19 professional graduated schools of education was authorized in 2008. By 2010, there were 25 universities (including 19 public universities and six private ones) with professional graduate schools of education and an enrollment capacity of 840 students (645 in public universities and 195 in private ones) (Special Section for Teacher Quality Improvement of Central Council for Education, 2011).

There are two main background factors behind the creation of the professional graduate schools of education. The first is the great changes surrounding school education that pose new challenges to teacher education. These include:

1. School education needs more competent teachers who are able to deal with the changes and challenges of advanced professionalism and rich humanity and sociality.
2. The tendency towards smaller school scale as a result of the lower birth rate weakens the schools' function of teacher development, which makes it necessary

to cultivate teachers who can play a key role in not only their own schools but also the more extensive regions.

3. It is expected that 34 percent of current teachers will retire in the next 10 years as they reach the mandatory retirement age, and a great number of less-experienced teachers will remain in their teaching positions. Therefore, in terms of both quantity and quality, training and securing quality teachers has become an extremely important issue.

The second background factor is problems in the existing academic graduate education of universities of education. It is widely believed that in order to tackle the changes and challenges mentioned above, measures should be taken not only to deepen the teacher education reform at undergraduate level or below, but also to strengthen the existing graduate education in the universities of education. This is due to the problem of unclear distinction of functions between training researchers and training advanced professionals in the existing graduate education of the universities of education (in other words, emphasizing academic knowledge and ability in specific field and overlooking the cultivation of advanced professionalism such as school-site practical competence and application ability that teachers should have). This situation leads to the low effectiveness or ineffectiveness of the existing graduate programs for teacher education.

Although Japan began to establish Master's programs in the national universities and faculties of education from the 1970's and to expand in-service training opportunities at graduate level for in-service teachers with the intention of upgrading teacher education to the graduate level, this policy failed to achieve the expected result because prefectural and municipal boards of education did not implement active policies due to personnel and financial constraints (Sato, 2007). According to the *Survey of School Teachers* by the Ministry of Education, Culture, Sports, Science and Technology, the number of teachers with a Master's degree at all school stages has increased steadily, but at a relatively slow pace. There is still a long way to go in the process of upgrading teacher education in Japan; in 2010, only 3.3 percent of primary school teachers, 6.9 percent of junior high school teachers, and 14.1 percent of senior high school teachers had a Master's degree (MEXT, 2011).

Integration of Teacher Education

Under the influence of the idea of lifelong education, the importance of the integration of teacher education was realized in Japan as early as the 1970's. After entering the 1980's, councils like the National Council for Educational Reform (NCER) and the Educational Personnel Training Council (EPTC) proposed the idea of integrating teacher education more clearly in their reports. The second NCER report emphasized that "we need to consider the capacities these teachers should have and organize these capacities into those to be cultivated in pre-service teacher education in universities, in training for beginning teachers after hiring, and in the in-service training during their life stages" in order to clarify the respective objectives and key points in pre-service, induction, and in-service stages (NCER, 1987, p. 124). Based on the above consideration,

the report proposed that “in pre-service education in universities, emphasis should be put on a wide range of humanity and fundamental and theoretical contents necessary for subject matter education and pedagogical education as well as on the necessary foundation of practical competence after hiring. In the in-service training stage after hiring, emphasis should be put on the further development of practical competence” (ibid., p. 124). According to the spirit of the second NCER report, the EPTC report of 1987 pointed out that “the capacities compatible with the duties of teachers should not only be cultivated in pre-service teacher education, but also developed continuously throughout teachers’ life stages” (EPTC, 1987). Therefore, “the strategies aiming at improving the capacities should also be implemented based on comprehensive and overall consideration of various stages” (ibid.). Based on the above consideration, the report proposed that the Government should actively provide in-service training for teachers throughout their careers and establish and improve the system for training of teachers with the training for beginning teachers as the first stage of the system, while enriching school-based training for teachers and self-directed training of teachers.

The EPTC report of 1997, which inherited the spirit of previous reports, sought to achieve the integration of teacher education that was more clearly based on the idea of “role division” in pre-service teacher education, recruitment, and in-service training stages. Based on identifying the respective characteristics of pre-service, induction, and in-service stages, the report worked out a figure of role division in the forming process of teacher capacities: The pre-service stage is “the process of mastering ‘the minimum capacities’ required for subject instruction and student guidance and so on through obtaining credits required for obtaining the teacher certificate” (EPTC, 1997). The recruitment stage is “the process for employers to select people with better capacities to the teaching profession among diverse certificate holders as a result of the opening policy” (ibid.). The in-service training stage is “the process for the employers to conduct INSET in accordance with teachers’ years of teaching experience, functions, teaching subjects, and responsibilities in school affairs according to the work needs or teachers’ personal desires to develop teachers’ professional abilities” (ibid.).

It is a necessary precondition for the integration of teacher education to clarify the labor division between different stages of teacher education. Without the clear division of roles, there is no effective integration. However, it is not sufficient for integration. To realize the integration of teacher education, communication, and collaboration between the related parties involved in pre-service education, recruitment, and in-service training are also of great importance. It is with this point in mind that the EPTC report of 1997 emphasized that “it is indispensable for universities and prefectural boards of education, and so forth, to exchange information, and for personnel to fully understand the contents of the programs related to teacher preparation or INSET, and to provide timely and appropriately learning opportunities for every teacher” (ibid.).

The EPTC report of 1999 put forward some proposals for improving the preparation, recruitment, and in-service training of teachers based on the idea of division of roles and proposed some measures for deepening the exchange and collaboration between universities and local boards of education. The following recommendations were made

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by the above reports under the idea of integrating teacher education in Japan since the 1980's. Firstly, special emphasis has been placed on developing the minimum capacities required as teachers in the pre-service teacher education stage. Secondly, great importance has been attached to the training system for beginning teachers, which is regarded as an important transitional stage connecting teacher preparation and in-service training of teachers. Thirdly, the in-service training for teachers with teaching experience in accordance with the career stages of teachers is implemented as a fundamental training with the intention of systematizing the training of teachers.

PROBLEMS IN TEACHER EDUCATION
REFORM AND DEVELOPMENT

China

Problems in Teacher Preparation

There are at least two fundamental issues with Chinese teacher preparation. One is the relationship between professionalism and academicism. Before the mid-1990's, this relationship was probably the most intensively discussed and disputed topic in Chinese educational circles. Many people at that time believed that the professionalism of teacher preparation in normal universities and colleges was achieved at the expense of academicism. In addition, normal universities and colleges were often criticized for having teacher preparation that could not satisfy the practical needs of primary and secondary school education; this indirectly questioned their professionalism. As a solution to the problem, many people placed their hopes on the opening of teacher preparation. However, the transformation of teacher preparation from a closed system to an open one cannot automatically solve the conflicts between professionalism and academicism. Even in the open teacher preparation system, balancing the relationship between professionalism and academicism remains a major challenge.

The other issue or problem in Chinese teacher preparation is the relationship between theory and practice. This connection is specifically embodied as the relationship between course study and teaching practice. Although a solid foundation of teacher capacities must be laid in the teacher preparation phase, most of the teacher capacities can only be obtained through continuous accumulation of practical experience in the in-service phase. It should be pointed out that teaching experience is a necessary but not sufficient condition for the development of teacher capacities. Experience and constant reflection is fundamental assurance for teacher development. Therefore, the foundation of the ability to reflect should also be laid in the teacher preparation phase. In view of this, the relationship between theory and practice should be a kind of interconnected and mutually promoted cycle of "theory-practice-theory." To date, however, most of the teaching practice in Chinese teacher preparation programs has been regarded as the process of the application of theories, most of this being arranged in the last semester or academic year of teacher preparation. There is no interaction or mutual improvement between course studies and teaching practice. In

such circumstances, the difficulty of cultivating practical competence and the ability to reflect is hardly surprising.

Problems in In-Service Training of Teachers

The inefficiency of in-service training programs is one of the main challenges regarding in-service training of teachers. Many teachers who have attended in-service teacher training courses have had difficulty putting their new skills into practice when they have returned to their teaching environment. The second problem in in-service training is that teachers cannot afford to participate in it. It is often impossible for teachers in remote areas to attend any kind of in-service training due to lack of financial support. The third but not the least important problem is the fact that teachers cannot find the time for change in their already busy schedules, because the demands posed by daily teaching and other aspects of the reform continue to absorb a bulk of their energy, thoughts, and attention.

*Problem of the Continuity between
Pre-Service and In-Service Teacher Education*

So far, the reform of teacher education integration in China has, in many cases, been undertaken in the form of pre-service teacher education institutions annexing in-service education institutions, but pre-service education institutions have not experienced substantial changes for the in-service teacher education. There are many problems to be re-examined concerning the integration reform because the fundamental reason for the lack of organic connection between pre-service and in-service teacher education is the lack of a clear division of roles between pre-service and in-service education phases. Therefore, in order to ensure effective integration of teacher education, it is necessary to establish a clear division of roles in the light of lifelong learning theory, clarifying what should be done and what can be achieved during the pre-service and in-service phases, respectively (Zhang & Rao, 2002). In the case of an unclear division of roles, even if institutions are merged, the purpose of substantial integration of teacher education cannot be achieved. On the contrary, the in-service training of teachers runs the risk of being belittled in general higher education institutions, especially in research universities. Now is the time for China to reflect seriously on the integration reforms of teacher education undertaken so far.

Japan

*Problems in Implementing Effective Teacher Education
as Professional Education*

As mentioned earlier, Japan, like other countries, has been implementing teacher education reforms with the aim of improving teacher professionalism since the mid-1980's. In order to prepare teachers with high professionalism, teacher education

must be implemented in accordance with the characteristics and rules of professional education. To make teacher education a real professional education, the relationships of subject matter education and pedagogical education and of theory and practice must be well treated. The above examination clearly shows that teacher education in postwar Japan had long emphasized subject matter education over pedagogical education and theory over practice. Since the mid-1980's it has been taking the opposite approach, with an emphasis on pedagogical education over subject matter education, and practice over theory. However, the intention to integrate subject matter education and pedagogical education, and theory and practice can be seen in the subjects (related to subject matter education or pedagogical education) set up in the amendment of the *Educational Personnel Certification Law* (EPCL) in 1998, in the Practical Seminar for the Teaching Profession set up in the amendment of the EPCL in 2007, and in the model-core curriculum characterized by the circulation circle of experience and reflection by the Japan Association of Universities of Education in 2004. At the same time, the increasing length and density of practice has provoked concerns about teacher education reducing to vocational training, which goes against the principle of teacher education in universities.

It is true that increasing the proportion of pedagogical education and practice inevitably means reducing the proportion of subject matter education and theoretical study. Japan is committed to upgrading teacher education to the graduate level, solely based on the consideration that it is difficult to actualize the integration of subject matter education and pedagogical education and of theory and practice and to prepare teachers with highly practical competence within four-year undergraduate teacher education programs. However, the effect of the efforts to upgrade Japanese teacher education through graduate education has not yet manifested itself because of the following factors. Firstly, graduate teacher education has made slow progress due to the lack of supporting measures in policies and financial resources, this having led to a situation where teacher preparation still relies mainly on four-year undergraduate programs. Secondly, effective and collaborative teacher preparation systems among faculties involved in general education, subject matter education, and pedagogical education have not been established inside the universities. Although organizations like the Committee for Teacher Preparation Curriculum have been set up at most universities, members of these organizations are mainly faculties involved in pedagogical education, which means that these organizations have not developed into university-wide organizations (Sakamoto, 2009). The university-wide teacher preparation systems not having been developed, it is solely emphasized that "more than 40 percent of the faculties of the professional graduate school of education should be practical teaching staffs," "teaching practice should be at least 350 hours," and "the collaboration and partnership with local Education Centers should be strengthened" and so on. This has inevitably provoked concerns or criticism that professional Master's degree programs in Education are at risk of being reduced into vocational training at the graduate level (JSSTE, 2008, p. 32).

The purpose of upgrading teacher education to the graduate level in Japan is not just for a prolonged teacher education, but also to promote an integrated teacher education of subject matter education and pedagogical education, and of theory and practice at the graduate level, which is hard to realize at the undergraduate level. In this sense, the challenge facing Japan is not only to accelerate the process of upgrading teacher education to the graduate level, but more importantly, to take effective measures to promote substantial and effective integration of teacher education at a higher level.

Problems in Constructing Lifelong Learning System for School Teachers

Japan has been following the idea of lifelong education and learning to reform and develop teacher education, which has been devoted to construct lifelong learning system for school teachers since the 1970's, especially since the mid-1980's. It can be said that the policies and measures of integrating teacher education based on the idea of division of roles between pre-service education, recruitment, and in-service training embody the idea of vertical integration of lifelong education (this can also be called integration in length). The policies and measures of systemizing in-service training of teachers aimed to integrate and provide teachers with diverse and effective training opportunities that embody the idea of horizontal integration of lifelong education (this can also be called integration in width). If the teacher education integration in length and width in Japan can be said to work very well, then it is also true that the teacher education integration in depth is unsatisfactory, mainly as concerns both insufficient attention to teachers' autonomy and subjectivity in their development in the process of promoting training of teachers.

Although teachers' autonomy and subjectivity in their development have been mentioned repeatedly and have received more and more attention in the various reports by councils such as the Educational Personnel Training Council (EPTC) and the Central Council for Education since the EPTC report of 1997, and encouraging measures such as the Leave System for Further Studies in Graduate Education have been taken, Japanese teachers' daily self-directed in-service training opportunities tend to be in a blocked state. One reason for this arguably lies in the Japanese Government's strong focus on the construction of administrative in-service training (government-sponsored training) systems. It has even been said that the Seminar for Teacher Certificate Renewal has hardly been inserted in the administrative in-service training system since the 1990's (JSSTE, 2008, p. 203). The other reason is that although the importance of both teachers' autonomy and subjectivity in in-service training has been emphasized, substantial support and guarantee for self-directed training in time and finance are not sufficiently provided, which has led to the weakening of such training. The expansion and hypertrophy of administrative in-service training and weakening self-directed training have made teachers feel exhausted, since they provide too many mandatory in-service education opportunities (Kudomi Ed., 2008, p. 71), something which has also influenced the teachers' willingness to participate in training and thus also unfavorably impacted sustainable development.

To resolve this problem, Japanese in-service training policies in the future must give more respect to teachers' autonomy and subjectivity, pay more attention to teachers' personal development, actively strive to effectively integrate teachers' professional and personal development so that professional development can be built on the more solid foundation of personal development and thus be more sustainable. In the sense that the integration of personal and professional development can ensure the willingness or desire for sustainable development, it can be called as integration in depth. If the integration in length and width (integration of teacher education and the systemization of in-service training of teachers) is designed to provide teachers with diversified lifelong learning opportunities and resources timely and properly, then the integration in depth ensures that the lifelong learning opportunities and resources provided are more actively, fully, and effectively utilized. The three-dimensional integration in length, width, and depth is indispensable in the construction of the lifelong teacher learning system.

Problems in Quality Assurance of Teacher Education

As mentioned earlier, an important challenge that has faced Japanese teacher education reform since the 1980's is how to ensure the quality of teacher education while adhering to the principle of opening. To cope with this challenge, Japan, following the idea of neo-liberalism, introduced market principles to teacher education and pushed all teacher education institutions towards a competitive market environment, giving them more autonomy and giving them more responsibilities in accountability. To urge all teacher education institutions to maintain and improve the quality of teacher education, process evaluation and post-evaluation have been increasingly emphasized in Japan since the mid-1980's, with the purpose of establishing comprehensive evaluation systems of teacher education.

However, the following points may also be very important for quality assurance of teacher education, in addition to building a sound evaluation system. The first point is to develop professional standards for teachers. The importance of professional standards not only lies in the fact that they can be used as the basis for developing the teacher education curriculum, but also in that they can be used as reference standards for the evaluation of teachers in teacher certification and recruitment. Likewise, they can be used as the criteria for heteronomous evaluation, but also as guidelines for teacher education institutions' self-evaluation and teachers' self-directed development. This is more in line with the characteristics and requirements of teachers as autonomous professionals and teacher education institutions as self-regulated professional education institutions. Although Japan has recognized the importance of the standards for quality assurance of teacher education, and the Japan Association of Universities of Education has already taken the lead in developing standards concerning teacher education, there is still a long way to go before the country has widely accepted professional standards for teachers and teacher education.

The second point is to improve the capacities and qualities of teacher educators. Teacher educators are the key to quality assurance of teacher education. The quality of teacher education depends not only on the capacities of individual teacher educators, but also on whether they have the willingness and platform to collaborate with each other. In this sense, it is vital to effectively promote faculty development activities for teacher educators and to establish a university-wide collaborative organization for teacher education. Although Japan has long recognized this and made efforts to promote it, the country still remains far from meeting the requirements of high-quality teacher preparation.

CONCLUSION

Stevenson and Stigler (1992) conducted cross-cultural research on teaching and learning, and students' mathematics and reading achievements in American, Chinese, and Japanese primary schools from the mid-1970's to the 1980's. They found that the academic achievements of Chinese and Japanese primary school students were higher than those of their American counterparts. It is believed that teacher training and culture of teaching must have played a significant role in affecting the academic achievements of Chinese and Japanese children.

Ironically, in the 1980's, while Chinese and Japanese education began to attract attention as successful examples in many developed countries, the Chinese and Japanese Governments were launching radical education reforms. As we have observed, the Governments of both countries have put a lot of effort towards developing their teaching forces and making teacher education the focus and priority of their respective education reforms. Teacher education in both countries has entered an era of great transformation.

The common features or tendencies in both countries' teacher education reform and development are more than just the fact that both countries pay special attention to teacher education. We can also observe that both countries make it a fundamental goal to improve teacher education quality, focusing on the improvement of teaching professionalism, and that both countries stress integration of teacher education, upgrading of teacher education to a higher level, and construction of lifelong learning system for school teachers. Behind these common features or tendencies, there are some common or similar background factors, the most prominent of which is the informationization of society. The explanations for nearly all the common features or tendencies in Chinese and Japanese teacher education reforms and developments can be found in the informationization of the society.

On the other hand, it is not difficult to find differences between Chinese and Japanese teacher education reforms and developments. One of the biggest differences may be that China attaches greater importance to structural reforms of teacher education, while Japan focuses more on intensive construction of teacher education. To a certain extent, it can be argued that the goals of structural reforms in China since the 1990's are similar to those of Japanese teacher education reform after the Second World War.

Compared with Japan, China is “making up its missed lesson” through structural reforms. One of the important reasons for this difference is that the two countries are at different developmental stages. China is experiencing a social transformation from an agricultural society to an industrial society and an information society at the same time, while Japan is in a transitional process from an industrialized society to information society. China is experiencing the transformation from the planned economic system to a market economic system, while Japan has long had a developed market economic system. Therefore, China has to finish work that Japan has already finished. Attaching more importance to structural reforms does not mean that intensive construction is not important for Chinese teacher education. It may be more accurate to say that the structural reforms are a necessary basis or precondition for intensive construction and improvement of teacher education in China at its present stage.

It is too early to evaluate the effects of Chinese and Japanese teacher education reforms since the 1980's, as the reforms in both countries are still continuing. Nevertheless, certain issues or problems have already been pointed out by many people, even though they are different in different countries. Here, I would like to point out one common problem in the teacher education reforms of these countries; that is, the aspect of de-professionalization can be found in the reforms aiming at teacher professionalization. In the era of reforms and accountability, school teachers are regarded as key actors in educational reforms and they and their professionalism are highly valued, while, at the same time, school teachers are treated as “targets” of the reforms and considered as “objects” to be developed. Teachers’ subjectivity and autonomy in their own development does not receive due attention. Fujita and Dawson (2007) observed that current neo-liberal and market-oriented education reforms seemed to have had the effect of undermining the bases for teacher collaboration, discouraging teachers from taking initiative, and damaging their sense of efficacy and confidence, thereby deteriorating the quality of teaching and schooling in Japan. Fujita and Dawson’s observation is also true of China. To educate prospective and practicing teachers to be professionals, they should be treated as professionals, with their subjectivity and autonomy highly respected in the process of teacher education. In this respect, China and Japan still have a long way to go.

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EIJA KIMONEN

11. TEACHERS' WORK AND CHANGING SOCIALIZATION ENVIRONMENTS

*Pedagogical Procedures of Outdoor-Oriented Education
in the United States and India*

INTRODUCTION

This chapter deals with the pedagogical procedures of outdoor-oriented education in the United States and India during the 20th century. The study is part of a broader research project, the aim of which is to examine the interrelationship between education and society throughout the course of the 20th century. The concept of outdoor-oriented education combines the forms of school education that are linked to the reality outside the school, in accordance with the various value objectives prevailing in different societies. The concept is intended as a means of visualizing the complex world of phenomena between education and society in considerable detail. The study applies the historico-hermeneutical approach to comparative education, following the developmental trends of educational policy within a social context in the light of the social, economic, and political factors that define national identity (for a closer examination of the methodological decisions, see Kimonen, 2013, pp. 37–47). The overall aim is to demonstrate the existence of fundamental social and educational policies, patterns, and trends.

The Basic Processes of Socialization

This study examines the interrelationship between education and society from the perspective of outdoor-oriented education. It indicates that the central function of outdoor-oriented education is to articulate the essence of reality and to internalize and transform its physical, intellectual, and cultural world. Individuals in outdoor-oriented education situations encounter their environment as a reality that is external to themselves, a reality that constructs itself in a continuous dialectical process of internalization, externalization, and objectivation. According to Berger and Luckmann (1967, p. 129), these basic processes of social reality characterize a society and all of its distinct parts simultaneously.

The present study regards primary socialization as the first socialization that occurs in an individual's childhood, during which time a child becomes a member

of society. The entire sequence of events following this phase is regarded here as secondary socialization, during which already socialized individuals are led to new sectors in the objective world of their society (ibid., p. 130). When the information that is internalized as the result of primary socialization acquires the nature of reality with apparent independence, it has to be verified in secondary socialization by using particular pedagogic methods. Knowledge has to be made familiar, relevant, and interesting for the individual. In order for secondary socialization to be successful, completely new methods must be developed, the need for which is based on such factors as the particular nature of the contents to be learned and applied, or the interests of the group managing the socialization process. It is also appropriate to plan methods that reinforce the emotional charge of the socialization process so that immersion and commitment to the new reality would be more effective (ibid., pp. 143–145).

The Focus of This Comparative Study

This study investigates the pedagogical procedures of outdoor-oriented education from the standpoint of educational policies. It utilizes the manifestations of these policies-in-action underlying the course of outdoor-oriented education, presented specifically by the forms of activity and their constructions based on experience; that is, the adopted procedures (see Gupa, 1984, pp. 64–65). The nature of these procedures is examined here through previous case studies and program descriptions, both of which focus on the strategies for implementing policy, a further object of interest being the means, contents, and settings of action.

The present chapter examines outdoor-oriented education procedures in the United States and India within the context of social trends. With respect to the United States, the primary focus is on experiential activity education, while the examination of India focuses on vocationally productive work education. Firstly, the procedures of outdoor-oriented education at different times are compared from the perspective of the basic processes of an individual's socialization and the various components of reality. Secondly, procedures are compared in the light of the pedagogical approaches to outdoor-oriented education and their links to the dimensions of the socialization environments at different times. The procedures are examined from the perspective of society-centered and school-centered outdoor-oriented education. With regard to the United States, the particular periods of interest are Early Industrialism (from approx. 1820 to 1940) and Late Industrialism (from approx. 1940 onwards). In the case of India, the focus is on the periods of Indian Tradition (until the mid-1950's) and Indian Modernization (from the mid-1950's onwards). The chapter concludes with the basic processes connected with the socialization of an individual and the observed pedagogical approaches being briefly compared yet again in accordance with the social trends in question. Approaches to outdoor-oriented education and the processes aimed at socialization are examined from the perspective of micro-level and macro-level orientations.

THE CHARACTERISTICS OF THE PROCEDURES OF
OUTDOOR-ORIENTED EDUCATION, AS EMPHASIZED
IN THE UNITED STATES AND INDIA

The Construction of Social Reality

Socialization takes place in different types of social structures and their interactional processes at different levels. According to Berger and Luckmann (1967, pp. 163–164), it is most successful in a society that is simple in its distribution of work and knowledge. In such a context, socialization produces identities that are socially predetermined and, in all aspects, represent the prevailing objective reality. Successful socialization is understood as a high level of symmetry between objective and subjective reality.

Berger and Luckmann (1967) state that socialization can be seen as a comprehensive and consistent induction process in which an individual is familiarized with the objective world of society and its constituents (p. 130). The construction of social reality is a dialectic of internalization and externalization in which individuals and their social world interact with each other. When externalizing themselves, individuals construct a world into which they externalize themselves; they construct a reality into which they transfer their own meanings (ibid., pp. 104, 129). The process in which the externalized products of an individual's activities attain the nature of objectivity can be called objectivation. For example, the world of institutions is objectivated human activity, as is each institution (ibid., pp. 60–61). This type of first-degree objectivation of institutions is made subjectively credible via a legitimation process. It creates new meanings that integrate already-established meanings into different institutional processes (ibid., p. 92). The highest degree of legitimation is represented by a symbolic universe, an order-creating template through which individuals interpret their own life experiences. As the process of socialization proceeds, externalization and objectivation are in a constant dialectic process in which the social world that has been objectivated during the internalization process establishes roots in consciousness (ibid., pp. 97–98, 104).

The following is an examination of the characteristics of the procedures of outdoor-oriented education in the United States and India in a historical context. The analysis makes use of the theory of the social construction of reality presented by Berger and Luckmann.

*The Pedagogical Procedures of
Society-Centered Outdoor-Oriented Education*

Even though the nature of the socialization process in the societies studied here may seem similar if observed superficially, closer comparison reveals that the interaction between human beings and their social world is quite different in its characteristics depending on the society in which they live. For example, the society-centered pattern of outdoor-oriented activity education, in line with American Early Industrialism, placed primary emphasis on socialization based on externalization and objectivation.

This socialization emphasized first and foremost the means of livelihood among all the cultural elements constituting reality (Table 1). By stressing motor, social, and moral aims, it attempted to familiarize students with the skills, current procedures, and principles that were particularly required in an early industrial society. We can interpret this as an attempt to legitimize the adaptation of American education to new social needs using neo-evolutionary theories, the practical implementation of which was to use different types of activity, freedom, and socio-pedagogical teaching methods.

At the experimentalism-based progressive school, the students worked in the school's workshops, kitchen, and garden, in addition to participating in activities for the benefit of the school and community. For example, they renovated and furnished old buildings for school use, cared for the school's farm, and participated in the planning of a local housing program (for the teaching procedures in the selected schools, see, e.g., Dewey & Dewey, s.a., pp. 87–89; Green, 1936, pp. 194–195). The holistic socialization process of such a school resulted in externalized outputs of the students' activities that attained the nature of objectivity. These could be seen as physical, social, and cultural products of human work that are based on actual conditions.

The pattern of outdoor-oriented work education in line with Indian Tradition gives the impression of being similar in nature to the American pattern of activity education described above. This is because both patterns included a central element of socialization based on externalization and objectivation (Table 1). In India, of the cultural factors of reality, handicraft production and agriculture as means of livelihood are, in a surprisingly analogous manner, the specifically emphasized outputs of social activity. By stressing physical and socio-moral aims, Indian society made an effort to familiarize students primarily with the traditional vocational activities and the fundamentals of their various procedures and phases in the relevant working processes that a pre-industrial agrarian society required. This type of pedagogical practice appears to closely resemble what was observed at the progressive school examined above. Nevertheless, the vast difference in the characteristics of the phenomenon becomes understandable when it is interpreted from the perspective of a comprehensive symbolic universe. The Indian educational reform was justified by the Gandhian doctrine of "truth" (*satya*) and "nonviolence" (*ahimsa*), this being further integrated in a holistic manner with the processes that resulted from craft-related methods and the meanings linked to them.

At the neo-traditional school based on *satyagrahism*, the students worked in the school's shops, gardens, and cultivated areas, and they were engaged in various work-related activities for the benefit of the school and the community. For example, the students participated in the entire process of spinning: they picked and cleaned cotton, ginned, carded, and spun it on a simple manual spindle (*takli*), and then, later, on a spinning wheel (*charkha*) (for the school-specific teaching procedures, see, e.g., Prasad, 1949, p. 136). They built compost pits in neighboring villages for the preparation of fertilizer and drainage pits for the removal of sewage. Moreover, they guided pilgrims at the *Jagannathji* fair (*Jagannathji's mela*) and maintained general order (for the teaching procedures in the selected schools, see, e.g., Salamatullah,

1970, pp. 9–10, 64). Using these methods, the school's comprehensive teaching and educational processes may have produced externalized outputs that achieved the nature of objectivity by specifically linking themselves to cultural factors in reality. Externalized outputs appeared as physical, intellectual, social, and cultural products of human work that were linked primarily to the traditional means of livelihood, specifically handicraft production and agriculture. A socialization process of this type is probably also dominated by a high symmetry between objective and subjective reality.

*The Pedagogical Procedures of
School-Centered Outdoor-Oriented Education*

The period of Late Industrialism in the United States gave rise to development in a reverse direction that led to asymmetry, especially when the point of comparison chosen is the above-described development during the period of Indian Tradition. One interpretation of this is that the negative legitimization aimed at stifling progressive education in the United States of the 1950's served to destroy the high symmetry between objective and subjective reality in the socialization process. In the type of outdoor-oriented activity education pattern that is school-centered, in keeping with Late Industrialism, socialization based on externalization and internalization was an essential element. Consequently, emphasis was placed on nature as one of the physical factors of reality on the one hand, and on science as one of the cultural factors on the other (Table 1). By emphasizing intellectual aims and school-centered procedures, the authorities wanted to introduce students to the modern techniques, as well as to the underlying complex scientific principles required by a technologically sophisticated industrial society. Students were ultimately guided towards discovering and developing new principles and techniques; that is, new knowledge. This claim, presented in the 1958 National Defense Education Act, was specifically applied in the study of the natural sciences (*National Defense Education Act of 1958*, 1959, pp. 1581, 1588–1589). Thus, the process of socialization was legitimized by the rapid re-modernization of society.

A justified conclusion is that the educational policy of the 1940's and 1950's was intertwined with the prevailing conformist social policy, typical of which was the conservative social thought of the Cold War period. There was an expressed desire to have education move in the direction of the procedures offered by academic traditionalism. In the early 2000's, school-centered procedures even began to be applied to the new requirements of the era of neoliberalism, these being connected with efficiency, standardization, control, and accountability (see, e.g., Gruenewald & Manteaw, 2007, p. 172).

During the above-mentioned process of comprehensive educational change, however, many researchers, administrators, and pedagogues argued that a school rooted in the procedures of academic traditionalism would only project reality in symbolic form. Given that this type of socialization process favors a low symmetry between the objective and the subjective reality, it was understood, even at the legislative level,

that procedures of outdoor-oriented education were needed in order to enhance and enrich school teaching (*Elementary and Secondary Education Act of 1965*, 1966, pp. 39, 41). In accordance with this, the students in the realism-oriented essentialist and neo-essentialist school also studied in out-of-school settings in the vicinity of the school, on field trips, or at school camps and resident outdoor schools, in addition to their classroom-centered work. The students made field trips to sites such as local harbors and factories along the coast when studying the utilization of the sea and associated problems (for the school-specific field-trip program more closely, see, e.g., Helgeson, Blosser, Howe, Helburn, & Wiley, 1972, pp. 35–37). In this manner, these students externalized themselves within the framework of activity, thereby transferring their own meanings of the concepts to physical and cultural factors in reality.

During the period of Indian Modernization the pedagogical practice of outdoor-oriented education seemed, superficially at least, to be based on similar methods as those used in the American essentialist and neo-essentialist school. A turn-around in Indian educational policy, comparable to what had taken place in the United States, came about when the Federal Government of India required the school system to invest in the modernization process that had started during the second five-year period (1956–1961) (for more details, see *Report of the Education Commission 1964–66*, 1966, pp. 7–8, 613; *Report of the Review Committee on the Curriculum for the Ten-Year School*, 1977, p. 11). This resulted in the most comprehensive change in educational policy in the history of India. The change was also evident in the emergence of a situation that allowed reduction of the high symmetry between objective and subjective reality in the prevailing socialization process, compared to the development outlined above that had taken place during the period of Indian Tradition.

An essential element of the pattern of school-centered outdoor-oriented work education that is in line with Indian Modernization was socialization in the neo-colonial school based on externalization and internalization in accordance with the Kothari Commission Report (1966), as well as in the post-colonial school on externalization and objectivation in accordance with the Patel Committee Report (1977) (Table 1). Now the emphasis was placed on science and technology as the cultural elements of reality. This stress on intellectual aims and school-centered procedures amounted to an effort to familiarize students with the processes that were appropriate for the technological development of a modern industrial society, as well as with the contemporary techniques and the scientific principles underlying them. The difference in pedagogical properties between these two approaches, both with respect to each other and their essentialist and neo-essentialist approaches, is manifested when the socialization processes that play in the background are examined from the perspective of the symbolic universe. With a particular aim to industrialize and urbanize the country, the social and educational policymaking of India was justified in such a manner that the neo-colonial school used pedagogical decisions in accordance with the model set by the Soviet Union, with the post-colonial school reciprocally utilizing the opportunities afforded by the neo-traditional school. A socialization process of this type was undoubtedly legitimized by theories of modernization.

Consistent with dialectical and historical materialism, the students at the neo-colonial school attended work-related lessons and vocational activities within the school, as well as went on field trips and stayed at camps outside of school in addition to their academic studies. For example, they familiarized themselves with the latest techniques and scientific achievements in agriculture, such as hybrid varieties of corn and millet (*bajra*) at the village experimental farm (for the teaching procedures in one selected school more closely, see, e.g., Roy, 1980, p. 376). In this manner, the students of the neo-colonial school externalized themselves in activity as they transferred their own meanings to the cultural factors of the surrounding reality. At some schools, the externalized outputs of students also attained the level of objectivity; for example, when repairing electrical and mechanical devices during work-related lessons (for teaching procedures, see, e.g., *Work-Experience in Schools: Third All India Educational Survey*, 1977, p. 10).

In contrast, the externalized outputs of the community-oriented projects completed at the post-colonial school consistent with rationalism were able to attain a level that was even closer to the level of objectivity than those of the aforementioned school. In addition to otherwise quite classroom-centered teaching, the students worked in the school workshops, in the garden and areas under cultivation, or, alternatively, in community service activities outside the school. For example, in the practical cultivation work, they applied scientific cultivation techniques by growing different varieties of eggplant (*brinjal*) from seeds, utilizing modern fertilizers and pesticides (see the teaching procedures in one selected school, e.g., Buch & Patel, 1979, pp. 111–113). At the non-formal centers in the slum areas, they guided members of the community to use computers (see the procedures in one selected school, e.g., Shafi, s.a., p. 4). This could be interpreted as meaning that such projects were able to generate products of human work that had their own actual existence and objectivated form accompanying their externalization, even though specifically fundamental processes of socialization based on externalization and internalization were implemented in connection with other post-colonial instruction when the research focus here is on the cultural factors of a scientific or technological field.

Comparisons

Table 1 provides a side-by-side comparison of the different types and degrees of emphasis on the properties of the procedures of outdoor-oriented work education with that of activity education in the light of the basic processes connected with an individual's socialization and the various components of reality in the United States and India at different times, with a primary focus on society and school-centered outdoor-oriented education. Central pedagogical implications are examined particularly from the perspective of legitimation during the periods of Early and Late Industrialism in the United States, and during the periods of Indian Tradition and Modernization in India.

Table 1. The Properties Emphasized in the Procedures of Outdoor-Oriented Education during the Periods of American Early and Late Industrialism and of Indian Tradition and Modernization

Aspect	Early Industrialism Society-Centered Outdoor-Oriented Activity Education	Indian Tradition Society-Centered Outdoor-Oriented Work Education
Nature of the socialization process	A socialization process based on externalization and objectivation that is legitimized by neo-evolutionist theories.	A socialization process based on externalization and objectivation that is legitimized by the idea of truth (<i>satya</i>) and nonviolence (<i>ahimsa</i>).
Central implications for pedagogics	<i>A progressive school based on experimentalism</i> : The students are familiarized with the skills, existing procedures, and principles required in an early industrial society.	<i>A neo-traditionalist school based on satyagrahism</i> : The students are familiarized with the traditional vocational activities and the bases of their procedures and phases in the working processes required in a pre-industrial agrarian society.
The central components of reality	The cultural elements of reality, emphasizing early industrial means of livelihood.	The cultural elements of reality, emphasizing pre-industrial means of livelihood.
Aspect	Late Industrialism School-Centered Outdoor-Oriented Activity Education	Indian Modernization Society-Centered Outdoor-Oriented Work Education
Nature of the socialization process	A socialization process based on externalization and internalization that is legitimized by re-modernization theories.	A socialization process based on externalization and internalization or externalization that is legitimized by modernization theories.
Central implications for pedagogics	<i>An essentialist or neo-essentialist school consistent with realism</i> : The students are familiarized with the techniques and their underlying scientific principles, particularly in the study of the natural sciences, required in a technologically sophisticated industrial society.	<i>A neo-colonial school consistent with dialectical and historical materialism, or a post-colonial school consistent with rationalism</i> : The students are familiarized with the technological processes, modern techniques, and their underlying scientific principles required in a modern industrial society.
The central components of reality	The physical elements of reality, emphasizing nature, and the cultural elements, emphasizing science.	The cultural elements of reality, emphasizing science and technology.

PEDAGOGICAL PROCEDURES OF AMERICAN AND INDIAN
OUTDOOR-ORIENTED EDUCATION IN DIFFERENT
SOCIALIZATION ENVIRONMENTS

Dimensions of Socialization Environments

The concept of learning environment can be understood comprehensively as a socialization environment. The family has traditionally been regarded as the most important environment for primary socialization. However, the role played by the family as a child's primary socializer has decreased over time (Gauvain & Parke, 2010, pp. 239–240). The present study argues that the main environment for secondary socialization is linked to the contexts of pedagogical processes inside the school as well as to the physical, personal, and/or socio-cultural contexts outside the school that are connected with these processes (see the learning contexts in greater detail, Braund & Reiss, 2004, p. 7). The world of work after the years spent at school can be seen as a tertiary environment for socialization (Jarvis, 2009, p. 45). The study in hand has demonstrated that Naturalistic, Socio-Cultural, Productive, Ecological, and/or Scientific-Technical Dimensions are emphasized in accordance with social trends in environments that are geared towards secondary socialization.

This chapter examines the properties of the procedures of outdoor-oriented education in the United States and India, utilizing the interpretations of reality as a human construct proposed by Berger and Luckmann (1967, pp. 60–61, 92, 97, 104) and Popper (1968, p. 333). Outdoor-oriented education is constructed on the basis of manifestations of the direct interaction between school education and reality outside the school. Outdoor-oriented education depicts the pedagogical processes taking place *in* settings linked intimately with out-of-school reality, concerning subject matter *about* the reality outside the school, and preparing students *for* dealing with this reality. The most significant function of this process is to articulate, internalize, and change the essence of reality so that intentional activity can direct itself on the physical, mental, and/or cultural factors of reality.

During the period of Early Industrialism in the United States, for example, nature study, school gardening, and school camping were particularly oriented towards the physical factors of reality. The learning context was World 1, a constituent element of reality composed of physical objects and states, as well as of nature and the substance of the material outputs of human intellect. The Naturalistic Dimension was emphasized in the socialization environment. School camping also emphasized World 2, a component of reality consisting of human mental states. Its elements are the subjective experiences created by perceptions, thoughts, feelings, mental images, intentions, and memories. These experiences arise from the personal context, the basis of which is an individual's emotional, affective, and cognitive structure (Braund & Reiss, 2004, p. 7). During the period of Late Industrialism in the United States, environmental education was most frequently directed to physical contexts of reality outside the school, while the Scientific-Technical Dimension was emphasized in the socialization environment.

Outdoor-oriented education in both the United States and India has traditionally focused on the cultural factors of reality. During the period of Indian Tradition, for example, the socio-cultural context of learning was highlighted in craft education and social service with the consequence that the intention of the activity was directed towards World 3. This world consists of the products of human social activity that are constructed on the basis of the objects of Worlds 1 and 2. This component of reality contains the cultural heritage of humankind. The period of Indian Modernization also saw a rise in prominence of the socio-cultural context of learning, with the Scientific-Technical Dimension being stressed in the socialization environment. The following provides a more detailed interpretation of the procedures of outdoor-oriented work and activity education from the perspective offered by central pedagogical approaches and the dimensions of the socialization environment with which they are intertwined. The procedures are examined from the standpoint of society-centered and school-centered outdoor-oriented education during different eras.

*The Pedagogical Procedures of Outdoor-Oriented Education in
American Early Industrialism and Indian Tradition*

During the final decades of American Early Industrialism (1920–1940), a progressive school flourished, the pedagogical procedures of which resembled those that had been implemented in the neo-traditional school during the last decades of Indian Tradition (most strongly from the 1940's until the mid-1950's). There, the central pedagogical challenge was to use education to adapt the American citizenry to the new industrialized society (Table 2). The Americans adopted a pioneering approach to meeting this challenge; they combined teaching with practice, direct experience, and the actual life of the community in a methodological manner. During those times, different types of reform pedagogical teaching methods were applied in schools, following the use of the fundamentals of correlated, fused, and core, broad-fields, and experience-based curricula (for a closer examination of curriculum-focused approaches, see, e.g., Spears, 1940, p. 53). Characteristics of experience-based curriculum were its concentration on the student, real-life content, and themes, as well as on problem solving in actual activity. The primary pedagogical procedures in the school context were work in the school's shops and gardens, in addition to activity-based classes. Typical forms of teaching and learning in the out-of-school context were collaborative and individual study projects, visits, and field trips, as well as school camps.

The progressive schools that applied activity-pedagogical approaches had a tendency to emphasize the Socio-Cultural Dimension of the socialization environment in their outdoor-oriented education. This was evidenced in such activities as study visits to factories, laboratories, institutes, and other targets in the community, as well as projects on local housing conditions, means of livelihood, or serious social problems (for the teaching procedures in some selected schools more closely, see, e.g., Dewey & Dewey, s.a., p. 52; Green, 1936, pp. 192–194; de Lima, 1944, pp. 246–248; Mayhew & Edwards, 1966, p. 208; Wegner & Langworthy, 1936, p. 86). The following brief

description serves as an example of applying the Socio-Cultural Dimension in these activity-pedagogical procedures in more detail. The teachers and their students at the Holton High School, Kansas, were involved in the project of the local housing conditions:

The ninth graders of the public high school at Holton, Kansas, carried out a study of city planning and the prevailing housing conditions. On the basis of a questionnaire they had drawn up, they also surveyed the utility and the modern conveniences of houses. Drawing on the data, they made tables and graphs as well as a map in which the houses of the city were classified according to their level of convenience. Finally, the students wrote a review describing the execution of the study and giving the findings and conclusions based on the study (Green, 1936, pp. 192–194).

While activities such as nature study, school gardening, and school camping certainly emphasized the Naturalistic Dimension of the socialization environment, closeness to nature was also favored in other activity-pedagogical undertakings. In nature study, the students explored plants and observed animals in fields, forests, and on shores (for the teaching procedures in one selected school, see, e.g., Rice, 1969, pp. 243–246). The school garden provided them with a place of learning from spring until fall. They plowed and harrowed the soil, sowed seeds, planted and took care of plants, and reaped the harvest (for the teaching procedures in the selected schools, see, e.g., Lauderdale, 1981, pp. 47–48; Merritt, 1938, p. 122). The summary provided in the following illustrates this activity-pedagogical process at the Ellerbe High School, North Carolina, in detail:

The students of the Ellerbe High School in Ellerbe, North Carolina, grew trees and bushes in the school's nursery. They sowed seeds in beds to germinate and grow into seedlings, rooted cuttings, and planted them to continue growing in a nursery garden, as well as transplanted the seedlings that were growing too densely to more open ground before planting them in their final place. As the work progressed in this gradual manner, the students had the opportunity to acquaint themselves with the growth factors connected with such things as germination, the promotion of rooting, and transplanting. They also sold plants, planned gardens, and did planting jobs (Merritt, 1938, pp. 122–125).

Characteristic of an experience-based curriculum was a focus on problem solving in the active functioning of the school workshops. There students were familiarized with the raw materials, methods, and equipment through the means of different activities, such as wood and metal work, weaving, sewing, and cooking (Table 2). Simultaneously, all school subjects were integrated. According to Dewey (1953, pp. 66–67), the activities in the school workshops were closely connected with economy, sciences, arts, and communication in the surrounding community. Working in the school kitchen and garden was associated with the countryside and its processes and products, or with projects to study topics such as factors related to growth, or the role of agriculture in human history and in contemporary society. Activities on field trips and study visits were linked to the topics being treated at school. The application of Dewey's pedagogical ideas is described more thoroughly in the following overview,

which is based on the work of Mayhew and Edwards (1966), the teachers of Dewey's Laboratory School:

The students of Group 8 of the University of Chicago Laboratory School in Chicago, Illinois, visited the Armour Institute when they made a study of the electric bell and motor. The purpose of the course was to compile an account of Faraday's classical electromagnetic experiment with an iron core and a coil. The students planned the visit to the Armour Institute: They wanted to familiarize themselves with a motor, a dynamo, a battery, and a telegraph, as well as a galvanometer that can be used to measure weak electric currents. To conclude their course, the students constructed a dynamo motor.

The next year the same students visited the Armour Institute once again during their course dealing with electric machines. During the visit, they familiarized themselves with a galvanometer, ammeter, and voltmeter, an electric magnet, as well as a plane and a jig-saw powered by electricity. Additionally, they had the opportunity to see direct and alternating dynamos as well as electric motors equipped with two kinds of armatures. In practice the students thus figured out that a dynamo is a machine that can be used to generate mechanical energy or, conversely, can be used to convert energy into electric energy. After the visit the students decided to construct a galvanometer in the shop as well as to consider constructing both a motor and dynamo as well if they could only find the necessary components (Mayhew & Edwards, 1966, pp. 208–209).

Even if Dewey (1950, pp. 234–235) argued that the objective of activity-pedagogical work at a school shop is neither economic nor vocational benefit, as had been the case with Gandhi's craft-related activities, the Productive Dimension of the socialization environment managed to be emphasized in the schools where the students worked for the benefit of the school and community. The students worked at school premises such as the printing shop, the hatchery, the farm maintenance shop, the barber shop, or the beauty parlor, or engaged in activities such as canning fruit and vegetables for sale and doing electrical wiring on contract (for the teaching procedures in the selected schools, see, e.g., Freeman, 1938, p. 123; Lauderdale, 1981, pp. 47–49). This can be interpreted as meaning that the Productive Dimension of the socialization environment was justified by the neo-evolutionary theories into which the processes generated by Deweyan activity-pedagogical methods and the meanings associated with them were holistically integrated. By virtue of these strategies, the progressive school oriented itself in a planned manner towards a transaction with the early industrial society in accordance with the liberalistic trend of thought. An effort was made to adapt Americans to an unprecedented social situation that included a rapid change from a traditional agrarian society to one that was modern, urbanized, and industrialized. The following summary exemplifies the different pedagogical applications that were carried out in the selected schools in Indiana, Kansas, and Alabama regarding the Productive Dimension of the socialization environment prevailing at these schools during the era of pedagogical progressivism:

The students of the Public School 26 in the City of Indianapolis, Indiana, renovated and furnished old buildings for use by the school and instructed community inhabitants in gardening (Dewey & Dewey, s.a., pp. 214–216, 220). The students of the Interlaken School, near LaPorte, Indiana, planned and constructed buildings for the school, tended

the school farm, and edited a local newspaper (*ibid.*, pp. 87–89). In Kansas, the students of the Holton High School took part in drawing up a housing program with the city housing committee. In this work they made use of an earlier study done by students on housing conditions (Green, 1936, pp. 194–195). Near the City of Montgomery, Alabama, the students of the Holtville School offered a variety of meat processing and soil transportation services. They canned fruits and vegetables for sale and did electrical wiring on contract. The school had a hatchery, a farm maintenance shop, a barber shop, and a beauty parlor (Lauderdale, 1981, pp. 47–49).

During the period of Early Industrialism, public school camps were principally summer camps with programs that followed traditional camp programs. The Naturalistic Dimension of the socialization environment was emphasized most strongly when students were practicing their camping skills out in the open or engaging in recreational activities at the camp center (for more details, see Hammerman, 1961, p. 134). The following summary exhibits the procedures of the school and community camping program of the Highline School District in King County, Washington, in the late 1930's:

The school and community camping program for the year 1939 in the Highline School District in King County, Washington, offered genuine camping life close to nature at the camp site on Lake Wilderness. The summer camps of fifth-and-sixth graders of the Highline Public Schools lasted for six days when students lived in tents, practiced camping skills, and hiked in the great outdoors. They learned such camp crafts as outdoor cooking, the use of knife and axe, and knot tying. They swam, played, did handicrafts, and spent nights around the camp fire. They could also row and try riding (Jensen & Burgess, 1952, pp. 7–8, 111, 113, 126–127, 129–131, 133–134, 153, 161).

The quality of the Naturalistic Dimension of the socialization environment was, however, to change during the first decades of the period of Late Industrialism. This time saw the establishment of numerous resident outdoor schools, the programs of which were gradually supplemented, in addition to outdoor life experiences, with curriculum content: the study of nature, the environment, and conservation (Hammerman, 1961, pp. 148–150, 151, 161–162; for a closer examination of some resident outdoor education programs, see, e.g., Clarke, 1951, pp. 145–151; Holland, 1955, pp. 16–18; Holland & Lewis, 1950, pp. 539–540). The following condensed description serves as an example of resident outdoor education program at the time. Camp Cuyamaca offered the program based on conservation studies for the San Diego teachers and their sixth graders:

Camp Cuyamaca, whose program for the academic year 1947–1948 focused on conservation studies in particular, was set up in the California State Park. The school camps of sixth graders for the public schools of the City and County of San Diego usually lasted for five days when students studied in groups at the camp site and in the neighboring fields, forests, and mountains. The students worked in the art and craft shops, visited the natural history museum, and familiarized themselves with the library. They planted seedling trees, took long hikes, and observed the functions of nature (Clarke, 1951, pp. 8–10, 27–28, 30, 51–105).

This type of change in the nature of the Naturalistic Dimension was also to be seen in other outdoor-oriented teaching, which, according to Smith (1955, p. 9; 1970, p. 4), was increasing in many out-of-school sites, such as the school yard, garden, forest, and farm. According to Freeberg and Taylor (1963, pp. 170–171, 202), by the 1960's more than half of the states had public school forestry programs, and in various states many high schools were offering practical agriculture education. The overview provided in the following exemplifies the types of pedagogical applications of practical agriculture education that were carried out by the teachers and their students in the selected schools in Missouri, Texas, and Michigan during the late 1950's:

In Steelville, Missouri, the students of the Steelville Public Schools hiked in the 250-acre forest of the school. They familiarized themselves mostly with the methods of forestry and the practices of conservation. They planted trees and studied the organisms of nature (Freeberg & Taylor, 1963, p. 209). The public school students in the City of Tyler, Texas, visited the school farm. The students observed the farmer in his daily work. They became acquainted with the growing of legumes, fence repairing, feeding penned animals, and other farm activities (ibid., pp. 172–173). The school farm of the Battle Creek Public Schools, near the City of Battle Creek, Michigan, also had a garden in which the fifth- and sixth graders took care of their plants from spring to fall (ibid., pp. 171–172).

During the period of Indian Tradition a parallel reform process began for the United States when the neo-traditional school attempted to bring about the comprehensive integration of education and other social activity through utilization of the occupations and means of livelihood offered by the community (Table 2). In addition to linking teaching to the child's social and physical environment, it was also linked specifically to the traditional handicraft production and agriculture prevailing in the community (see *Basic National Education: Report of the Zakir Husain Committee and the Detailed Syllabus with a Foreword by Mahatma Gandhi*, 1938, p. 203). The procedures of handicraft production and agriculture are illustrated in the following description. The teachers and students of the junior basic schools under study were engaged in some local craft or other traditional work in the former Hyderabad in the late 1940's:

In the former State of Hyderabad junior basic school instruction was linked to local handicraft production. Gardening and vegetable growing were also typical areas of expertise. In the Subzimandi Junior Basic School, spinning and weaving were chosen to be the main crafts, with gardening chosen to be the auxiliary craft. Pottery was selected as the main craft at the Kunta Road Junior Basic School. At the Somjiguda Junior Basic School, the main crafts were sewing and making artificial flowers. At the Adikamet Junior Basic School, carpentry was the main area, but since small boys were unable to carry heavy tools, cardboard work was taught in addition to carpentry. At the Nala Kunta Junior Basic School, basket making was chosen as the main craft. At the Choodi Bazar Junior Basic School, the main area was leatherwork (*Experiments in Primary and Basic Education*, 1956, p. 13).

The curriculum was based on a correlation of the subjects and integrated teaching that meant that community-centeredness and actual life contents and themes, in addition to concentration on practicing craft-related processes in active work, were

characteristics of the pedagogical procedures. Within the school context, the curriculum benefitted from the use of projects done independently or cooperatively, from work-related lessons and vocational activities, as well as from work in the premises and cultivated land of the school area as forms of teaching and learning. According to Gandhi (1962a, pp. 11–12), the entire work process in a school such as this – growing, picking, carding, spinning, and weaving cotton – was designed to train the students in specific abilities and methods for achieving a particular objective. During the various phases of the work, questions connected with the subjects were to be discussed in different ways. For example, elementary arithmetic was to be correlated with spinning and weaving so that the length of the spun thread was measured in yards, the correct number of threads was determined using hanks as the unit of measure, or the number of cross threads was calculated in the warp of a specific cloth. The summary given in the following demonstrates this correlated teaching process in greater detail in the basic schools of the Champaran District, Bihar, in the 1940's:

The basic schools of the village communities in the Champaran District, Bihar, chose spinning as their main craft. The students participated in the entire process of spinning: the cleaning of cotton, ginning, opening up the cotton, preparing it for spinning, carding and preparing of slivers, as well as spinning on the *takli* and the *charkha*. They learned the names of the raw materials, of the equipment used, and of the finished products, and practiced recognizing the count, strength, and evenness of yarn. They estimated the maximum and minimum speed of spinning in class on a daily basis, and calculated the average speed for the whole class per day, week, fortnight, month, and year, in addition to comparing the average speed of the class with the speed prescribed in the syllabus. Likewise, they calculated the cost of the raw materials and supplies used as well as the daily, weekly, and monthly earnings from spinning.

When they were spinning, the students sang songs about cotton, the carding bow, the *takli*, and their work. After the period spent spinning, they often presented short plays about the different phases of the work or drew pictures of the equipment used during the work. They wrote in their diaries what they had done or learned, and read what they had written to each other and to the teacher. The class monitor organized the necessary equipment and supplies. At the end of the day, the students cleaned their cupboards (*almirah*), their classroom, and the entire school compound (Prasad, 1949, pp. 135–140).

Work and service activities, study visits, field trips, and festivals were the main pedagogical procedures included in the out-of-school context. Using these methods, the neo-traditional school connected itself with society in a planned and coordinated manner. Therefore, its function can be seen as having been the process of social transformation. Students were familiarized with the use of local traditional methods, tools of work, and raw materials in order to strengthen the entire Indian pre-industrial agrarian society. The properties of such procedures were justified by the Gandhian idea of truth (*satya*) and nonviolence (*ahimsa*). This comprehensively encompassed the systems of concepts referring to humankind and, more widely, the values guiding the lives of the individual and society, and beliefs concerning the world. Efforts were made to raise the vocational and productive processes of outdoor-oriented work education and associated meanings, especially from traditional Indian cultural

values, rather than deriving from material values; this would help India attain social and economic self-sufficiency.

The activities of social service within the school curriculum also targeted, at their best, social transformation, with attempts at raising the quality of housing, health, and hygiene, with the stimulation of economic life, or with the promotion of literacy (for more details, see the teaching procedures in some selected schools, e.g., Arunachalam, 1949, p. 103; Devi, 1940, pp. 183–185; Salamatullah, 1970, pp. 38, 71–72). For example, the basic school students in the villages of the Champaran District, Bihar, studied local housing conditions under the guidance of their teacher. They discovered that the local houses were mostly made of bamboo, with thatched roofs and no windows, and lacked any systematic arrangement of the interiors or planning in their layout. During this process of socialization, they realized that the houses easily caught fire, but could be protected during the hot season from dangerous east-west winds by building them in a north-south direction (Prasad, 1949, pp. 135, 143). Thus, the students, besides understanding that simple innovations could prevent the houses from catching fire each year, also understood how changes touching the whole society could be based on Indian national cultural values and customs.

This type of social service is intended to benefit the school and community in many ways. The following summary illustrates some of the pedagogical applications of social service that were carried out by the teachers and their students in the selected schools of Gujarat, Bihar, and Rajasthan:

The students of the Thamna village school in Gujarat were responsible for the cleanliness of the school building and the surrounding community, in addition to arranging evening prayers and telling the participants the news of the day (Parikh, 1940, pp. 167, 172, 178–179). The students at the Mihijam Senior Basic School in Santhal Pargana, Bihar, constructed soak pits for sewage removal and trench latrines for the preparation of manure in the nearby villages, in addition to explaining the importance of manure to the villagers (Salamatullah, 1970, pp. 9–10). The students at the Gram Vidyalaya School in Suwana, near the City of Bhilwara, Rajasthan, took part in various kinds of postal services: acquiring postcards, envelopes, and money order forms for the public, writing letters for the villagers who were illiterate, and ensuring that everything to be sent was taken to the Bhilwara post office (*ibid.*, pp. 67, 69, 71).

In the pedagogical procedures, the Productive Dimension of socialization environment to be characteristic of craft education was emphasized when the students worked at the school's spinning and weaving facilities, in the leather, pottery, and other workshops, at the cowshed (*goshala*), dairy, or its store, garden, and areas under cultivation (for the school-specific teaching procedures, see, e.g., *Experiments in Primary and Basic Education*, 1956, p. 29; Kulkarni, 1940, pp. 126–128; Prasad, 1949, p. 140; Salamatullah, 1970, pp. 69, 72). The following brief description provides an example of applying the Productive Dimension in the procedures of craft education at two schools in Gujarat and Rajasthan:

The students of the national school in the City of Rajkot, Gujarat, ran a dairy and produced nutritive foodstuffs, such as hand-ground flour, hand-pounded rice, pulses, and pure *ghani* oil (Gandhi, 1962b, pp. 93–94). The students at the Gram Vidyalaya School in Suwana,

Rajasthan, worked in the school's cowshed (*goshala*), store, and bank (Salamatullah, 1970, pp. 67, 69, 72).

The Socio-Cultural Dimension was particularly stressed in pedagogical procedures when the students were acquainted with work related to the processes of craft education at the community bazaar areas and plantations, or when they were involved in social service at the local markets and festivals, or within contexts such as the sanitation program and construction projects (for the school-specific teaching procedures, see, e.g., Prasad, 1949, pp. 143–144; Salamatullah, 1970, pp. 9–10, 64–65). Such emphasis could still be seen during the first decade of Indian Modernization, with the establishment of the first multipurpose higher secondary schools in the mid-1950's. Even though cooperation between the multipurpose school and the community tended to be modest in scale (D'Souza & Chaudhury, 1965, p. 121), there nevertheless existed Indian schools that were in contact with the local culture, attempting to promote its traditions and modes of livelihood. The summary given in the following illustrates the manner in which the Socio-Cultural Dimension was emphasized in the pedagogical procedures of social service at one multipurpose higher secondary school in Rajgarh, Rajasthan then:

In the town of Rajgarh, Rajasthan, a multipurpose higher secondary school was established in 1959. The students of the school participated in community activities, developed the conditions at the school, and supplied articles produced by the craft-related courses to commercial outlets for sale. In the community, they ran the drinking water huts at *Jagannathji's* fair (*Jagannathji's mela*), guided pilgrims, and maintained general order. The school orchestra played in the fair chariot (*Mela Rath*) and in various occasions arranged by *Panchayat Samiti*. In the school area, the students participated in the construction of roads and an open-air theater, in addition to assuming the responsibility the cleanliness of the playgrounds. They bound books, dipped candles, and prepared articles in wood work and tailoring classes for sale. In the evenings, they held literacy courses for the inhabitants of the community (Salamatullah, 1970, pp. 62–65).

Comparisons

Table 2 presents a concise side-by-side comparison of the properties of the procedures utilized in outdoor-oriented work and activity education that were emphasized within the context of the main currents of education and their pedagogical methods in the United States and India, with the primary research focusing on society-centered outdoor-oriented education. The procedures of the central pedagogical approaches are examined through their tie-ins between existing dimensions of socialization environments during the period of Early Industrialism in the United States and of Indian Tradition in India.

Challenges

When comparing the realization of the procedures of outdoor-oriented education, the progressive school in the United States and the neo-traditional school in India inevitably

Table 2. *The Properties Emphasized in the Procedures of Outdoor-Oriented Education during the Periods of American Early Industrialism and Indian Tradition*

Aspect	Early Industrialism Society-Centered Outdoor-Oriented Activity Education	Indian Tradition Society-Centered Outdoor-Oriented Work Education
Pedagogical points of departure	<i>Progressive education:</i> An effort to adapt the citizenry to an industrialized society. Teaching is combined with practice, direct experiences, and the actual life of the society.	<i>Neo-traditional education:</i> An effort to comprehensively integrate education and society in order to strengthen a pre-industrial agrarian society. Teaching is linked to the society's traditional handicraft production and agriculture.
Features of pedagogical methods	<i>School is planned to be connected with society:</i> An experience-based curriculum, student-centeredness, real-life contents and themes, concentration on problem solving in actual activity, project methods based on cooperative and individual effort, study visits and field trips, school camps.	<i>School is planned and coordinated to be connected with society:</i> A curriculum based on integrated teaching, community-centeredness, actual life contents and themes, concentration on the adaptation of the craft-related methods in active work, projects done individually and cooperatively, work and service activities, study visits and field trips, festivals.
Central pedagogical approaches and the most important dimensions of their socialization environments	<p>Activity pedagogics <i>Socio-Cultural Dimension.</i> Working in the school shops, kitchen, garden, and at its farm. Familiarization with the community's means of livelihood in the bakery, at stores, handicraft shops, and production facilities.</p> <p><i>Productive Dimension.</i> Working at the school's printing shop and barber shop, at the farm maintenance shop, or meat processing facilities.</p> <p>Nature study <i>Naturalistic Dimension.</i> Study of plants and observation of animals in fields, forests, and along shores.</p> <p>Education through school gardening <i>Naturalistic Dimension.</i> Care of plants in the school garden and field from spring until fall.</p> <p>Education through school camping <i>Naturalistic Dimension.</i> Practicing camping skills at the camp center and hiking in its natural surroundings.</p>	<p>Craft education <i>Productive Dimension.</i> Working at the school spinning and weaving facilities, in the leather, pottery, and other shops, at the cowshed, dairy, or in its store, garden, and areas under cultivation.</p> <p><i>Socio-Cultural Dimension.</i> Familiarization with work at the community bazaar areas or plantations.</p> <p>Social service <i>Socio-Cultural Dimension.</i> Working at local markets and festivals or in the sanitation program and construction projects.</p>

encountered the same types of problems; namely, that they were contextual, procedural, and resource-linked. After the Second World War, American society experienced far-reaching changes. The conservative political and social thinking typical of the period

exacerbated criticism of reform pedagogical movements, particularly from the late 1940's (Cremin, 1968, pp. 348–351). This also meant the collapse of the popularity of progressive education. The final setback occurred in 1957, when the treatment of themes connected with national defense was suddenly linked to international competition in the field of science and technology (see *National Defense Education Act of 1958*, 1959, p. 1581). In a comparable manner, the political and economic changes that took place in India weakened the neo-traditional educational thinking of the 1950's and 1960's when the innovations in economic strategy implemented by the Central Government failed to emphasize the local activities of the countryside aimed at ensuring self-sufficiency. Urbanization increased alienation. At the same time, there was little academic study of curriculum planning and implementation (Holmes & McLean, 1989, pp. 156–157). One possible interpretation of this is that the American progressive and the Indian neo-traditional movements in education were incapable of reforming themselves within the context of these types of social changes.

These world-renowned school reforms did not manage to support the needs-of-society curricula or change the fundamentals of the pedagogical work of teachers. For example, progressive teaching procedures in the United States were only combined with traditional teacher-centered instruction externally. The teachers tended to implement the procedures unevenly and only for certain parts of the school day. The large groups of students were heterogeneous and often weakly motivated to study (Cuban, 1993, pp. 142–144). In India, the teachers were broadly opposed to the neo-traditional school curricula and took advantage of primarily traditional teaching methods in their correlation-based teaching. The schools were unable to change their curriculum in the direction of vocational education. At the same time, many of the manual occupations associated with craft education, such as spinning and weaving, actually seemed irrelevant from an economic development perspective. In particular, various demographic segments of large cities felt no connection with Gandhian neo-traditional education (Holmes & McLean, 1989, pp. 156–157). Additionally, both schools of reform pedagogics suffered as a consequence of the poor economic, mental, and physical resources. The fact is that sufficient economic resources were simply not allocated for the school reforms. Insufficient teacher education in particular was reflected in the low quality of the instruction provided by the schools. Teachers did not know how to implement reformist procedures, and school furnishings were old-fashioned, with deficient teaching premises and equipment (Cuban, 1993, pp. 142–144; Subbarao, [1958], pp. 13–15, 154).

*The Pedagogical Procedures of Outdoor-Oriented Education in
American Late Industrialism and Indian Modernization*

In 1957, a surprising foreign policy event initiated a school reform movement in the United States that continues even today. When the Soviet Union successfully launched the first satellite into space, the U.S. Congress argued that the country's level of science and technology had to be raised rapidly in order to overhaul national

defense. For this reason, the schools during the period of Late Industrialism were expected to provide the country with experts capable of functioning effectively in a technologically sophisticated industrial society (Table 3). There was a widely held view that essentialist and neo-essentialist education provided the best alternatives for achieving this objective. Despite school having become an educational center with only limited connections to society, teaching was also directed towards nature and the community in order to enhance and enrich learning.

At that time curriculum design stressed the significance of the subjects and contents to be learned. This ensured that teacher-centeredness, academic knowledge, and emphasis on the scientific study of the laws of the physical world were inherent properties of the pedagogical procedures. Among the typical forms of teaching in the period within the school context were teacher-directed lessons, class discussions, small-group work, and project work. Within the out-of-school context, general pedagogical methods included study visits and field trips, school camps, resident outdoor schools, and experimental projects in environmental education centers. Particularly in the study of the natural sciences, students were familiarized with the application and development of new principles and techniques so that the United States could develop into a technologically sophisticated industrial society in accordance with capitalist ideology.

This explains why both the Ecological and Scientific-Technical Dimension also started to be more significant features in the socialization environments of the central approaches of outdoor-oriented activity education. The relationship between organisms and their environment became the key issue within environmental education, this replacing traditional approaches focusing on the ecological impact of environmental changes. Gradually, environmental education was expected to include “a socio-critical component that encourages students to question how their actions and those of their society impact on the environment” (Taylor, Littleddyke, Eames, & Coll, 2009, p. 319).

Such a course of thinking is evidenced by examples such as students familiarizing themselves with the living organisms that inhabited a pond in the residential site, studying the well-being of the ecosystem in the mountainous area near a research station, or exploring the utilization of the sea and its problems on field trips (for more detail on the environmental education programs, see, e.g., Butler & Roach, 1986, pp. 34–37; Helgeson et al., 1972, p. 35; Rigby, 1986, p. 20). In Beaufort, North Carolina, for example, the environmental education program of the Carteret County Schools for the year 1970 familiarized its students with marine ecology. The fourth-to-twelfth graders of coastal schools made field trips to an open beach, an offshore island, a salty marsh, a port terminal, and a seafood processing plant. With their teacher, the students examined the adaptation of animal communities, erosion by waves, utilization of the sea, and consequent problems, as well as other conditions related to nature and life on coastal areas (Helgeson et al., 1972, pp. 35–37). Socialization processes of this type could also offer students an opportunity to practice shared responsibility; they had the possibility not only to broaden their knowledge and develop their abilities, both of which are needed for the study of ecological questions and the evaluation of alternative methods for resolving problems, but also to expand the overall consciousness concerning environmental issues and values.

The following description further clarifies how the pedagogical application of environmental education was carried out in the residential site in the mid-1980's. The teachers and their students were involved in the resident outdoor education program of the Orange County Marine Institute, Dana Point, California:

At Dana Point, California, the resident outdoor education program for the year 1986 developed by the Orange County Marine Institute acquainted elementary and middle school students with nature's five ecosystems. During the three-day program, the students engaged in such activities as studying the California foothill (*chaparral*), stream-side (*riparian*), and oak woodland ecology in the Santa Ana Mountains. They studied the interaction and interdependence of specific plants and animals, the supplies of natural resources, and the overall health of the ecosystem. In this manner, they also examined how the ecosystem has shaped the local indigenous culture, such as the life and history of the already nearly vanished tribe, the *Juaneños* (Rigby, 1986, p. 20).

Despite the emphasis on ecological issues, a desire was also expressed in the socialization environment to simultaneously maintain the Naturalistic Dimension when participating in such activities as the day camp program at the state park, or studying nature at the laboratory of the resident outdoor education center or along the shore of the nearby pond (for more details, see the resident outdoor education programs, e.g., Mitchinson, 1982, p. 6; Taloumis, 1980, pp. 16–18). The following is a more detailed description of the resident outdoor education at Rogers Environmental Education Center in Geneva, New York, in the late 1980's:

In Geneva, New York, the resident outdoor education program of the Geneva Public Schools for the year 1982 offered science studies at Rogers Environmental Education Center at Sherburne. The outdoor school program for sixth graders lasted for two and a half days, providing studies dealing with shores and forests. The students worked in groups and under the guidance of a natural scientist in the laboratory of the center and on the shore of the nearby pond. A well-equipped laboratory afforded them the opportunity to study the abundant plant and animal life of the pond and marsh in detail. They also acquainted themselves with the use of a map and compass as well as with the principles of forestry. Likewise, play and the games related to the evening program were associated with nature (Mitchinson, 1982, pp. 5–7).

The Socio-Cultural Dimension was also an essential component of instances when, for example, students helped at local centers for the elderly, nursing homes, and shelters for the homeless as part of their service-learning, or when they studied local history by gathering abstract and concrete material in the community as part of their outdoor education (for more details, see the school-specific service-learning projects, e.g., Johnson, 1996, pp. 32–33; McKay, Adams, & Webb, 1991, pp. 165–166). The following summary documents these practical efforts to enhance pedagogy at one selected school concerning the Socio-Cultural Dimension of its socialization environment. The teachers and their students of the Rabun Gap-Nacoochee School, Georgia, were engaged in community-oriented fieldwork for the purpose of first-hand observation and study in the early 1980's.

The students of the Rabun Gap-Nacoochee School in Rabun County, Georgia, made acquaintance with the past of their own community, as well as with its economy and culture, regional special problems, and needs. The Appalachian Cookery Project for the year 1980 familiarized the students with the cooking traditions of the community inhabitants. The students visited homes where they observed cooking and discussed housekeeping and homemaking. They collected recipes by interviewing and photographing and also tried them out. Later on, the students wrote and published a cookbook of the Appalachian people (McKay et al., 1991, pp. 165–172; see also *The Foxfire Book of Appalachian Cookery*, 1984).

This study provides evidence that, especially since the 1990's, the Scientific-Technical Dimension was increasingly emphasized in many pedagogical programs of outdoor-oriented activity education. Outdoor education could include the application of mathematical and physical principles, as was the case with a bridge-building project at a resident outdoor school. Service-learning could cover a survey of the developmental needs of the community using modern methods of data collection. Environmental education could include the use of laboratory instruments to study impurities in the community drinking water (for more details, see the teaching procedures in one selected school, e.g., Boston, 1998–1999, pp. 68–69). Some programs made intensive use of computer-based systems during the investigation of the natural and built environments (for the teaching procedures used at some selected schools, see, e.g., Coulter with Litz & Strauss, 2000, pp. 55–61; Lauer, 2007, pp. 203–204; Thompson, Alibrandi, & Hagevik, 2003, pp. 47–54). Despite attempts to teach various subjects outdoors, with other areas and entities also being explored, environmental education was nevertheless being emphasized in the means, contents, and settings of many instructional programs (see the teaching procedures in some selected schools, e.g., Corcoran & Pennock, 2005, pp. 20–23; Roberts, 2002, pp. 58–61, 98–99; Rulison, 2007, pp. 13–17).

The overview provided in the following exemplifies the pedagogical application carried out at one selected school regarding the Scientific-Technical Dimension of its socialization environment. The teachers and their students at Cole Middle School in Denver, Colorado, were involved in an environmental and community service-learning program in the late 1990's:

In Denver, Colorado, the environmental and community service-learning program of Cole Middle School aimed at identifying and solving the environmental problems in the community at the end of the 1990's. The program included a community environmental inventory, the selection of the problem, a study of the policies to be followed and of the options available to the students for influencing policy and practice, the drafting of a plan of action and its implementation, as well as a reflection and assessment of the research and action process. The seventh graders of Cole decided to carry out a study of the poor quality of the community water supply. They interviewed experts in the community, conducted tests on the pH and chlorine content of the water, and studied the plumbing of the homes. Finally, the students drafted an action plan suggesting a cooperation venture with the weatherization project in low-cost housing. They expressed their hope that water-filtration components would be installed in the homes with high levels of water impurities (Boston, 1998–1999, pp. 66–69).

In the mid-1960's, India also implemented a change of pedagogical course comparable to that taking place in the United States. This shift had a strong impact on the quality of the procedures used in outdoor-oriented work education. Starting specifically with the second five-year period (1956–1961), the new thinking about Indian economic policy attempted to initiate a phase, the goal of which was to industrialize and urbanize the country, essentially following the model provided by the Soviet Union (see *Second Five Year Plan*, 1956, p. 51). Neo-colonial and post-colonial forms of education were required to participate in the acceleration of a scientific and technological developmental path in line with Indian Modernization so that the productive capacity of the national economy could be increased (Table 3). We could interpret this to mean that overcoming such an exceptionally difficult challenge required an effort to make the school into a learning center having only limited contacts with society.

School work at that time was based on an academic-subjects curriculum, with teacher-centeredness and academic knowledge, as well as emphasis on scientific principles, technological processes, and modern techniques being characteristics of the pedagogical procedures. Within the context of the school, central pedagogical methods included teacher-directed lessons, pair and group work, as well as working in the school workshops and production centers. In addition to their classroom-centered school work, the students also studied in out-of-school settings in natural surroundings and in various activities provided by the community in accordance with the opportunities available. The principle forms of teaching and learning in the out-of-school context included study visits and field trips, work and service-centered activities in the community and at the farms in the vicinity, at production and business facilities, as well as at camps.

A firm belief had become established that Indian society could develop into a modern industrial society if only students were directed so that they worked within an environment in which technological processes were applied and familiarized themselves with the use of modern tools, devices, and materials. This justified the manner in which the Scientific-Technical Dimension of the central approaches to outdoor-oriented work education were also emphasized in the socialization environments. For example, in work-experience education, the students worked in the school workshops that made laboratory supplies and ink, or familiarized themselves with the latest techniques and scientific achievements at the community's experimental farm (for more details, see the work-experience program in one selected school, e.g., Roy, 1980, p. 376; see also work-experience activities, e.g., *Work-Experience in Schools: Third All India Educational Survey*, 1977, p. 10). The summary provided here demonstrates the manner in which the teachers of the Buharu village school emphasized the Scientific-Technical Dimension in the programs of work-experience education in the Ajmer District, Rajasthan, in the mid-1970's:

The teachers of the Buharu village school in the Ajmer District, Rajasthan, encouraged their students to study factors characteristic of the habitats of plants during the mid-1970's. The students planted different species of trees in the area of the village, took care of them, and tried to protect them from damage caused by animals. They examined why certain

trees do not grow in the area and what influence the trees might have on the climate. The school was visited by an expert, who presented various techniques for testing the soil and water, demonstrating in practice the necessity of testing for agricultural production. The students brought samples of soil from the land that their parents were cultivating to be taken to the laboratory at Tilonia. At the village experimental farm, they familiarized themselves with the latest agricultural techniques and scientific achievements, such as hybrid varieties of maize and millet (*bajra*). Under the guidance of the teacher and other experts, they meticulously studied the reason for Rajasthan becoming semiarid and the measures to be taken to arrest this development (Roy, 1980, pp. 369, 373–374, 376).

Additionally, the Socio-Cultural Dimension was significant in both approaches when the students familiarized themselves in work-experience education with such functions as work at the community clinic, temple, or Village Council, as well as when they helped in socially useful productive work at the community's special education institutes, non-formal educational centers, and slum areas, or in social service with construction projects and festivals (for the teaching procedures in the selected schools, see, e.g., Kumar, 1991, p. 122; Roy, 1980, pp. 374–376; Tillman, 1976, p. 46). The summaries offered in the following exemplify the pedagogical applications of work-experience education that were carried out in the Buharu village school in Ajmer, Rajasthan, and of social service that were carried out in the Ramakrishna Mission Vidyalaya Secondary School, near Coimbatore, Tamil Nadu. These descriptions show two different ways in which the teachers emphasized the Socio-Cultural Dimension in their community-oriented educational programs:

The students of the Buharu village school in Ajmer, Rajasthan, studied the structure and functioning of the Village Council (*Panchayat*). Aided by a teacher, the students sought information about the structure of the Village Council, electoral terms, and voting procedures. They interviewed the Secretary of the Village Council, who visited the school and explained the taxation practices of the Council, its implementation of decisions, and the general responsibilities assumed by this functionality. Additionally, the students became acquainted with a historical change in the administration of the village as a digression. They studied the pre-independence methods of local and regional administration that had been used when Rajasthan was still governed by a king and its villages by the king's representatives. Finally, the students wrote, on the basis of their information, a study in which they analyzed the number of representatives of their constituency, the number of adults eligible to vote in their own families, the strength of the particular group representation, and voting turnout. Later the study was utilized in their own election process at school (Roy, 1980, pp. 374–375).

At the Ramakrishna Mission Vidyalaya Secondary School, located near the City of Coimbatore, Tamil Nadu, the educational program emphasized social service in the mid-1970's. The Vidyalaya students participated in the repair of the damage caused by storms and floods in the vicinity of the school. They built inexpensive housing for the members of the casteless (*harijan*) colony inhabitants as well as a new road. They also dug them a pond for storing rainwater from which the water could be percolated into the surrounding wells. Every year the students participated in the arrangements for and coordination of the *Sri Ramakrishna* Festival. This religious and social celebration

could offer many kinds of work experiences and service activities for several months because it attracted more than 30,000 visitors to the locality (Tillman, 1976, pp. 44–46).

Despite the emphasis on science and technology in the socialization environment, there was also a wish to favor the Productive Dimension. This was particularly evident in socially useful productive work, such as that done in the undertakings for the school production centers, in scientific cultivation projects, or at the camps for work or social service (for the school-specific programs and teaching procedures, see, e.g., Buch & Patel, 1979, pp. 111–112; Singh, 1998, pp. 15–16; Srivastava, 1991, pp. 101–102). The following description illustrates the application of the Productive Dimension in the scientific cultivation project carried out at one selected school at the end of 1970's. The students of the Vallabh Vidyalaya School in Bochasan village, Gujarat, were involved in work within an environment where technological processes were applied and modern tools, devices, and materials were used. This description exemplifies how the teachers created an authentic learning environment with work and production, where students could cultivate plants as a result of scientific process.

The educational program of the Vallabh Vidyalaya School in Bochasan village in Borsad Taluka in the Kaira District, Gujarat, emphasized work-centered education and community service at the end of the 1970's. The core of the school's educational program comprised socially useful productive work, for which more than 25 percent of the teaching time was used. The secondary school students studied the cultivation of the eggplant (*brinjal*) in their agricultural studies. First of all, they set objectives for the eggplant-growing project, made plans for its various phases and used the relevant literature to familiarize themselves with the different varieties of the plant. In the practical cultivation work, they applied scientific cultivation techniques as they grew 13 different varieties from the seeds, utilizing modern fertilizers and pesticides to do so. In their notes, they documented the measures that they had taken and their experiences. At the end of the project, an assessment was made under the direction of a teacher of the degree to which the set objectives had been achieved (Buch & Patel, 1979, pp. 107, 109–113).

The camps for work and social service may offer us a different type of application of the Production Dimension compared to what is described previously (see Buch & Patel, 1979, pp. 107, 109–113; Srivastava, 1991, pp. 100–102). The summary provided in the following exemplifies the procedures of the camping program for work and social service of the Ajmer city schools, Rajasthan, at the end of 1980's. Here the attempt was made to link vocationally productive work experiences not only to socially useful productive work but also to the relevant curriculum content areas. The students made surveys and prepared reports, these including such topics as handicrafts, home industries, and local agricultural products:

In Rajasthan, the camp program of the Ajmer city schools, which was based on work experiences and socially useful productive work at the end of the 1980's, contained not only community service but also studies in the genuine environment that were related to nature and culture. The Board of Secondary Education offered the schools a proposal for a camp program with a specific schedule for each day as well as detailed instructions for items such as materials, the campsite, and the formation of student groups. The ninth-

to-tenth graders of the schools stayed at the camp for five days when the themes of the program were community service, surveying and collection work, a national integration project, and cultural and recreational activities. In survey and collection work, the students studied nature and culture in small groups or individually. They made surveys and prepared reports about issues concerning the environment, social problems, and the local sources of livelihood such as handicrafts, home industries, and agricultural products. They collected many kinds of objects, such as the leaves and roots of plants, insects, the feathers and nests of birds, as well as different types of stones to supplement the natural science collections of the school (Srivastava, 1991, pp. 100–102).

This chapter has previously shown that the programs familiarizing students with socially useful productive work outside the school most often included service-centered activities and emphasized the Socio-Cultural or Productive Dimension (for the service-centered activities in one school, see, e.g., Chowdhury, 2005, p. 3; Kuthiala, 2007, p. 3). However, since the 1990's, the science and technology-centered programs of socially useful productive work were holding an alternative dimension in their pedagogical procedures. These programs emphasized the Scientific-Technical Dimension when the students worked in the school shops, where they repaired electronic devices and electrical equipment, did electrical jobs, or produced computer-aided publications (for more details, see the SUPW programs in the selected schools, e.g., Dhillon, 2006, p. 1; Narayanan, [2001], p. 88). The following overview gives an example of the program of socially useful productive work in Dehra Dun, Uttaranchal, in the early 2000's. The teachers and students of the Doon School worked with modern computers and computer-controlled devices in the new learning environment:

The program for socially useful productive work of the Doon School in the City of Dehra Dun, Uttaranchal, contained a comprehensive alternative for publishing activities in the early 2000's. The secondary school students participated in the entire publication process almost independently: they wrote, reported, and published. Although only working for two hours a week, they produced many types of printed matter using modern computers and computer-controlled devices. Computer programs enabled them to draw tables and graphic designs as well as to edit photographs. A desktop publishing program allowed them to transform the layouts on the computer display into different types of publications, ranging from simple announcements all the way to books. In addition to producing a conventional yearbook, the students also produced other periodicals, such as the school's special publications: *The Doon School Information Review*, *The Academic Journal*, and the scientific biannual *Prayas*, *Arpan*, *The Echo*, and *Cosmos*. The school's weekly magazine *The Doon School Weekly* (DSW), which has been published since 1936, now also appears in an international internet version (Dhillon, 2006, p. 1; *The Doon School*, s.a., pp. 2, 15–16, 19; for more on the DSW, see, <http://www.doonschool.com/magazine>).

Comparisons

Table 3 presents a comprehensive side-by-side comparison of the different types and degrees of emphasis placed on the properties of the procedures used in outdoor-oriented work and activity education. The comparison is made within the context of the main

TEACHERS' WORK AND CHANGING SOCIALIZATION ENVIRONMENTS

Table 3. The Properties Emphasized in the Procedures of Outdoor-Oriented Education during the Periods of American Late Industrialism and Indian Modernization

Aspect	Late Industrialism School-Centered Outdoor-Oriented Activity Education	Indian Modernization School-Centered Outdoor-Oriented Work Education
Pedagogical points of departure	<i>Essentialist or neo-essentialist education:</i> An effort to produce experts for a technologically sophisticated industrial society. In addition to classroom-centered school work, students also study in natural surroundings and in the community.	<i>Neo-colonial or post-colonial education:</i> An effort to accelerate the scientific and technological developmental course towards a modern industrialized society. In addition to classroom-centered school work, students also study in natural surroundings and take part in activities offered by the community.
Features of pedagogical methods	<i>School is a center of learning with limited connections to the community:</i> An academic-subjects curriculum, teacher-centeredness, academic knowledge, emphasis on the scientific study of the laws of the physical world, teacher presentation and questioning, class discussion, exercise, demonstrations, projects, study visits and field trips, school camps, residential outdoor schools, environmental education centers.	<i>School is a center of learning with limited connections to the community:</i> An academic-subjects curriculum, teacher-centeredness, academic knowledge, emphasis on scientific principles, technological processes, and modern techniques, teacher presentation and questioning, exercise, study visits and field trips, camps, production centers.
Central pedagogical approaches and the most important dimensions of their socialization environments	<p>Outdoor education <i>Scientific-Technical Dimension.</i> Application of the principles of mathematics and physics in a bridge-building project at the resident outdoor school. <i>Socio-Cultural Dimension.</i> Studying local history by collecting data in the community, or becoming familiar with work at the school farm or at the airport and harbor used by the community.</p> <p>Environmental education <i>Scientific-Technical Dimension.</i> Studying water impurities by using laboratory equipment at homes in the community or computer-controlled devices in a river area. <i>Ecological Dimension.</i> Studying the well-being of an ecosystem in a mountainous area near the research station.</p> <p>Service-learning <i>Scientific-Technical Dimension.</i> Surveying the community's developmental needs by using modern methods in data collection. <i>Socio-Cultural Dimension.</i> Helping in the community's homes for the elderly, hospitals, and shelters for the homeless, or serving in the local governing bodies.</p>	<p>Work-experience education <i>Scientific-Technical Dimension.</i> Working in the school's repair shops for electrical and mechanical devices, in the shops where laboratory supplies and ink are produced, or familiarization with the most recent techniques and scientific achievements at the community experimental farm. <i>Socio-Cultural Dimension.</i> Familiarization with work at the community clinic, temple, or Village Council.</p> <p>Social service <i>Socio-Cultural Dimension.</i> Working at community festivals and construction projects.</p> <p>Socially useful productive work <i>Scientific-Technical Dimension.</i> Working in the school's repair shops for electronic devices and electrical equipment, or producing publications in computer-assisted workshops. <i>Productive Dimension.</i> Working in the school's production centers, at camps for work and social service, or in scientific cultivation projects. <i>Socio-Cultural Dimension.</i> Helping at the community's institutes for the visually disabled and non-formal educational centers, or in slum areas.</p>

currents of education and their pedagogical methods in the United States and India, with the primary focus of research being school-centered outdoor-oriented education. The procedures of the central pedagogical approaches are examined through the dimensions of the social environments that are connected with them for the United States during its period of Late Industrialism and for India during its period of Indian Modernization.

Challenges

The essentialist and neo-essentialist school in the United States had access to considerably more economic, mental, and physical resources at the turn of the millennium than the progressive school had during between the 1920's and the 1940's, and the Indian neo-colonial and post-colonial school had access to more resources than the neo-traditional school had during the 1940's and 1950's. Despite this, these schools continued to be confronted with similar problems in the manner in which the procedures of outdoor-oriented education were implemented in the two countries is compared. In American metropolises, a strong migration towards the suburbs started after the Second World War. Poor inner-city areas inhabited primarily by minorities gradually arose in which a complex social and educational inequality established itself. During the 1980's, a critical educational policy led to the work done by teachers being monitored by utilization of standardized school achievement tests. The early 2000's also saw environmental education and service-learning topics giving way to increased emphasis on curriculum standards and tests based on them (as justifications for not teaching environmental or service-learning studies, see, e.g., *Environmental Studies in the K-12 Classroom: A Teacher's View*, 2000, p. 31; Scales & Roehlkepartain, 2004, p. 25). Correspondingly, in India, the turn of the millennium witnessed the most difficult contextual issues facing the country; specifically, rapid population growth and persistent poverty. Even with the existence of metropolises, the majority of its population continued to live in the countryside, which is also reflected in the huge disparities in education and income. Central government guidelines for economic policy commenced to favor an urban way of life. This kind of thinking tended to marginalize work-experience education and socially useful productive work among the themes covered at school, with emphasis being placed instead on textbook-centered teaching dominated by the school and entrance examinations held at the ends of the academic term and year, and a specific school level (for the time allotted for work education, see, e.g., Yadav, 2011, p. 121).

Many American and Indian teachers felt that the new school reforms were incapable of supporting their work when they were teaching the outdoor-oriented parts of the curricula, since, in practice, the teaching and learning process, which focused on academic knowledge and learning, emphasized the teacher-directed transmission of knowledge. In the United States, for example, the pre-service and in-service training of teachers was considered insufficient. The instructional material used in environmental education lacked an interdisciplinary and social approach. There was a particular lack

of material suitable for the urban environment. In India, for example, the curriculum development of socially useful productive work was inadequate because the schools lacked qualified teachers. Untrained teachers were also incapable of motivating students to engage in long-term activities. In both countries, insufficient economic resources limited practical efforts to develop outdoor-oriented education. The possibilities of acquiring teaching material or financing field trips were limited. Many schools did not even offer the appropriate equipment, furniture, or work premises (for a closer examination of the barriers preventing the teaching of environmental education and work-experience education, see, e.g., Mastrilli, 2005, p. 24; Mayeno, 2000, p. 14; Ruhela, 2006, p. 98; Sehgal, 2001, pp. 212–213).

The following concluding review briefly discusses the properties of the procedures of outdoor-oriented education in the United States and India. The procedures of the pedagogical approaches are compared in the light of both the basic processes connected with an individual's socialization and the different components of reality from the perspective of social trends.

THE PROPERTIES EMPHASIZED IN THE PROCEDURES OF OUTDOOR-ORIENTED WORK AND ACTIVITY EDUCATION IN THE UNITED STATES AND INDIA

The central purpose of outdoor-oriented education is to articulate, internalize, and transform the essence of reality, specifically of its physical, intellectual, and cultural world. In outdoor-oriented educational situations, learners encounter their environment as a reality that is external to themselves and structured in a continuous dialectical process of internalization, externalization, and objectivation. [Figure 1](#) shows the emphasis on these basic processes, by which an individual is socialized, as well as on the different constituents of reality in outdoor-oriented education in the United States during the periods of Early and Late Industrialism, and in India during the periods of Indian Tradition and Modernization.

An essential feature of the pattern of the society-centered outdoor-oriented activity education, consistent with Early Industrialism, was socialization based on externalization and objectivation. By emphasizing motor and socio-moral aims, educational policy makers in the United States made specific efforts to familiarize students with the skills, current procedures, and principles needed in an early industrial society. Teaching highlighted the Socio-Cultural and Productive Dimension of the socialization environment, thus enabling the students to engage in such activities as helping compile a local housing program, renovating old buildings for the school's use, and working in the school's farm maintenance shop or meat processing facilities. The Naturalistic Dimension of the socialization environment, in turn, was stressed in school gardening when, for example, the students took care of their plants from spring until fall. It is possible that through these methods, the student's externalized outputs could also attain the nature of objectivity. When the socialization process of the progressive school is examined from the perspective of the symbolic universe

providing its background, one possible interpretation is that the adaptation of education to the needs of early industrial society was justified by neo-evolutionist theories.

During the period of Indian Tradition, a seemingly parallel educational reform emerged when comparing its society-centered pattern of work education with the American pattern of society-centered activity education. In both countries, the pattern of society-centered outdoor-oriented education had been founded on externalization and objectivation-based socialization. However, the two systems had entirely different fundamentals, since the Indian pattern of society-centered work education was legitimized by applying the idea of truth (*satya*) and nonviolence (*ahimsa*) (Figure 1). By emphasizing physical and socio-moral aims, the Indian policy makers attempted to familiarize students with the traditional vocational activities used in a pre-industrial agricultural society, as well as with the fundamentals of their various procedures and phases in the relevant working processes. They were given practice in ways of working offered by the community as well as in the use of craft equipment and raw materials. The Productive Dimension of the socialization environment that was a characteristic of teaching was emphasized in craft education when the students engaged in such activities as participating in the entire process of spinning and weaving. The Socio-Cultural Dimension was stressed in social service within the framework of the village sanitation programs and construction projects. The socialization process at the neo-traditional school was typified by a high symmetry between objective and subjective reality, whereupon the externalized outputs of activity could also reach the level of objectivity.

An important element of the American pattern of the school-centered outdoor-oriented activity education, consistent with Late Industrialism, was a socialization process based on externalization and internalization that was justified by the rapid re-modernization of society (Figure 1). Consequently, the Scientific-Technical Dimension also began to be stressed in the socialization environments of outdoor-oriented activity education. By emphasizing intellectual aims and school-centered procedures, American society made an effort to familiarize students with the modern techniques and their underlying complex scientific principles needed in a technologically sophisticated industrialized society. This requirement was applied with particular robustness to the study of the natural sciences in accordance with the *National Defense Education Act of 1958*. Insofar as opportunities were available, students studied outside of school, engaging in activities such as applying the principles of mathematics and physics in a bridge-building project at a resident outdoor school as part of their outdoor education, studying water impurities by using computer-controlled devices at a river area as part of their environmental education, and charting the developmental needs of the community by using modern methods of data collection as part of their service-learning. Even if a low symmetry between objective and subjective reality was typical of the socialization process of the essentialist and neo-essentialist school, the students transferred their own meanings into reality when participating in such activities, thereby externalizing themselves. It is easier to understand the difference between the American pattern

of school-centered outdoor-oriented activity education and that of society-centered activity education if activity education implemented in the essentialist or neo-essentialist school is interpreted as being consistent with realism, while the progressive school most often implemented activity education based on experimentalism.

An essential constituent of school-centered outdoor-oriented education following the period of Indian Modernization was socialization that was based either on externalization and internalization in accordance with the Kothari Commission Report (1966), or on externalization and objectivation in accordance with the Patel Committee Report (1977) (Figure 1). Intellectual aims and school-centered procedures were now emphasized, with the students being particularly familiarized with the processes appropriate to the technological development required in a modern industrialized society. They received guidance in the application of modern techniques and the underlying scientific principles, as well as in the use of the most recent tools and devices. A special effort was made to combine the application of science and technology in the teaching of production processes. On this basis, the Scientific-Technical Dimension was also emphasized in outdoor-oriented work education. When possible the students at the neo-colonial school studied outside the school, familiarizing themselves with the latest agricultural techniques and scientific achievements at the community experimental farm as part of their work-experience education. In this manner, the students externalized themselves in the activity when they transferred their own meanings into reality. In contrast, the externalized outputs of the activity of students attending the post-colonial school might also come closer to assuming the nature of objectivity with their socially useful productive work, when they offered services in repairing electronic devices and electrical equipment for the inhabitants of the community and produced teaching aids for the non-formal education centers. The significant difference between the Indian pattern of school-centered outdoor-oriented work education and the American pattern of school-centered activity education implemented by the essentialist and neo-essentialist school becomes clear when the socialization process carried out in India is examined from the perspective of the symbolic universe. The neo-colonial school applied work education consistent with dialectical and historical materialism, while the post-colonial school applied work education consistent with rationalism. A socialization process of this type was quite evidently legitimized by theories of modernization.

Figure 1 displays a summary comparing the properties emphasized in the procedures of outdoor-oriented work and activity education in the light of the basic processes connected with the socialization of the individual and the various constituents of reality when the primary research focus is on society-centered and school-centered outdoor-oriented education. The interrelationship between the social construction of reality and the prevailing social trends is examined for the periods of Early and Late Industrialism in the United States, and for the periods of Indian Tradition and Modernization in India.

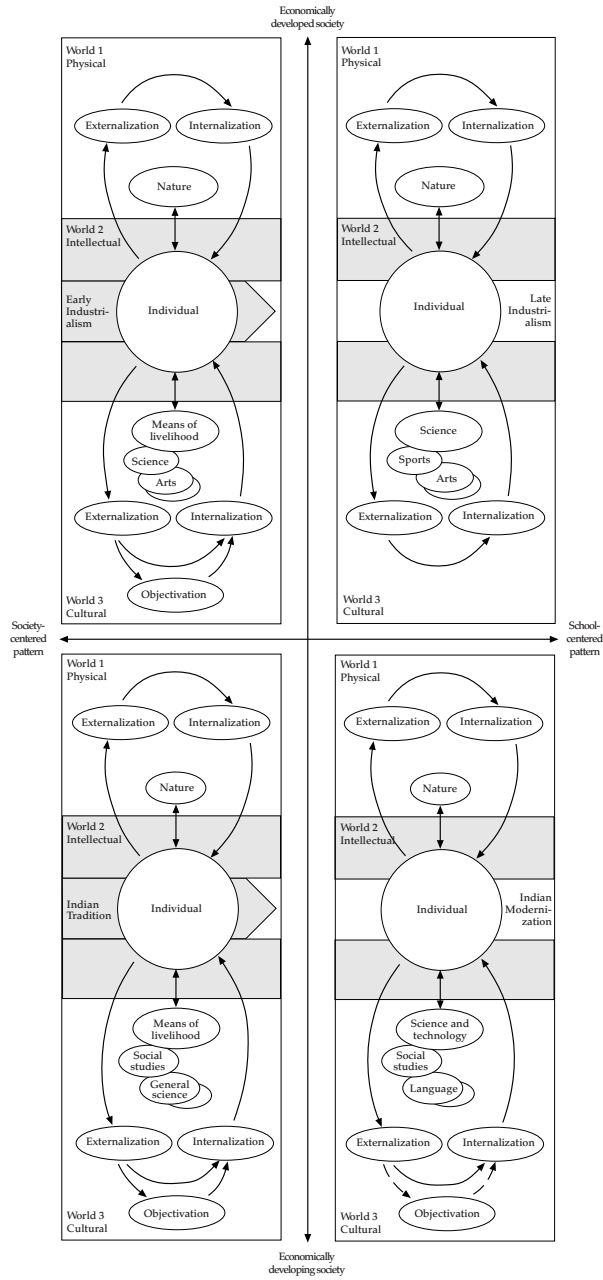


Figure 1. The Interrelationship between the Social Construction of Reality and the Prevailing Social Trends in American Outdoor-Oriented Activity Education and in Indian Outdoor-Oriented Work Education

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DHRUV RAINA, SHAKUNTLA NAGPAL & PRANATI PANDA

AFTERWORD

UNDERSTANDING THE EDUCATIONAL CHANGE PROCESS AND TEACHERS' WORK

Reflections from an Indian Perspective

INTRODUCTION

In recent years, the school education sector has realized that teachers are the key to educational change and school effectiveness. Teacher quality is a critical element that influences student performance. It is well known that the quality and extent of learner achievements are determined primarily by teacher competence, sensitivity, and motivation (*National Curriculum Framework for Teacher Education*, 2009, p. 1). The *National Focus Group on Teacher Education for Curriculum Renewal* (2006, p. 20) clearly emphasizes that:

[A] teacher needs to recognise him or herself as a 'professional' endowed with the necessary knowledge, attitudes, competence, commitment, enthusiasm, spirit of seeking new ways and means, capable of reflection, sensitive and perceptive to not only the learners and the institution but also the emergent concerns in the larger social perspective within which one functions.

The *No Child Left Behind Act of 2001* (2002) in the United States and *The Right of Children to Free and Compulsory Education Act, 2009* (2010), which is now fundamental right of children to elementary education in India, require that all students be taught by highly qualified teachers and call for teacher professional development to be widely viewed as the most promising intervention to improve existing teacher quality. The restructuring of schools, the composition of national and provincial curricula, and the development of benchmark assessments – all count for little if they do not take the teachers themselves into account. The teachers do not merely deliver the curriculum, they also develop, define, and reinterpret it (Hargreaves & Moore, 2000). New and emerging teacher roles, their pedagogical understanding and practices of teaching, working context, and their relationship with educational stakeholders necessitate a careful understating and examination of what we know about the realities of teachers' work.

REFLECTIONS ON TEACHERS' WORK

This book brings together some of the most current research and writings on this subject. The authors of the preceding chapters have identified several important issues in order to understand the wider dimensions of teachers' work and professional learning. This book starts with an examination of how to enhance transformation in teachers' work by reculturing schools so that they would be based on socio-cultural constructivist perspectives, as well as by extending the work of teachers to outdoor learning environments. This would allow innovative pedagogical approaches such as community education and outdoor-oriented education to be applied. Next, the collection of research studies accentuates the changing nature of teachers' work by capturing the pace of change process in certain case-study schools in Finland, China, and the United States. Finally, the book reflects on reforming teachers' work from a comparative perspective through the following overlapping topics: philosophical foundations of outdoor-oriented education in a changing intercultural context, teacher professional competences in a changing school culture, reforming teacher education in a context of social change, and fundamental transformation of socialization environments in a changing social context. The final part of the book compares policies and practices in the United States and India, in Finland and England, as well as in China and Japan.

The deliberations in the various chapters that have a wider canvas raise many questions in addition to substantiating knowledge that opens a vista extending beyond curriculum reform to the curriculum change process, the teachers' changing work, the changing school culture, and addressing the issue of the professional preparation and development of teachers. Throughout several chapters of this book, the strongest theme has been understanding teachers' work and transforming it through innovative practices. Such innovative teachers are typified by their willingness to "act with greater autonomy, to draw their own conclusions, to lead as well as follow, to question difficult issues in a safe manner, and to risk failure so that they may build capabilities for future successes" (Senge, Cambron-McCabe, Lucas, Smith, Dutton, & Kleiner, 2000, p. 7). The presence of a strong supportive school culture and community can make the difference in teachers' work culture and improve students' learning, both within and outside the school. From this perspective, it is generally agreed that teachers are considered as workers and educational institutions as work-places (see, e.g., Connel, 1985; Ozga, 1998).

Teachers' engagement with their work is also affected by many contextual factors. The school culture, leadership, and the community context are all related to the quality of a teacher's work. The reorientation of professional beliefs, values, and attitudes is necessary in order to implement curriculum changes. The professional orientation of administrators is equally important if curriculum change in schools and changes in teachers' work are to be effected. In this regard, pre-service and in-service teacher education programs need to be responsive to the key needs of schools.

Additionally, teachers' work can be supported by a school principal who is committed to a learner-centered approach, along with a collaborative working culture. The implementation of a new curriculum necessitates changes in learning material,

teaching approaches, and belief systems. Strong school and community linkages and the school's role as a learning and activity center serving the whole neighborhood is greatly emphasized. Challenges for managing curriculum changes are quite different in the contexts of different countries. Implementing curriculum change and reforming teachers' work in China and India was shown to require overcoming reforms such as an examination-orientated system, stress on academic record, and poor professional preparation. Therefore, there is a need to build teacher professional competences within a broad framework of changing school culture.

This book provides the wider dimensions for changing teachers' work, work roles, and responsibilities while restructuring a school and its curriculum. Understanding the work of teachers what constitutes, shapes, and supports it as important research areas, requires acceptance of a substantial change in teacher policy perspectives. The work done by teachers in today's world must be viewed in a broader social context. This book provides much-needed understanding for this area, with important implications for countries like India and China. Teachers' work is often misunderstood or viewed superficially, stereotypically, or non-holistically. The texture of its real difficulty and challenges demands more research in a diverse context for better policy formulation.

SOME CONNECTIONS TO THE INDIAN EDUCATIONAL CONTEXT

Discussion of the range of issues concerning the professional development of teachers appropriately emphasizes the recent significance that educationalists in India have accorded to it. In 2005, the National Council for Educational Research and Training (NCERT) created an education curriculum framework that was followed the next year by the elaboration of a joint framework prepared by the NCERT and the National Council of Teacher Education. Both of these efforts confront the rapidly changing contexts of school education and the concomitant demands on teachers and their professional competence. As is the case with the chapters in this volume, there seems to be a new orientation towards viewing the student as central to educational processes and policy.

Consequently, these framework statements highlight the emergent demands and expectations placed on teachers that can only be addressed through programs that review and constantly re-skill professional teachers. In fact, this process of review and continuing education of teachers has come to be considered as the crucial premise that links teacher competence in its various aspects to the performance of national schooling systems. Nevertheless, it is essential to add that schooling systems today are part of a larger global educational complex. A document published in India clearly underscores the point that the quality of learner achievement is influenced principally by a teacher's personal and professional competence (*National Curriculum Framework for Teacher Education*, 2009, p. 1). One tends to get the feeling here that the burden of the quality of learning achievement appears to have been passed on entirely to the teaching community, which is something that needs to be clarified. The salient point is the recognition that the *academic* and *professional* standards of teachers are critical

elements that are decisive for achieving educational goals. In the Indian environment, academic standards are seen to be dependent upon the level and quality of subject matter knowledge, which is a function of the length of academic preparation. On the other hand, professional standards are dependent upon the repertoire of professional skills mobilized to meet a variety of learning situations, and the level of motivation of the teachers reflected in the commitment to the profession. In turn, this motivation is clearly a function of the status of teachers, their remuneration and conditions of work, and professional education. These factors in other national contexts have been discussed and analyzed, keeping in mind the need for the professionalization of teachers by the authors in this book.

However, a number of innovative measures have been introduced, while others have been in place for some time now. These innovations are evidence of a growing recognition among educators that the pedagogic inputs into teacher education yield fruitful results and culminate in the realization of the mandated goals, provided that the quality of teacher educators and trainers is ensured. One way of ensuring that teachers are tuned in to a curriculum that is designed for learner-based education is to introduce new curricular and degree programs throughout India for elementary school teacher training. Some truly innovative four-year degree programs have been in place for several years now. This is further reflected in a number of organizational initiatives, such as those taken by the Institutes for Advances Studies in Education, the University Departments of Education, and the District Institutes of Education and Training. These institutes are explicitly mandated to provide both in-service training to school teachers in learner-centered pedagogical methods as well as curricular and pedagogical support for teachers at the school level.

These concerns provided the rather variegated backdrop of the *National Curriculum Framework 2005* (NCF), where the special role of curriculum design and the review of school curriculum take center-stage. An innovative approach adopted in formulating the NCF was the creation of national focus groups chaired by renowned researchers, as well as teachers and educationalists who were then encouraged to prepare position papers that would focus on curricular areas, systemic reforms, and national concerns. Among the issues addressed under the rubric of systemic reform were two related aspects that have been the main focus of the present volume. The first issue was related to those aspects facilitating curricular change; the second had to do with teacher education for curriculum change. Curriculum change was seen to be guided by the idea of relating knowledge to life outside school without being constrained by disciplinary formats. This would encourage curriculum development, or so it was thought, to break the iron frame of canonized text books.

The whole question of disciplinary frameworks and formats was important from the perspective of developing teacher competences. The approach suggested reflexive thinking through the pedagogical and wider societal goals of education. Constructivist perspectives in education served as the theoretical frame for curriculum development. Not only were children to become active participants in the construction of knowledge, but the more important objective was to revise the perceptions teachers had of students.

This radical transformation of the learning environment meant additional tasks and responsibilities. Two of these – diminishing cognitive and social anxieties – are relevant here. The former includes widespread fears and anxieties children acquire about certain disciplines, such as mathematics. These fears frequently leave permanent scars on their learning abilities. With regard to the cultural diversity of Indian society and its stratified nature, the framework document prescribed a pro-active approach in which the study of the social sciences was to be pursued from the perspective of the marginalized members of society, incorporating the sensibilities of socially deprived groups and minority sensibilities.

Meaningful concentration on the last objective would necessitate interfacing with parents and the communities of which the students are members. The chapters of this volume conceive of the involvement of the community on different levels. On the most basic level, given the diversity of cultural and learning contexts, the teacher needs to acquire a certain degree of sensitivity to understand the community of students and parents, to inspire them not just to learn, but also to attend school on a regular basis. In conceptual terms, this requires the teacher to be equipped to develop linkages between the formal knowledge that the school imparts and community knowledge. The present book has shown how the latter system could enrich the former and make the attempts to nurture ideas about sustainable development much more effective. The more difficult task would be to find ways to inculcate the ideas of equity and gender into the discourse of the teacher who, in turn, has to find a way to stimulate related discussions, as much in the classroom as within the community of parents. Three chapters of this book describe approaches to education that have been used in India. The teaching and learning processes that these approaches use are implemented within the child's own community. Intervening in this manner is seen as a desirable method of making the learning environment more student-friendly by creating a space or interface to enable this dialogue to become part of the education process.

While the framework document of 2005 has been a landmark document in conceptualizing student-centeredness in educational processes, a number of criticisms have been voiced against it over the years. This is not something to be discuss here, and some steps may have been taken to address the shortcomings that have already been identified. Even so, a framework document should provide clues and outline procedures for how some of its significant resolutions and policies could be translated into programs and implemented. One of these issues was the possible resistance from teachers or the immensity of the task of training and retraining teachers to take on the new paradigm of teaching. Some of these problem areas have been addressed subsequently. The other point that was often raised is that the NCF of 2005, as initially conceived, was perhaps too elitist in its ambitions; this is another way of saying that a majority of rural schools and quite a few government schools were woefully lacking in infrastructure and trained teachers. For these schools, achieving the goals as set out by the new framework document would be virtually impossible. A number of these issues were widely debated in the press, schools, and other forums, which provided an opportunity to clear up misperceptions and misconceptions.

This entire discussion is contingent upon the incorporation of diversity as a fundamental guiding principle of curriculum development that is strengthened by enriching the professional repertoire of teachers. This would, in turn, require the development of a professional identity for teachers, and teacher education certainly plays a central role in this process. Unlike other parts of the world, India has much to learn in this sphere from the experiences of others. As noted earlier, this book explores central concerns of teachers through a number of case studies, each of which is from a different country context and addresses a different aspect of the tasks undertaken by teachers. Teachers around the world are searching for new ways to transform their schools to meet local and global challenges. The contributors to this book offer many points of departure for the deliberation.

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CONTRIBUTORS

Thomas L. Alsbury, Ed.D.
Professor of Educational Administration and Supervision
School of Education
Seattle Pacific University
Seattle, WA
U.S.A.

Ruifeng Cui, M.A.
Lecturer
Institute of Higher Education
School of Public Policy and Administration
Xi'an Jiaotong University
Xi'an, China

Donald R. Hammerman, Ed.D.
Professor Emeritus of Outdoor Teacher Education
Northern Illinois University
De Kalb, IL
U.S.A.

Elizabeth L. Hammerman, Ed.D.
Science Teacher Educator
Educational Consultant
Lakeview, NC
U.S.A.

Karen T. Jackson, M.Ed.
Mathematics Instructor
College of Continuing Education and Community Service
University of Hawaii
Hoi, HI
U.S.A.

Eija Kimonen, Ph.D.
Adjunct Professor of Education, Intercultural and Comparative Education
Senior Researcher, Education
School of Applied Educational Science and Teacher Education
Philosophical Faculty
University of Eastern Finland
Savonlinna, Finland

CONTRIBUTORS

Shuo Liu, M.A.
Associate Professor
Institute of Higher Education
School of Public Policy and Administration
Xi'an Jiaotong University
Xi'an, China

Genshu Lu, Ph.D.
Professor
Institute of Higher Education
School of Public Policy and Administration
Xi'an Jiaotong University
Xi'an, China

Shakuntla Nagpal, Ph.D.
Professor of Teacher Education
Department of Teacher Education and Extension
National Council of Educational Research and Training
New Delhi, India

Raimo Nevalainen, Ph.Lic.
Lecturer
RICEI Project Coordinator
University Teacher Training School
Faculty of Education
University of Jyväskylä
Jyväskylä, Finland

Pranati Panda, Ph.D.
Professor
Department of Comparative Education and International Cooperation
National University of Educational Planning and Administration
New Delhi, India

Dhruv Raina, Ph.D.
Professor of History and Philosophy of Science and Education
Zakir Husain Centre for Educational Studies
School of Social Sciences
Jawaharlal Nehru University
New Delhi, India

CONTRIBUTORS

Congman Rao, Ph.D.
Professor
School of Education
Northeast Normal University
Changchun, China

La Tefy Schoen, Ph.D.
Educational Instructor
Richard W. Riley College of Education and Leadership
Walden University
Baltimore, MD
U.S.A.

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