CREATIVE EDUCATION

Dealing with Emotions

A Pedagogical Challenge to Innovative Learning

Birthe Lund and Tatiana Chemi (Eds.)

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Dealing with Emotions

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Michael A. Peters & Tina Besley
University of Waikato, New Zealand

The knowledge, learning and creative economies manifest the changing significance of intellectual capital and the thickening connections between economic growth, knowledge and creativity. Increasingly economic and social activity is comprised by the 'symbolic' or 'weightless' economy with its iconic, immaterial and digital goods. This new digital knowledge economy includes new international labor that rely on developments in information and communication technologies (ICTs) that are changing the format, density and nature of the exchange and flows of knowledge, research and scholarship. Delivery modes in education are being reshaped. New global cultures of knowledge and research networks are spreading rapidly. New forms of openness and networking, cross-border people movement, flows of capital, portal cities and intensive development zones all are changing the conditions of imagining and producing and the sharing of creative work in different spheres. At the centre of is the economy/ creativity nexus. But are education systems, institutions, assumptions and habits positioned and able so as to seize the opportunities and meet the challenges? This new series investigates all the aspects of education in (and as) the creative economy in order to extend the dialogue about the relationship between contemporary higher education and the changing face of contemporary economies.

Editorial Board

Dealing with Emotions

A Pedagogical Challenge to Innovative Learning

Edited by

Birthe Lund
Aalborg University, Aalborg, Denmark

and

Tatiana Chemi
Aalborg University, Aalborg, Denmark

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INTRODUCTION

> We have been schooled for years to stress only the cognitive, to avoid any feeling connected with learning. We have been denying a most important part of ourselves (…). The excitement has, in large measure, gone out of education – even though no one can take excitement out of real learning.
>
> Carl Rogers

EMOTIONS NEGLECTED

In educational contexts, the study of emotions has often, until recently, been neglected. This lack of interest has characterised several domains of knowledge, including the educational one, which is the main topic of the present anthology. The general neglect of emotions in education is regrettable and can have dramatic consequences, to such an extent that it can become a socio-political issue. Education implies the creation and development of human beings. This formation of human beings (*Bildung*) is a process that is challenging and involves a number of phenomena. Among the elements of the learning process, and perhaps among the most influential for learning processes, are the students' and educators' values and emotions. It is consequently vital to acknowledge emotions in education and educational changes in order to create innovative learning.

Learning and development are essential to optimal human functioning and learning experiences can either stimulate or discourage this bio-psychological universal need. As anthropology and evolutionary biology maintain, humans need learning to thrive (Dissanayake, 1995, 2000). The very survival of our species depends on how appropriately we respond to challenges and learn from stimuli and from each other. Cultural phenomena such as sociality, creativity, learning and emotional responses might be grounded on biological needs and vice versa. Even though the capacity of learning and developing appropriately in response to context-related demands is fundamental, education has lingered behind in including the emotional side of learning among its considerations. The present contribution aims to address specific examples in which emotions are impossible to ignore in education. What happens when students and teachers are extraordinarily engaged and open to learning? In which situations do learners feel they learn best? Which emotional elements characterise learning environments where students work with creativity, art, humour, happiness and engagement? How does it feel to become a student? Which emotions

are involved in the classroom and how do teachers react to them? These questions were, among others, our scientific starting point, in order to address the need of more specific knowledge about the role of emotions in education.

EMOTIONS IN EDUCATION

As educators and researchers in education we are aware of the inconsistency of pedagogy and pedagogical models that do not assimilate recent knowledge on learning processes, in order to inspire new ways to look at education and new practices. One example of this is the under-emphasis of the collaborative functioning of learning and creating that often takes place in educational programmes, even though both theories and empirical evidence strongly accentuate the relational aspect of learning and creativity. Obsolete pedagogical thinking seems to be based on the constant repression of emotions, resulting in individuals spending a large amount of energy in order to control or ignore emotions. Exceptions are artistic practices and art education, where individuals are allowed and even expected to use and express emotions, even on the verge of being eccentric or silly. Of course this commonplace does not do justice either to education or to the arts, the former comprising more than cognitive transaction of knowledge and the latter being more than "just" uncontrolled expression of feelings. On the other side of the educational spectrum, pedagogies, such as progressive education, constructivism and socio-cultural perspectives seem to describe learning as an organic process, where emotions are taken into account rather than controlled, but still reflected upon and regulated.

The latter perspective is at the moment confirmed by both humanistic and medical sciences, which find growing evidence of the background role of emotion in learning processes. Education thereby faces several dilemmas: how to integrate the emotional aspects of learning and teaching in education? What is the specific role of affects in education? In which ways do emotions influence teaching and learning? How does the educator's role in the classroom change? How can educators design learning environments that respect the role of emotions and make use of emotions' potential to inspire learning? These questions have been a fundamental inspiration for the writers' team, not only in order to complete the present chapters.

STUDIES ON EMOTIONS

To start our journey through the presented cases, we wish to give a short overview of existing perspectives on emotions and learning. Rather than being a comprehensive review of this field, the following is an outline of the tradition into which we write our contribution, outline here necessary in order to introduce our studies and cases.

The current attention that several fields of studies pay to emotions has partly done justice to this often-neglected theme. The flourishing of studies on emotions and their application to several contexts (leadership, education, psychology, therapy,

science and so on) is quite new (for a supplementary overview see Damasio, 1999). Contemporary experts, such as Damasio (1999) or Davidson (2012), reported hardship and resistance to their early interests on emotions in the Seventies (Davidson, 2012, p. xviii). Pioneering in this field sounds, in their retrospective accounts, a hard and lonely enterprise, as only few contributions made up the theoretical background for general studies on emotions.

Philosophers have reflected in various ways about affects, volition, perception and their bodily-physiological or aesthetic-artistic expression: "most of the great classical philosophers – Plato, Aristotle, Spinoza, Descartes, Hobbes, Hume – had recognizable theories of emotion, conceived as responses to certain sorts of events of concern to a subject, triggering bodily changes and typically motivating characteristic behavior" (de Sousa, 2014). Cultural influences, though, seem to determine the fortunes or misfortunes of studies on emotion. For instance, Romanticism greatly emphasised the role of emotions over reason, by radicalising Kant's (1724–1804) concept of *Gefühl* (1914, I, I, 3), the subjective emotional capacity as autonomous capability for knowing. Even though Romantic philosophers and artists looked at feeling as capable of critical analysis, equal to intellect and reason, they kept it separate from intellect, ultimately perpetrating "Descartes' error" (Damasio, 1994) of separation between reason and "passion", as Descartes (1596–1650) called affects in his essay *Les passions de l'âme* (in English, 1989). Affects as strategies of knowing were necessarily present in philosophers that reflect on aesthetics, which is the science of sensory awareness. Pascal (1623–1662) and Baumgarten (1714–1762) conceptualised the independent value of sensory and emotional judgment, opening to the way for the phenomenologists' fundamental contribution. Phenomenologists' attention to the subject and to phenomena made emotions and feelings central displays of subjective reactions or expressions. The scholarly consequence was a wider and more specific interest in emotions.

Nevertheless, the twentieth century stood out for its surprising neglect of emotions (de Sousa, 2014), especially where one might have most expected, such as in the sciences of as psychology and physiology. According to Damasio (1999), "Romantics placed emotion in the body and reason in the brain. Twentieth-century science left out the body, moved emotion back into the brain, but relegated it to the lower neural strata" (p. 39). This century proceeded as if the previous century's few but fundamental theories on emotions did not exist. Damasio (1999) pointed to two theories as fundamental to the most recent findings on mind, brain and emotions: Darwin's evolutionary theory and theory of emotions and Freud's psychoanalysis. The former being a report of the expression of emotion in humans and animals, embracing different cultures and species, the latter looking specifically at the dark side of emotions and its pathologies.

On the humanistic and pragmatic side of psychology and philosophy, we find fundamental reflections that have anticipated bio-physiological and neuroscientific studies. These theories are worth focussing on, as they include social as well as cultural aspects of learning, as the scientific background for the present anthology.

In 1884, William James published in the journal *Mind* the essay "What is an Emotion?" (now in James, 2012). Here he took a new perspective on the process that generated emotions and thoughts. At the same time, in Denmark, psychologist Carl G. Lange (1834–1900) came to the same conclusions. Indeed, this theory on emotions is today known as the James-Lange theory. James addressed the opposition brain-emotion proposing an organic interpretation, where "the emotional brain-processes not only resemble the ordinary sensorial brain-processes, but in very truth *are* nothing but such processes variously combined" (James, 2012, p. 2, emphasis in text). The old view maintained that emotions arose from mental perception and that bodily expressions resulted as a consequence of feeling emotion. In other words, the sight of a dangerous animal would produce the emotion of fear and as a consequence an individual's body would react by raised pulse, changes in viscera and other humours (sweat, tears) and so on. James, with great insight, maintained that it was the other way around: "*my thesis on the contrary is that the bodily changes follow directly the* PERCEPTION *of the exciting fact, and that our feeling of the same changes as they occur* IS *the emotion*" (James, 2012, p. 4, capitals and emphasis in text). In other words, we feel sad because we cry, rather than cry because we feel sad. This statement, later confirmed and specified by neurosciences (Damasio, 1999), literally turned upside-down the current (at the time and partly still today) common view of emotions. The immediate consequences were a corollary of new concepts. Firstly, the brain was embodied and not purely cognitive. Secondly, "a purely disembodied human emotion" became "a nonsensity" (James, 2012, p. 8). A number of dilemmas on emotions were disclosed: emotions could be both effect and manifestation of affective states, voluntary arousal of emotional manifestations might produce the emotion in itself, some emotions seemed to be cross-cultural or universal, the arts had a special role in providing evidence to the theory. Finally, a direct application was imagined in education: the possibility of cultivating desirable dispositions and opposing the undesirable ones.

Dewey (1859–1952) followed William James in his belief that knowledge and learning arise "from reflection upon our actions and that the worth of a putative item of knowledge is directly correlated with the problem-solving success of the actions performed under its guidance. Thus Dewey, sharply disagreeing with Plato, regarded knowing as an active rather than a passive affair—a strong theme in his writings is his opposition to what is sometimes called 'the spectator theory of knowledge'" (Phillips & Siegel, 2013). Even though Dewey does not always address emotions specifically, all his philosophical work is about the experiential, aesthetic, spiritual and democratic dimensions of emotions. Moreover, Dewey subscribes to the pragmatic and holistic conception of education, where emotions are essential to learning.

Last but not least, we wish to mention a theorist who, in a similar way to Dewey and Williams, has originally contributed to discussing the role of affects in learning and

has been a great inspiration for some contributions in the present book: humanistic psychologist Carl Rogers (1902–1987). In his volume *A Way of Being*, first published in 1980, he devoted a chapter to the educational dilemma "Can Learning Encompass both Ideas and Feelings?" (1995, pp. 263–291). He followed Dewey and Williams in emphasising "the value of combining experiential with cognitive learning" (p. 263) and sharply criticised the established educational system that perpetuates the separation experience/cognition: "I deplore the manner in which, from early years, the child's education splits him or her: the *mind* can come to school, and the body is permitted, peripherally, to tag along, but the feelings and emotions can live freely and expressively only outside of school" (Rogers, 1995, p. 263, emphasis in text). The consequences of this approach had a direct impact on Progressive Education and on, at that time, innovative ways of looking at and understanding learning and teaching. This impact that has not yet exhausted its value of novelty and we believe is still relevant for education today.

The very motivation for the present book is the perceived lack of awareness about and integration of emotions in educational practice. Both educational literature and educators seem to still tinker around and about the role of emotions in learning, not yet fully free of scientific suspicion towards emotions. This might be a legacy of the Romantic separation of emotion-in-the-body and reason-in-the-brain, which, in the twentieth century, made the very study of emotions impossible, "in the end, not only was emotion not rational, even studying it was probably not rational" (Damasio, 1999, p. 39).

The present anthology aims to break the taboo around emotions in education and contribute to this field with knowledge and evidence that are strictly applied to educational practices. To do this, we focused our attention on a wide range of cases, from primary school to higher and adult education, and on linking our studies to the most recent developments in emotion studies. Although the authors' combined scientific perspective is socio-cultural, we also looked at what neurosciences and biology tell us about the functioning of the brain, mind and emotion. Not surprisingly, the natural and medical sciences tend to align with humanistic psychology, with progressive takes on education and learning, and with pragmatism. Many socio-cultural insights seem to be confirmed in neurosciences, as Immordino-Yang and Damasio clearly point out, "It may be via an emotional route that the social influences of culture come to shape learning, thought, and behavior" (Immordino-Yang & Damasio, 2007).

Affective neuroscience offered us the newest insights on emotions but also a vocabulary for the main conceptualisations on emotions, together with their historical transformation through the centuries. What emotions are, how they can be defined and what they can be used for has been discussed extensively in literature, as well as by the authors of this anthology. The individual chapters solve the definitional issue in a variety of ways, in order to present the reader with

the heterogeneity of the topic. However, we wish here to present a few general definitional guidelines.

According to Damasio (1994) emotions and feelings, rather than being synonyms, are strictly related phenomena that are distinguished from each other. Emotions are the body changes occurring when subjects respond to specific objects (events, artefacts, living creatures and so on) or their mental images (the idea of specific events, artefacts, living creatures and so on). These emotions are external, observable, often universal and dynamic, as the word e-motion itself suggests. On the contrary, feelings are the mental, private experience of emotions, the individual "perceptions related to the body" (Damasio, 1999, p. 340) that are conscious to the subject. A definition that encompasses both dimensions is affect, which in general denotes emotions, feelings and moods.

Psychologist Paul Ekman is said to have discovered a range of six basic emotions that corresponded to specific facial expressions and were common to widely different cultures (Davidson, 2012, p. 32). Happiness, sadness, anger, fear, disgust and surprise were, according to Damasio (1999), universal or primary emotions. Damasio also distinguished secondary or social emotions, such as guilt, pride, embarrassment, emotions that are culturally coded, and background emotions, such as well-being or tension, which are constantly present as a background to our lives.

Emotions can also be classified by intensity and continuity. According to Davidson (2012) "the smallest, most fleeting unit of emotion is an emotional *state*. Typically lasting only a few seconds, it tends to be triggered by an experience" (p. xiii, emphasis in text). An example of this might be when we receive pleasure from the experience of eating our favourite dish. When emotional states persist in time, some psychologists define them as moods ("I am in a good mood"), unless they persist over years, then they can be looked at as personal traits ("I am a positive, optimistic person"). Davidson (2012) suggests that, by means of identification of specific brain circuits, it is possible to determine six emotional styles, which are "consistent way[s] of responding to the experiences of our lives" (p. xiii): resilience, outlook ("how long you are able to sustain positive emotion", p. xiv), social intuition, self-awareness, sensitivity to context, attention.

Outside the neuro-physiological approaches, but consistent with them, Daniel Goleman's research has contributed to the vocabulary of emotions, with his very popular term "emotional intelligence" (1997). As a consequence of Howard Gardner's multiple take on mind, brain and learning, according to the theory of Multiple Intelligences (1994), Goleman focuses on the emotional approach to learning and understanding. Both Gardner's and Goleman's works have been fundamental to the paradigm shift in education that embraces and recognises emotions. Because of their work and the ways in which their approaches were slowly absorbed by educators, the need for more knowledge about emotions and their role in learning grew. In order to address this need we conceived the present book.

THE TEAM OF AUTHORS

The authors of the present contribution are affiliated to the research group FIU (Danish acronym for Research in Education and Cultures of Learning). They have been working within educational contexts as educators and researchers, with education and pedagogy as their research focus for several years. The research group is affiliated to Aalborg University, Department of Learning and Philosophy, in Denmark. FIU has as its main scientific focus the study of education and teaching at a micro and macro level. At a micro level, the group looks at the interaction, communication, relations and teaching cultures that are manifested in teaching situations. The main purpose is a focused attempt to grasp the relationship between the micro and macro levels of teaching and to study the multiple conditions for pedagogical innovation. The group makes use of mainly qualitative methods, such as ethnographic studies and action research, which allow linking of research and development, as well as designing and documenting concrete changes in teaching and education. However, quantitative studies are also valued and welcomed, as the present volume testifies. Research projects that are carried out within FIU focus on teaching and learning in primary and secondary schools, high schools, post-secondary education and universities, professional development at Teachers' Colleges with specific attention to creativity and innovation in these contexts. The projects' purpose is building and extending knowledge about existing teaching cultures or future developments in education, through reflection, description and development of pedagogical strategies, both in theory and in practice.

Currently, the group covers areas such as: innovative educational design; creativity in the classroom; arts integration in curriculum and non-formal learning environments; evaluation and assessment in primary schools; problem-based and project-organised work in high schools; building of study cultures in university education and adult education.

The scholarly affiliation of the group is Aalborg University, which numbers 20,000 students and has been problem-oriented since 1974. Rather than communicating knowledge to students, the educators support the collaborative process of knowledge-creation and knowledge-development within student groups. Students work in faculty-supervised groups, planning, managing and completing a project, which addresses an independently and originally formulated problem. Problem-based learning, projects and group structures form the learning model at the university (Krogh & Aarup Jensen, 2013, Lund & Aarup Jensen, 2013). This model stimulates continuous curiosity among educators, whose role is to facilitate and support students' creativity and initiatives. To support students while they are exploring the world around them implies to a high degree dealing with students' and own emotions, when learning and teaching. This is the reason why writing the present contribution was a deep-felt need in the research group and part of an on-going and long-term theoretical and practice-oriented work.

THE GENESIS OF THE BOOK

This anthology is the product of a thematic research group whose members have been working together for a long period of time. As such, it is a shared effort and a dialogic-based work. Within the authors' team we worked individually when writing the various chapters, but also very much collectively, giving each other advice, challenges, inspiration and internal peer review. Our team work has been strengthened by our regular research-group meetings, where we developed content-related, methodological or procedural discussions on educational dilemmas. For this reason, although the book form is an anthology, we perceive the final product as a collective work – a FIU footprint in the scholarly sand.

Concerning methodological dilemmas, the team of authors discussed the quantitative/qualitative gap and came to the insight that in the present studies, whether based on quantitative or qualitative data, context has been a fundamental element, strongly taken into consideration. We learned that it is possible to take a methodological perspective that looks beyond numbers or narratives by moving the focus of attention to contexts. Neither numbers nor narratives in this study would have been fully beneficial to our understanding if we had not paid the same attention to the contexts of our observations. Methodologically, this anthology responds to a variety of scientific designs, from qualitative interviews and observations to quantitative surveys, from narratives to qualitative questionnaires, document analysis and policy analysis. Methodologies have been chosen according to the researchers' main interests and competencies, together with considerations on what was appropriate to the specific field of observation. Each chapter will briefly specify the basic concepts applied and methodological approaches made use of.

Within the authors' team we attempted to live up to our socio-cultural scientific perspective, making mutual sharing a fundamental structure of our work. As Aarup Jensen explains in her chapter, "a key point in the socio-cultural activity theory is that communication and interaction between people is essential in all learning processes, and it is through communication that socio-cultural resources are created". To a great extent, the present contribution bears witness to the group's learning process.

THE BOOK STRUCTURE

Objects of our attention were educational contexts that work with innovative settings (role play, humour, academic emotions, happiness, arts-based practices, emotions in the classroom, well-being) and that all include a special take on the emotional side of learning and teaching. We specifically sampled cases that met our individual scientific interests and that addressed the emotional side of learning. This also happened against the background of our research group's shared interests, as described above. This meant that during the sampling stage we unfolded our own take on education, looking at creative, innovative, artistic and well-being-focused

learning environments. We attempted to make clear the common threads among and across the chapters by means of meta-communications to the reader. The concluding chapter sums up chapter-specific and general findings, together with possible applications of insights.

Chapter One (Birthe Lund). This chapter analyses students' emotional and behavioural reaction to pedagogical challenges when learning to innovate. The chapter evaluates students' actual responses to participating in a reality role-play, "North Jutland at Play", where 800 high school students were expected to learn from and with each other, when defining and solving real problems, as a kind of experience-based learning process that creates both insecurity and engagement, due to the fact that the result of creative processes in itself tends to be unpredictable.

Chapter Two (Tatiana Chemi and Julie Borup Jensen) outlines an arts-integrating educational development project in higher education (social education studies) in Denmark. The aim of the project was to experiment with arts integration and its potentials for learning and welfare innovation. However, emotional aspects stood out from the empirical material, which was the reason for focusing on the relation between arts, emotions and learning. Through the analysis of data in light of emotions, we found that arts as such may evoke and at the same time handle emotions, shaping them into learning and identity-building in students. We also found a related need in educators for professional development of pedagogical tools to handle and shape these evoked emotions in educational settings and environments. We also discovered that arts in pedagogy evoke emotions in the educators, which calls for work on professional development and learning for teachers in order to take professional advantage of this phenomenon.

Chapter Three (Lone Krogh and Krishna Prasad Giri). In this chapter "Gross National Happiness (GNH) in Bhutanese Education – How is it Implemented in Practice", happiness is understood as a political and ideological concept. Focus is on how the strategy of GNH is being implemented and perceived by principals and teachers in selected Bhutanese upper secondary schools. The authors address the following issues: do GNH policies in themselves create happiness? And, is incorporating GNH in all subjects too challenging?

Chapter Four (Annie Aarup Jensen). This chapter focuses on the student perspective and studies the emotions that students in Higher Education may experience when entering a new and different educational context.

Chapter Five (Sarah Grams and Roman Jurowetzki). This chapter deals with emotions in the classroom and their manifestation within the context of classroom interaction. The powerful role of teacher-student relationships is discussed from both the teachers' and the students' perspective.

Chapter Six (Chunfang Zhou, Tatiana Chemi and Birthe Lund). This chapter explores the similarities and differences of design students' perceptions on humour in experiences of creativity development in project groups between China and Denmark.

TARGET GROUP

With this book we intend to reach an international audience of educators at several levels, including schools, higher and adult education, university colleges, graduate and undergraduate schools, PhD schools. We also imagine possible applications of the content in non-formal learning environments, such as museums, cultural institutions and the like, that is educational settings where the emotions are largely stimulated and cultivated in edutainment or experiential forms.

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BIRTHE LUND

1. THE NOTION OF EMOTION IN EDUCATIONAL SETTINGS WHEN LEARNING TO BECOME INNOVATIVE AND CREATIVE

ABSTRACT

This chapter analyses students' emotional and behavioural reaction to pedagogical challenges when learning to innovate. The analysis found that creative learning processes were sensitive to partnership and external factors, such as time, evaluation procedures and values. Students' actual responses to participating in a reality role-play, "North Jutland at play", are recorded. In the game, 800 high school students were expected to learn from and with each other, when defining and solving real problems in a local area, in order to learn to become democratic citizens as well as innovative and creative ones. This kind of learning process often creates both insecurity and engagement, due to the fact that the result of creative processes in itself tends to be unpredictable. If education tries to control and avoid unpredictable situations, then supporting the formation of creative and innovative students may be a challenge to the dominating culture of education.

BUILDING INNOVATION CAPACITY MAY CHANGE THE HIDDEN CURRICULUM

This chapter addresses the emotional responses of students engaged in a pedagogical experiment to develop innovative and creative competences within education. During this process, existing practice – including "hidden" practices deriving from *hidden curricula* – is challenged and changed, contributing to both undesirable and desirable behaviour and results. Jackson (1968) is generally cited as the originator of the term: hidden curriculum. The hidden curriculum refers to norms and values that are implicit, but effectively taught in education. This "incidental" learning contributes to the political socialisation of students when taught how to deal with and relate to the structure of authority (Appel, 1971). Emotion control and regularity are part of the hidden curriculum, which refers to the practices students experience when being educated. It reflects how students learn to behave in socially appropriate ways in order to meet the challenges and needs of society – in order "to fit in" and adjust behaviour by social interaction. Through descriptions in the curriculum, students are expected to be democratic and good citizens, as well as being qualified and skilled in order to meet the (sometimes mixed) needs and expectations from

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civil society and the labour market. Creativity and innovation are seen as attractive means for improving national income and growth. Indeed the national educational system is attracting growing political interest, as educational policy is regarded as a vital part of global economic competition[1] (Ahmad & Seymour, 2008). This policy supports notions of creativity-enhancing teaching and learning processes in order to fulfil these expectations. At micro-level this may create a growing awareness of the hidden curriculum and emotional control and regularity within education.

In addition to sociological notions of students' emotions, there is growing interest in the knowledge of neuroscience and new studies of emotions within this field. Mixing pedagogical knowledge of experience-based learning and neuroscience may add new perspectives to the notion of emotions in learning. Both bring the body and the mind into play. We learn from neuroscience and the biology of the brain that emotions are motivating. They stimulate and direct human behaviour by adding value to different actions and thereby operate as a guide for our actions, while language and cognition are seen as "modules between senses and motor activity" (Jensen & Skov, 2007). Within neuroscience, emotion and cognition are regarded as secondary neural systems, where happiness, sorrow, pain and empathy direct and shape behaviour. When evaluating situations, humans are led by emotions as they direct or re-direct impulses to action. In other words, neuroscience argues that senses and sensibility help us to choose and act more sensibly (Damasio, 1999).

The assumption is that the general functional mechanisms of human emotions are universal characteristics of our mind, but that particular values and intensity of emotions may be specific to different cultures as contents, while intensity and duration of emotions can differ (Pekrun, 2007). This is in line with philosopher Dewey's (1920, 1938) understanding of learning as an active, enquiry-based exploration of the world, in which senses and feelings direct the student and stimulate reflection, as the world responds to human actions when dealing with the world. In this notion, learning evolves in combination with social response, communication and shared reflection, hence student's understanding of the world is developed through active construction of experience and may then be sensitive to the hidden curriculum they experience in schools.

Recent catch phrases like "managing emotions to foster innovation" and "manage feelings effectively and learn how to choose feelings deliberately" (New & Improved, 2004) indicate a parallel new commercial discourse and interest in emotion as "fuel" for creativity and innovation, outside education, in which "the brain" is expected to control and re-direct emotions. Only recently have philosophers of education begun to take a critical interest in the contribution neuroscience might be able to make to our understanding of education (Clark, 2015). How students' experience is received via the senses and transformed into concepts in minds is still to be explained. Moreover, this seems to be even more complex to explain than the chemical and electrical elements of synaptic connections and complex neural pathways. Consequently, there might be little in neuroscience that can be easily translated into educational practice.

For several years, the relationship between mind and brain has been described as a physical, psychological and philosophical issue of relevance to education. The philosopher John Seal plainly states in "Minds, Brains and Science" (1984)" that humans do have subjective, conscious, mental states and these are as real and as irreducible as anything else in the universe (Searle, 1984), though they may be hard to measure. According to Searle, and John Dewey, the mind and body interact and relate, but are not two different things. This view differs from the dualism of the philosophy of science, which refers to the dichotomy between the "subject" (the observer) and the "object", and tends to separate mind and body, as human senses to some extent are regarded as misleading and possibly inducing biased perceptions. According to philosophers like John Seal and John Dewey, feelings, perceptions, beliefs and attitudes are to be looked at as part of human minds. Emotions may be regulated by biological processes connected to the brain. We know that drugs to enhance cognitive performance and regulate emotions are available (this might raise other ethical questions about students' access to and need for drugs, see Clark, 2015).

Within the context of classroom activity, students are expected to display emotions in particular ways, conforming to standards for appropriate emotional expressions during classroom transactions (Schutz, 2007). The ability to control emotions in appropriate ways still seems to be an important aspect of schooling, as part of the hidden curriculum. As a growing number of students are being diagnosed with ADHD core symptoms – like inattention, hyperactivity and impulsivity – this challenge to discipline may also influence pedagogy in schools and the notion of normal behaviour. The U.S. Department of Education (2003, p. 13) writes of how Impulsivity "may lead to careless errors, responding to questions without fully formulating the best answers, and only attending to activities that are entertaining or novel. Overall, students with ADHD may experience more problems with school performance than their nondisabled peers". This quotation indirectly states expectations of students' behaviour and separates the disabled and non-disabled. According to the hidden curriculum, teachers are expected being able to control (or discipline) their classes. This may be achieved in various ways, while teachers are expected both to take control in the classroom as well as being innovative when creating new conditions for students learning.

ENTREPRENEURIAL AND INNOVATIVE SKILLS

The notions of feeling and emotion as important elements in development of entrepreneurial skills were put forward in 2006 at the conference "Entrepreneurship education in Europe: fostering entrepreneurial mindset through education and learning" (later referred to as "The Oslo Agenda") by initiative of the European Commission. The intention was to bring entrepreneurship into the agenda within education. Concrete pedagogical suggestions were made, such as bringing entrepreneurs into the classroom and involving students directly in entrepreneurial projects by enabling them to act as entrepreneurs. The suggested method was inspired

by experience-based learning. It was expected that this pedagogy would challenge education since it involved students' feelings and emotions:

> Using active learning methods is more complex using than traditional teaching: it requires engaging students´ feelings and emotions in the learning process. Educators/facilitators must be able to create an open environment in which students develop the necessary confidence to take risks. (The Oslo Agenda for Entrepreneurship Education in Europe 2006, p. 46)

In terms of pedagogical organisation, group work was suggested, because: "Group work on concrete cases is an effective method, as it improves the understanding of real issues related to entrepreneurship and engages students in finding solutions to real problems" (ibid, p. 90). The logic is that if students are expected to be risk-takers, education may create environments which allow them to experience "risk", meaning dealing with insecurity and not being able to know in advance the outcome of initiatives.

Both in Norway and Denmark, there is a strong tradition of viewing educational institutions as vital to the making of civil society. In particular, schools are seen as a stronghold for democracy and the welfare state, the purpose of schooling being grounded firmly within the broader "Bildung" tradition. In comparative educational research, transfer or borrowing of policy and practice is a recurring theme, and the dominating understanding of entrepreneurship education may be seen as an example of borrowing of policy (Ottesen et al., 2013) and this understanding of entrepreneurship may challenge the "Bildung" tradition (Lund, 2010). In this notion, the concept of education becomes a lifelong process of human development, rather than gaining certain external knowledge or skills, and individuals are valued as unique creatures. Consequently, students and education are not (primarily) seen as a means to fulfil other purposes.

The Oslo Agenda recommended student behaviour to be directed, in order to create (positive) experiences from risk-taking as part of building an entrepreneurial mindset. Recently, development of innovative skills and fostering entrepreneurial mindset are part of the written curriculum in the Nordic Countries (Nordisk Ministerråd, 2011). Students are expected to become entrepreneurial by *being* entrepreneurial, not by learning *about* entrepreneurship. Being entrepreneurial is associated with purposeful, active behaviour, making things happen, taking advantage of opportunities and bringing about change[2] (Bassanini & Scarpetta, 2001). This understanding of entrepreneurship implies that students' behaviour, values and concepts of innovation may be objects to formation and new "Bildung". This seems particularly interesting, since it means that students' behaviour will need to be directed in new ways. Based on the assumption that behaviour is related to emotions (see above), students' emotions may have a role in developing creative or innovative students.

We attempted to substantiate this in a case study, "North Jutland at play", founded on experience-based learning and problem orientation. Danish high school students

(aged 16–19) were expected to learn how to become innovative, creative active citizens by collaborating with local government and politicians, in situations that stimulated students' interest in an actual political challenge. Students were expected to collaborate and compete in an open environment, as well as to learn from and with each other in order to solve and define real problems in their local area. This experiment, therefore, meets the expectations stated in the Oslo Agenda for creation of pedagogical environments that stimulate risk-taking and innovative action. By analysing this complex context for student learning, we may broaden understanding of the interplay between socio-cultural factors, emotions and learning by posing the question:

> How and why did this pedagogical experiment influence students' collaboration, communication, behaviour and motivation?

Before the case study will be described and analysed, I will first discuss the concepts of creativity, culture and emotional labour within the educational context in more depth.

DIFFERENT PEDAGOGICAL CONCEPTS OF CREATIVITY

As there are different concepts of what it means to be creative, there may be different pedagogical concepts regarding formation of creative students. In some theories, the creative individual, personality and motivational aspects are important, which may neglect the importance of socio-cultural and economic factors in developing innovation and creativity.

The dominating literature over the last three decades has contained personality studies of creative individuals (Amabile, 1983). Some were studies of biographies and autobiographies by well-known creative individuals; others, of creative individuals in laboratory settings. Research also examined different individuals completing personality and intelligence tests, in order to identify creativity. Some considered the cognitive skills necessary for creativity (Newell et al., 1962) while others compared effects of particular social or physical environments on creativity.

But several creativity theorists, like Amabile (1983), have in recent years included social as well as psychological factors (Csikszentmihalyi, 1988; Gardner, 1991; Sawyer, 2006). The integrationist theory applies a socio-cultural approach that focuses on the complex social and interactional processes resulting in creativity and innovation (Sawyer, 2006). Interaction in contexts then becomes the focal point of analysing and understanding creativity. To Csikszentmihalyi, creativity (with a capital C) occurs at the interface of three subsystems – an individual absorbs information from the culture and changes it in a way that will be recognised by gatekeepers and judged relevant to the field for inclusion into the domain, from where the novelty will be accessible to the next generation. In this sense he stresses the social aspect of recognition and change (innovation) as related to cultural acceptance and recognition (Csikszentmihalyi 1988, 1997, 1999)

In Amabile's research, first-person accounts of creative activity imply the notion of recognition, but contain ample evidence on the creativity-enhancing effect of "working on something for its own sake", and the creativity-undermining effects on working on something for the sake of meeting an external goal. While innovation is studied by disciplines such as sociology, economics, engineering and organisational theory, creativity has been examined almost exclusively within psychology, due to the fact that innovation tends to be driven by extrinsic motivations (Ford, 1996). In some individuals, competition stimulates creativity, for others competiton inhibits creativity because it is extrinsic, and in that sense distracts the potential creator. Thus, it can be assumed that the individual's personality and the interpretation of the individual are to be considered (Runco, 2014).

Creative efforts are often seen as self-expressive and intrinsically motivated. The Intrinsic Motivation Principle of Creativity is the cornerstone of the social psychology of creativity development. Creativity research indicates that in general "the intrinsically motivated state is conducive to creativity, whereas the extrinsically motivated state is detrimental" (Amabile, 1983). An unconstrained social environment is expected to be most conducive to creativity. The assumption is that if a task is intrinsically interesting, the imposition of salient extrinsic factors on task engagement will lead to the self-perception that one is performing that task primarily to attain the extrinsic goal. Intrinsic motivation will decrease accordingly.

Amabile proposed that problem identification and response generation of the creative process, where the novelty of the outcome is importantly determined, may require intrinsic motivation that is unencumbered by any significant extrinsic motivation. But preparation for problem-solving and response validation may be positively influenced by extrinsic factors if they serve intrinsic goals. This means that any extrinsic factor supporting one's sense of competence or enabling deeper involvement with the task itself without undermining one's sense of self-determination – thereby adding positively to intrinsic motivation – should consequently enhance creativity. This indicates the importance of appropriate response to students' creations.

Research indicates that we choose different problem-solving strategies. Amabile (1996) introduced the metaphor "maze" to illustrate this. A maze represents the problem to be solved or the task to be completed. Exiting the maze is equivalent to arriving at a satisfactory solution to the problem or a satisfactory completion of the task. Students may choose a straightforward algorithmic approach for solving the problem, or a heuristic approach of deviating from the straight path by exploring the maze and by risking ending up in a dead end. Different strategies may challenge the students' collaboration process. Amabile argues that, due to the focus on individual differences, some potentially important areas of enquiry into creativity have been virtually ignored, since there has been a concentration on the creative person to the exclusion of "creative situations" as circumstances conducive to creativity.

Creativity development may in general be regarded as a kind of problem-solving. Some individuals employ creative problem-solving tactics and procedures when they are faced with problems, and some even prefer problems and ambiguity, so much so that they sometimes seek them out (Runco, 2007). Within the creative process, some (so-called) creative people describe how problems stop being problems and become joy when "the situation that was once a problem has become something completely different, namely, an opportunity or challenge" (Runco, 2007, p. 277). And this transformation from being a problem to being an opportunity and challenge seems to be an important driving force for the learning process in itself. These findings indicate that emotions such as joy, self-expression, intricacy, as well as persistence, are linked to creativity. Consequently this may be crucial to strive for when supporting innovative learning processes by creating creative situations within education.

CREATIVITY, CULTURE AND LEARNING

Scholars researching creativity link its development to problem-solving, intrinsic and extrinsic motivation, and persistence. From creativity research we also notice the awareness of context, which influences the creative situation and the output – the field and the domain in which a "subject" is interacting. Social approval and value influence the creative process, and creators seem to be emotionally engaged and motivated depending on the assignment, awards and/or their interest in the problem to be solved or the product to be developed. From the perspective of social constructivism, creativity and problem-solving are part of the problem-solvers interaction in a cultural setting, as culture offers the basic language and knowledge base for the creative process. The culture influences both the interaction between the creators and the subject to be created. As Amabile (1996) states: Creativity is constituted and influenced by a social context. Part of the social context are the approved social norms and expressions regulating interaction and collaboration, as previously mentioned in relation to the hidden curriculum. Consequently, student interaction with peers and teachers becomes interesting, as it constitutes the actual social context for student learning.

The creative process itself is part of a dynamic balance between imagination and judgment. Students must imagine what the challenge implies and how to change the current situation. This process will be influenced by the existing school culture. If students are expected to deal with real problems and develop collaboration skills, this may challenge the dominating school culture, as all students are expected to take initiatives and be self-regulated subjects dealing with authentic problems.

Real challenges rarely have set answers. Students will not find the final solution in any book or other information source. They must discover it for themselves. Then personal frames and references, attitude and involvement must be activated. How the students actually use and gain knowledge might then be dependent on cognitive

and emotional support from peers or other, in order to develop and unfold creative thinking, critical thinking skills, meta-cognition and motivation.

Participating in a creative process implies active engagement in a task when trying to think of new ways of doing things, including problem-solving (Sternberg, 2006). When students are dealing with real challenges and objects they really care about and feel strongly for, this will reflect on the creation process and the students' motivation. Students may need to develop some persistence in order to develop creative solutions. This process may imply accepting mistakes and failures, in order to create new solutions, without knowing the "right answer" and the route to the solutions, and several revisions and interactions are normally needed. When creating, students are in a process of constantly balancing between imagining (what would be beneficial) and evaluating and judging when comparing, what is actually accomplished. Differences in levels of ambition lead to different criteria for acceptance of various solutions. This may influence the creative process as the process of elaborating ideas is sensitive to the emotional level of trust, when deciding which ideas to try out and which to discard. Social and environmental conditions – positively or negatively – influence the creativity of most individuals. From this perspective it is relevant to study the interdependence between human beings and their socio-cultural context, as this is expected to influence meaning-making and co-constructing of knowledge, being sensitive to the emotion in play.

EMOTIONAL LABOUR OF STUDENTS AS WELL AS TEACHERS

In order to evoke innovative competences and creativity students must be engaged in creative situations. Mindful experience and emotions evolve in most creative processes depending on intensity and students' engagement and it may therefore be a pedagogical challenge for educators to create engagement and to encourage students to exhibit engagement. As defined in "The Glossary of Education Reform "(2004):" […] student engagement refers to the degree of attention, curiosity, interest, optimism, and passion that students show when they are learning or being taught, which extends to the level of motivation they have to learn and progress in their education". Consequently – in order to enhance "desire for" and "joy of creation" in development-oriented education, a culture must be established that evokes the desired emotional needs.

It is therefore part of teachers' work to evoke and support these desired emotions in order to create engagement. This is classified as "emotional labour" defined as "the effort, planning and control needed to express organisationally desired emotions during inter-personal transactions" (Morris & Feldmand, 1996, p. 987). Teachers may internalise and enact roles and norms assigned to them by the school culture through what are considered (by Zembylas, 2003) as "emotions connect people's thoughts, judgments, and beliefs, and it can be said that emotions are the 'glue of identity". The interaction with other people is then what defines our subjectivity,

because "without this moment of otherness we could not talk of recognition and mutuality, but only of a re-duplication of the self" (Zembylas, 2003, p. 222).

Emotions are powerful pedagogical tools and a culture that denies emotions to teachers also denies them to students (Meyer & Turner, 2007). Teachers and students are infused with emotions through interaction and both attempt to modify aspects of the emotion experience, hence emotion regulation can influence the intensity and the direction of the experience as well as how the emotions are expressed. If teachers learn to control their emotions this might lead to a restricted set of emotional responses. Early studies by Hargreaves found that the school context restricted possibilities for emotional expressions, as well as restricting possibilities for emotional states (Liljestrom et al., 2007). The concept of emotional labour indicates how cultural and emotional norms for expressions of emotions influence notions of emotions. Culture affects how we perceive emotions as "welcome" or "to be suppressed" and which emotional responses are imposed as being normal or to be regulated. These processes are induced via values that may for example support neutrality and objectivity (Zembylas, 2007). How students actually perceive express emotions may then play a crucial role in the way students and teachers "see" each other as individuals. Emotions then become political and social issues, organised and managed by construing of power relations (Zembylas, 2007).

Both teachers and students may fear not to be able to control passionate feelings, as they may be perceived as "wrong", and not being able to give the "appropriate social responses" to the expressions of passionate feelings. Students as well as teachers are influenced by responses from other students, including responses to gender roles and social status. Students thereby develop a sense of who they are, according to the response of"the other" – including being "creative" or "innovative". In these "dialogues", students are affected regarding their concept of who they are, as well as what they are expected to be. During the educational socialisation process, students then experience naming and framing of emotions, as well as the appropriate socio-cultural response. From early childhood, students experience this "hidden curriculum", which consists of what students learn in an educational setting, in addition to the educational objectives (see also Chapter Five, by Grams and Jurowetzki in this book for the role of emotions in implicit and explicit learning processes).

In the official educational policy in Denmark students must be innovative and entrepreneurial, which means being able to observe new possibilities, think in new ways and transform ideas into value (Ministeriet for videnskab, teknologi, og udvikling, 2010). Students must also be "able to think for themselves, handle insecurity, be able to set ambitious goals and reach these" (ibid, p. 4). Students' desire to be entrepreneurial must be stimulated. Schools are therefore expected to develop students' "desire for learning", as well as creative and innovative competences. Keywords from the innovation discourse are: "the ability to regard possibilities", "take initiatives" and "transform ideas to actions" in order to generate value – social,

cultural or economical. These new political intentions may create new norms for behaviour and may thereby challenge prevailing concepts of "duty", "discipline" and "rule following" from the hidden curriculum.

From a socio-cultural perspective feelings and expressions are mediated and communicated through language and the culture of education. In the creative learning climate students are expected to develop the "skills to solve self-defined problems" and "the ability to cooperate with peers", this implies abilities such as self-management and self-discipline. Given this, students within education still take part in a socialisation process that approves their ability to control and manage feelings. In order to be successful, students may learn to come up with new appropriate social responses, knowing when to be disciplined and obedient, and when to question or violate existing rules. From at pedagogical point of view it is relevant to know how students respond to such transformations in education.

THE CASE

In problem-based education students are expected to be motivated and stimulated by solving real challenges, as they are then dealing with open and partly self-defined problems. As mentioned previously, this may lead students to participate in a challenging process, as they are expected to take the lead. In the case presented here, students' response to changing conditions for learning is central. They experienced established school rules being violated in different ways. Teachers were removed from the learning environment and students were left alone in their classrooms to manage themselves and each other. Teachers were substituted by technology (social media and web-guide) to allow learning practices to go outside the classroom environment and into open, public spaces across the whole local region. 800 students were involved at the same time on the same overall theme. Students were networking and collaborating both outside and inside their own schools[3]. The "North Jutland at play" experiment employed mobile technologies and allowed students to connect who did not share contiguous spaces. They could also relate their interactions to a wider range of people outside education, as part of the game. The realisation of this educational design turned out to be a great technical, administrative and organisational challenge for managers of the Region. The overall purpose was to stimulate a discussion among the students to address a problem perceived in this part of Denmark, namely that more and more young, educated people are leaving the region. Ideas for overcoming this problem were to be collected and applied in political decisions.

During the two days of this experiment, the normal timetable was cancelled and students had to keep track of time and manage themselves. Schooldays lasted as long as students agreed on, deciding the time they would spend on the different assignments. In short, students had to change their normal habits to fit in to this new learning environment. Even though it was just for a very short period of time, students experienced deviation from legitimate routine actions. How did these

changes influence students' learning environments? Did the students manage to collaborate, to compete and to create at the same time and how did this influence students' engagement, creativity and innovative skills? Before answering these questions, the educational frame for this experiment will be described.

The Pedagogical Invention

The case is an example of a pedagogical and didactical "invention". It breaks with current pedagogy and traditional ways of organising education in this high school context. Classes were a mix of students from different high schools in collaboration and in competition. Students were given a voice and were dealing with "real" issues and "real "politicians but the game incorporated fictional as well as playful elements. ICT technology linked the 800 students, regional administrators and politicians together in "Nordjylland på spil". As motivation, an invitation was sent to students, indicating that they were expected to participate in a competition during time at school. The winning team would be rewarded financially. A video gave students more information:

> Is your idea worth 10,000 kroner? What could give new cultural life to our area? Where could we find new business ventures in North Jutland? How could we create better opportunities for entrepreneurs? How to bring North Jutland to the forefront of education and learning? What X-factor could persuade you to stay in North Jutland? Now you have the chance to try out your ideas for the future of North Jutland. See if they can last, when 6–800 students in North Jutland compete for the best idea.

The game was described as "the ultimate challenge when it comes to strategy, cooperation, alliances and negotiations". It stated a need for strong strategists and trained users of Facebook, YouTube and Smartphones. It said the competition required coordination and a variety of skills. Students were invited to participate in the mission"to make a suggestion on how to develop and prepare for the future in competing on points against 30 to 40 other classes from North Jutland, which they are to hook up with for the first time. Judges received student assignments electronically and the students gained points for their assignment, if it was handed in (uploaded) in time.

The Region established a "television channel" (NPN-News) to broadcast general information to students. In this way the leader of the game could connect to the participants, in order to guide the students and at the same time inform them about rules and practicalities through interviews. The news channel created a sense of belonging and interconnectedness between participants, as individual students were portrayed and interviewed in this live TV setting. The information technology and devices served to anchor the information students gathered in different ways. The students were invited to express their ideas and information in artistic productions – pictures, photos, songs, plays and different combinations of these genres in order to

gather points. Production of these created a playful mode in some classes, as well as including a certain element of unpredictability, since creating songs within "school time" was new to many students. Students were expected to deliver useful ideas to regional planning and the game went on for two days during extended school hours (from 8 am and as long as the students wished to participate).

Day one took place in the students' regular schools (gymnasium and local community). The groups were to accomplish different tasks that awarded points, while they also had to make contact with classes in other schools via social media and find an alliance partner who shared their development idea.

Day two gathered all participants in the nearest city, Aalborg, and divided the classes into 5 different activities referring to themes of the regional plan. Based on points won by each group from completing different tasks, the participating teams (classes) of all schools gathered in a sports hall. Here they represented their alliance's development idea for Northern Jutland to the other teams who could now give points to each other's ideas. A selected representative from the most successful alliances then met in the seat of the Regional Council. During this meeting a new round of mutual negotiation and point distribution was initiated. The students were then put into the role of politicians guided by the "real-life" head of the Regional Council, as well as by other local politicians who attended in the role of judges in collaboration with the students. Meanwhile the students remaining in the sports hall were able to follow the voting and negotiating at Regional headquarters by videoconference. At the end of the day, all participants met again in the sports hall to celebrate and enjoy the participation with good food, music and a stand-up comedian.

In this setup, the new hidden curriculum was designed to value students' ability to take initiatives (explore, post questions, find support for ideas and so on), to collaborate and express attitudes and ideas in new and artistic ways, as well as achieving strategic actions and completion. But how did the students respond to these challenges and how did students control and regulate emotions when constructing a new creativity-enhancing learning climate? Below I will present findings related to structural changes.

Successful Participation Calls for New Rules of Social Adjustment

Students were introduced to a game and had to figure out how to manage the rules of the game, while searching for meaning and criteria to be met in order to be successful. In every game there are goals to be reached. Videogame research has shown that the concept of goals guides decision-making and attitudes, as the goals provide a means for discussion and decision as to the most advantageous outcome (Lankoski, 2007). The preferred outcome directed students' engagement. The various classes had to team up with another class to revise and combine the class's suggestions on regional development – alliances were formed. Classroom observations indicate, it was a challenge to compete with other classes while each group had to solve different small assignments in time, in order to gain points. This implied a need to gain enough

points to be an attractive partner to other classes. The fear of failing in this, when not all classmates were engaged in the process, seemed to be potentially stressful. Classroom observation showed very relaxed students at the beginning of the day and it took a while before most students realised that time and deadlines were important goals to reach, in order to gain points and thereby become an attractive alliance partner. An observation from one class showed how a smaller group of students tried to solve an assignment, handed in their solution, but did not get any points, as they did not manage to do it in time. Simultaneously these students realised other classes already had more points. This was a new experience! Due to this response, they learned that all students in the class had to be active in order to have a chance to win the game. Consequently, they became interested in their classmates' different skills and this gave some students a new chance to be seen as a valued member of the class. At the same time, it frustrated several students that time was an important factor and differences in skills and motivation then became an important issue. What students disliked most about this experiment was the stress these tight deadlines imposed, as well as the serious consequences of missing a deadline by, say, 3 minutes. Here, students experienced conflicts, frustrations and joy related to freedom in choosing assignments. The students said they learned a lot about how difficult and stimulating it is to collaborate and manage collaboration without clear goals and a teacher's directions. Students reported this as a huge challenge – working with the whole class without a teacher. They also found it challenging "to coordinate your work with others and have an overview".

One student expressed mixed experiences: "(I learned) that our class works well, if we really want. Organisation is important, plus the attitude towards deadlines is extremely important! Especially Tuesday [the first day]". Another student experienced "that there are not so many in my class who are able to cooperate (or will) when it really counts. In the end, people are really childish to work with. But I also learned again that I make too great an effort for something compared to the rest, since I cannot bear it in myself." Students became more aware of the benefits of collaboration: "I think I have learned that it is important that we work together. Our idea became really good when we cooperated with the other team".

The "new rules" (the game's "hidden curriculum") in this case seemed to stress the need for keeping track of time, the importance of overviews and management when collaborating. During this process students showed different emotions – such as happiness, related to progression towards or completion of a goal, which created excitement and happiness when classmates produced a "product". This was immediately rewarded by other peers. Students expressed sadness or disappointment related to loss or failure of a valued goal, while anger and frustration related to situations where students' goals were blocked. These emotions were expressed in different ways depending on social responses appropriate to the context. If classmates' frustration was expressed in inappropriate ways, the"pushy students" had to consider that if they offended their classmates, they might leave the class as they were free to go home. Consequently the workload of "missing" classmates would have to be

substituted. So competition stressed the need for active collaboration and created a sense of belonging among classmates as they all were on a common mission – the creation of a better North Jutland.

Time Pressure Creates Intrinsic Motivation, Stresses the Need for Collaboration and Reduces Quality of Ideas

The game concept was chosen in order to create interest and prevent boredom. All – and very different – kinds of output were evaluated, based on different criteria, and released points. One criterion to be met was that the assignment had to be handed in within a short timeframe. Students showed different reaction to time pressure. To some students who were capable of a quick response, this created excitement and engagement. But it proved very frustrating for students who wanted to create more elaborate ideas and they claimed that time pressure fragmented and violated their work process as well as their products and ideas.

Some students were driven by intrinsic motivation and time pressure may have become a synergistic extrinsic motivator to them. Extrinsic rewards have been found to reduce intrinsic motivation in some circumstances. This can be evident in working for extrinsic rewards, according to Amabile, as this tends to focus attention more narrowly and orient people towards what is expected, resulting in more standardised products. Students tended to hand in several different inputs, instead of choosing a few and pursuing them in depth. The hunt for points stimulated quantitative output, but created motivation and participation. One student formulated his experience in this way: "I do not think there was enough focus on the most important assignment. All the small assignments took up too much time on the first day because we wanted to get lots of easy points as fast as possible. Because of this, the most important thing – our suggestion – did not get enough priority".

Some people are convinced that time pressure stimulates creative thinking, while others are certain it stifles creative thinking. Thus, depending on the conditions, time pressure may enhance or suppress creativity (Amabile, 1996). Some students valued the time pressure, since it forced them "to prioritise and make teams more efficient". As long as students were eager to win, time pressure and tight deadlines stimulated engagement but also led students to choose easy assignments instead of directing energy to come up with the best solution to the political question. Conflicting goals and different perceptions of meaning influenced students' engagement and interest in the game.

Role Play Allowed Students to Feel What it Means to Participate in Politics; They Appreciated that Authentic Politicians Were Listening to Student Voices

Some students, representing the most successful alliances, participated in role play, aimed at gaining support for their local development idea at a meeting chaired by real politicians in the town hall on the second day of the game. Role play offers the

unique possibility to experience physically and emotionally how it feels to make decisions under pressure and to be exposed to the public. Here, students in the town hall were watched by all other students from the sports hall via video transmission. Some students were stressed by being exposed to aggression and anger from other students, whose alliance was no longer in the game and who consequently had no chance of winning "North Jutland at play". These students said that "other students had betrayed them" and that "they felt like they had been stabbed in the back with a knife". They were frustrated, as they realised that their goal was out of reach.

Students were driven by different goals. To reach one goal – inventing a useful idea to create a better North Jutland for young people – students had to relate to another sub-goal to gain as many points as possible, which was part of the game. Some alliances were powerful from the start, seeking strong partners in order to get even more power. Students thus experienced the advantages of acting strategically in order to get votes and/or get their ideas promoted. Since students had to act strategically and vote for the right alliances, they also felt some emotional and ethical conflicts when promoting the best idea to be used by the politicians – should they vote for the best solution or be directed by strategy in order to be the winner of the game and satisfy those students driven by the desire to win?

Some students responded to the role-play element by dressing like stereotypical politicians in business attire. They were acting as if they were politicians by taking on the role of a politician. They regarded the process as a role play – as fiction. Through this role play, students experienced and got an idea of what it felt like to participate in politics. They were given the possibility to gain real influence, as well as experiencing strategic action and power games. Student learned from the practice in which they were situated but did not draw the same conclusion, due to the meaning they created through participation. Some students valued the importance of dialogue with the politicians, "the feeling that politicians actually wanted to listen to us and our suggestions" and "participating in decision processes and having the experience that people were listening". Others expressed their experience in this way: "I thought it was exciting to negotiate with the other alliances and experience the fight of convincing others that your suggestions are the best". In other words; some recognised they were participating in a real political process, while others perceived the experience from the perspective of a game, driven and motivated by the number of points and paying less attention to the content, being disappointed about not being the winners.

Collaboration Was Regarded as the Biggest Challenge to Students

In a questionnaire administered before and after the game, students were asked to indicate the most important lessons learned. The majority of students referred to collaboration as the main challenge, as well as the most beneficial experience. Collaboration was structurally imposed on students, as without it the mission could not be fulfilled. This mixture of competition and collaboration was both

harming and stimulating to creativity. Different attitudes, working styles and values seemed to complicate students' collaboration but also added more diverse ideas through conflicts of needs, preferences and interest. Different conceptions of goals influenced decision-making and discussion on advantageous outcomes. This environment changed students' habits, after primarily being concerned about their own contribution and individual rewards towards collaboration, while some students missed feedback and directions from teachers. Observers recognised that initially most students were not really involved. No one was telling the groups how to manage the situation and it seemed as if they were waiting for someone to give directions. But they had to manage themselves by creating new structures and in this way students soon became aware of what their classmates were (or were not) doing. In this new culture, all students were expected to be active and supporting. These experiences made some students reflect on their own participation and interaction, indicating elements of transformative learning through self-reflection and reported changes in attitudes, such as:

> I learned to be more open to other students' proposals, and the whole class has learned to work well together.
> I learned to be more open.
> I learned that attitude is extremely important.
> I learned that you must believe in what you are doing, by believing in what you are doing, you also get others to believe in you, but it should in this case, of course, be realistic and thoughtful.

Other students confirmed established self-perception through participation: "I learned once again that I work too hard compared to the others". Others compared the importance of cooperation by creative thinking: "Cooperation is important, but it is also important to think outside the box." Students were saying that, in order to be innovative and creative, you have to believe in your own capability and convince others to engage. The importance of planning, coordinating, administration and leadership was recognised by students as important and challenging. When students referred to important lessons from this experiment, they were primarily referring to the social aspects of learning enhanced by student interaction, indicating the notion of social interaction and regulation. Dealing with emotions when arguing, disagreeing and creating seemed to add quality to the experience. Emotions directed the influence of students' engagement when evaluating the contexts and assignment of the situations as either rewarding or the opposite.

Students developed different coping strategies. A few students actually stopped participating and left the experiment, when they realised they could not change or add any new elements to the situation. Student interest in the subject and their expectation of mastering the challenge may then be regarded as important for engagement and involvement. Competition and the formal rules of the game (like external time pressure) influenced students' collaboration. If students were unable

to collaborate with classmates they could not win the game. When they realised that the possibility of winning was out of reach, their engagement reduced dramatically.

Creativity- and Innovation-Enhancing Learning Processes Are Emotionally Challenging

When participating in this role play, most students had to break with routines and habits in order to reach the new goals. This made it possible for them to engage and participate in new ways. The game designers had assumed that most students would be self-directed and able to collaborate, but according to students' own evaluations, this is precisely what they had to learn through new learning settings.

In order to develop creative and innovative skills, therefore, students may be offered the possibility of demonstrating creativity. In this, they must be encouraged to collaborate in an environment that permits self-expression and the use of imagination to create something new, such as these new ideas for regional development. This game seems to have evoked social engagement by creating new types of sociability and interaction among the participants due to structural changes. The game opened new possibilities for social networks in both the physical and the digital spaces.

Students' response showed that they were motivated by different aspects of the same context – some by the competition, time-pressure and points to be won, others by the political invitation and dealing with real-life problems. Others were very eager to be the winners and were less interested in the general topic itself.

From a socio-cultural perspective of creativity, it was expected that the actual learning culture would influence students' ways of participating. Some might experience joy in the face of challenge and invest a lot of energy in the process, while others experienced little challenge, which for some was cause for indifference. Common sentiment and attitude, which seemed to undermine student collaboration, were apathy and lack of interest, though the dominant perception was of a high level of commitment and engagement.

Experience-based learning may enhance creativity as the creative process is connected to finding problems which is strongly linked to the understanding of the problem. In this creativity-enhancing process, students were expected to define or formulate problems or challenges in ways in which they were able to deal with them. This was expressed by preliminary goals like: "I want to come up with an innovative idea to stimulate rural development" (intrinsic motivation) or "I want to be the winner of the game, and so I have to come up with an innovative idea" (extrinsic motivation). These expectations might lead to unpredictable series of enquiries: what does rural development mean? How are we to influence environmental planning? This knowledge-building process seems to be a vital part of understanding and formulating challenges. The quality of the experience depends on how students actually perceive the given challenge, as this influences gathering, organising and analysing information from different sources.

This case shows how refining and testing ideas, and implementing decisions and action plans imply dealing with evaluating questions and dialogues such as, is this outcome/communication/activity really what we intended? During this process, students are confronting their ideas with peers and others, in order to evaluate if they still need refining and improvement – depending on either the students' own ambitions or external evaluations. Experience-based learning may then be perceived as very emotional, challenging, time-consuming and unpredictable by both students and teachers, as students are dealing with the risk that the outcome will not meet the expectations or be positively valued.

The concrete creative design process and its development are influenced by the actual school context – the timeframe as well as the support and the evaluation – which seems to influence the quality of meta-cognition, the knowledge base and personal variables, such as persistency, personality and collaboration skills. From this interactive learning perspective, it is relevant to gain more knowledge about school culture – including the hidden curriculum – as this may direct students' possibilities to benefit from social construction of knowledge. Whether a pedagogical setup actually supports or violates creative efforts seems to depend on how it is perceived and selected by the students, as well as on the value students add to the process, given that learning by participation implies both transformation of ideas and knowledge, as well as self-perception.

The analysis found that creative learning processes are sensitive to partnership and external factors, such as time, evaluation procedures and values. Students' actual responses to the process are difficult to calculate, if students are given the possibility and freedom to participate in the problem definition process, in order to stimulate the engagement needed to get involved in creating something which is new to them. This process tends to create both insecurity and engagement, due to the fact that the result itself is unpredictable.

If education tends to avoid unpredictable situations due to the construction and creation of educators' "emotional labour" (adaptation and regulation of emotions), then supporting the formation of creative and innovative students may be an emotional challenge to the dominating culture of education. Therefore, when we in educational settings maintain to reward the ability to come up with the correct answers to pre-set questions, we may consequently impede both students' and educators' progress in introducing, adapting and exceeding different agendas in education, requiring new forms of discipline and social adjustment.

NOTES

[1] "In September 2006, the OECD launched a new Entrepreneurship Indicators Programme (EIP) to build internationally comparable statistics on entrepreneurship and its determinants, whose aim is to create a durable, long-term, programme of policy-relevant entrepreneurship statistics. As such, the work involves developing standard definitions and concepts and engaging countries and international agencies in the collection of data" (Ahmad & Seymour, 2008).

[2] Bassanini and Scarpetta (2001) referred to the concept of entrepreneurship as enterprising individuals who display the readiness to take risks with new or innovative ideas to generate new products or services.

[3] Upper Secondary School advanced Level (stx, htx, hhx and The Higher Preparatory Examination (hf) – dominated by students at 16 – 19-years old), but primarily to students studying social science.

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Birthe Lund
Department of Learning and Philosophy
Aalborg University
Denmark

TATIANA CHEMI AND JULIE BORUP JENSEN

2. EMOTIONS AND LEARNING IN ARTS-BASED PRACTICES OF EDUCATIONAL INNOVATION

ABSTRACT

The present chapter addresses the topic of educators' emotions in teaching situations when they experiment with and apply arts-based tools to learning and facilitation. Original data are drawn from a qualitative study that observed and described an innovative arts-based development project at a Danish University College. The study is based on the educators' perspective and sheds light on what makes their commitment to pedagogical innovations satisfying or challenging. The educators in this study explored arts-based approaches that were new to them, but they volunteered because of their existing interest in the arts and arts-based learning. The specific focus on the arts brought to our attention issues of bodily, sensory and mediated expression in relation to emotions and learning.

KEYWORDS: Educators' emotions, Emotions in learning, Arts-based, Educational Innovation

EMOTIONS IN HIGHER EDUCATION

This chapter will address emotions in educational settings from the perspective of the educator in higher education. Most of the literature addresses adult learning from the perspective of the learner. Here, we find several approaches. Much research focuses on adult learners and their motivation for engaging in further education and life-long learning (Illeris, 2009; Mezirow, 2010), or on the relation between adult learners and social meaning, which involves the cognitive, sensory and emotional dimensions (Jarvis, 2012), or the experience of self-efficacy and the effects on adult learners' emotional assessment of the learning situation (Bandura, 1977, 1997; Gallagher, 2008). Several studies focusing on emotions in educational settings in higher education look mainly at students, indicating the impact and importance of socio-cultural dynamics of the environment on individual experience of emotion (Clayton et al., 2009). Within educational settings, reward and acknowledgement are socio-cultural dynamics that influence students' emotions and feelings. As Clayton et al. (2009) state, using Bourdieu's terminology, the tension or continuum between "ennobling" or "stigmatising" individuals determines the emotional response of the

B. Lund & T. Chemi (Eds.), Dealing with Emotions, 21–36.

students, which is apparent in reactions such as being relieved by finishing a task, being proud of a good result etc. The above ways of studying emotions with focus on the learner/student at the centre often do not take the impact of the educator's emotions in the teaching situation into sufficient account. This is understandable given the general lack of attention to the study of emotions (Damasio, 1999).

In the last twenty years, several scientific fields, such as psychology, neuroscience and cognitive science have been looking at emotions with growing interest. Pedagogical and educational domains are still pioneering their specific focus on emotions, supported by encouraging findings that strongly suggest a central role for emotions in learning processes (Immordino-Yang & Damasio, 2007; Immordino-Yang & Fischer, 2009). In leadership and managerial research, too, there is inspiration to move in this direction. The connection between adult learners and emotions is investigated because managing emotions and feelings in organisations has been proved to be of great importance (Bierema, 2008). In this kind of research however, attention is often drawn to the emotions' role in enhancing organisational performance and to disciplining employees, rather than to promoting employee learning and empowerment. The consequence of the former could result in employees being required to display feelings that might be inconsistent with their authentic feelings in given situations (Bierema, 2008). However, the focus on employees managing their feelings in relations with customers could be relevant for educators, inasmuch as educators and employees share the question: how can we learn to take into account our own feelings and "use" them in ways that are authentic and appropriate at the same time?

The topic of adult learning and emotions poses several questions. First of all, there seems to be a lack of attention to educators and the impact of their emotional responses to what happens in teaching. There are hidden issues relating to the feelings attached to the work task itself – how are the educators' emotions and feelings expressed, dealt with and enacted, if at all, in teaching? Is the professional developmental task for educators actually to develop and emphasise the experience of emotions and feelings in the work of teaching, and to develop "gut feeling" of emotional involvement in relation to professional tasks and work?

The purpose of the present chapter is to address a clear challenge in the field of higher education: the lack of knowledge about the role of emotions in educators' teaching and learning. Research on emotions and learning is growing rich with contributions, as we saw above. However, this research is to a large extent focused on the learner and less on the educator or facilitator of learning activities. We assume that the emotions of educators or facilitators have equally significant impacts on learning environments as those of learners, especially if the learning environment is expected to change by means of educational innovation carried out by the educators. Specifically, we address the educators' emotional responses when they are expected to relate to new, creative methods and subject matter in their profession, which may put them in the role of learners themselves.

We conceptualise emotions as contributing to learning processes and creativity within new cognition research (Johnson, 2007) and the neurobiology of emotions (Damasio, 1999) by focusing on a holistic take on emotions and feelings as complex intertwined phenomena. In our study we look at positively-felt emotions and the positive role of negatively-felt emotions in learning. Specifically, our original empirical data contribute to describing how educators at higher education level respond emotionally to an arts-based learning environment and to the challenge of having to apply their acquired learning to their daily practice. Similar to Grams and Jurowetzky in this book (see Chapter Five), the educators' emotions interplaying with the students' will be the specific content of the analysis of data below. However, our focus is not on educators' well-being and the significance of this for student learning like Grams and Jurowetzky, but rather on arts' role in facilitating and expressing feelings within the pedagogical, educational setting. In other words: We were curious about the role of the arts in their learning and we investigated the relationship between arts-based learning processes and emotions/feelings in this context. A more precise and qualitative description of this relationship is needed, which is the aim of this chapter.

A LONG JOURNEY TO EMOTIONS

The importance of emotions in education emerged in our action research project Arts-Based Innovation (ABI), covering the period 2011–2014. Although the study was originally conceived as an enquiry into creativity and educational innovation, the empirical data collected happened to embrace a very strong emotional response to the arts-based experimentation. As we became aware of the lack of contributions focussing on the educators' emotional perspective, we directed our qualitative interviews and observations towards exploring the phenomenology of this topic. We therefore modified our initial research design to include empirical data on the emotional response and its relationship to learning, with specific reference to the arts and creativity.

Participants in the project were social education studies educators at University College North Jutland (UCN). Also, some students and users (children, parents, peers) from institutions in North Jutland were indirectly involved as customers or end-users of the arts-based facilitation tested by UCN educators as part of their training. The project was about experimenting with arts-based tools for teaching, facilitating and learning, and envisioning ways of applying these tools to the classroom and to outreach activities. The special focus of ABI was arts-based reflection and learning on the one hand, and innovation processes and development of knowledge in the social education profession on the other. During the project, it turned out that feelings and emotions play a significant role when experienced educators and researchers are experimenting with new teaching and research methods that involve the arts. The project also shed light on the role of emotions

and feelings in connection with educators' learning opportunities and development of pedagogy and educational design.

Back in 2011 when the project began, educators at UCN initially were interested in educational and organisational innovation by means of an arts-based coaching tool, called Arts-Based Coaching (ABC). Arts-based coaching was seen as an opportunity for innovating the social educators' profession and as a method that could offer a creative approach to development in the profession. Project ABC-U (Chemi, 2011, 2013) took place over two semesters, where participants met regularly and shared experiences with arts-based learning, practice and reflections. During this time, the participating educators became increasingly involved with Theory U (Scharmer, 2000) and its emphasis on emotions and senses in innovation processes. The results of ABC–U raised new questions, which changed the project from a developmental main objective of professional innovation into an action research design, with a focus on developing knowledge and theory, but driven by participants (educators, students, management and researchers). The wonderings were a driver and a motivation for the educators to learn more about the relations between learning and innovation, when arts are involved in the development of teaching. This was the basis for the ABI project.

This chapter focuses on the project findings that describe the emotions involved in the educators' own learning processes as they experiment with teaching and facilitation, using arts-based approaches and methods. In order to study the emotional dimensions of the educators' learning processes in innovative teaching processes, it has been vital for us, as researchers, to follow their experiments closely. When educators are experimenting with new forms of teaching, research also has to be experimental and innovative, especially in order to encompass emotional factors of the innovative processes. This has been the main argument for the action research approach to the ABI project (Brydon-Miller et al., 2011; Beyes & Steyaert, 2011).

In this project, action research meant that we, as researchers, studied the field of teaching in collaboration with the social education educators. The collaborative dimension meant that the participating educators were defined as "co-researchers" (McCormack, 2007). These roles were chosen because the educators were the ones carrying out the actual arts-based teaching experiments, and therefore were able to document and express own responses to their experiments, including emotional responses. In ABI, the educators co-researched by keeping a log with educational planning, descriptions and reflections. This documentation was then brought into play within workshops, i.e. the project's scheduled, researcher-facilitated discussions in study groups. The use of logs and study groups is a common method for action research, when the purpose is to create new knowledge about social and individual change processes in practice (practice research) or professional knowledge (professional research) (Svensson, 2010, Jensen, 2012). For the sake of their own learning and experience, the participating educators collected observations of students' reactions to the arts-based methods, or they briefly asked the students for

feedback in relation to the arts-based activities. This was systematically documented and collected in different types of files, and was also shared and discussed in the study group meetings.

Our starting point has been that educators and researchers share a common curiosity and interest in studying emotional aspects of learning processes involved in educational innovation. This interest has been studied from two angles: by the educators, experimenting and documenting when teaching social education students, and by researchers using theoretical analysis and examination of empirical data (data from real-life situations). Our data was partially collected by the co-researching educators, who wrote schedules, pedagogical planning, logs and reflections and put them into a common file sharing system. In addition, data was collected and documented by audio recording dialogical group conversations (study groups) and in one case by field observation. In this way, the project's data collection not only created research data, but also created a foundation for knowledge sharing, reflection and creation of new knowledge in the action research study group. This creation of new knowledge was continually rooted in educational practice. In this way, the educators' local and specific experience with their own emotions involved in using arts-based methods encountered the researchers' more general and theoretical knowledge of emotions in innovative teaching practices (Berg & Eikeland, 2008). On this basis, our dialogue created common knowledge.

In addition, we also collected data through observation, group interviews and focus group interviews. These were in some cases supported by arts-based methods, which in turn were based on an action research process. Interest in and reflection on shared knowledge are fundamental to the development of knowledge (Jensen, 2012; Svensson, 2010).

RIDING THE ARTS-BASED CART

Including the creation of works of art in educational innovation and research within the ABI project was inspired by basically two approaches: Arts-Based Coaching and Theory U.

Arts-Based Coaching (ABC) is an arts-based method for the coaching of individuals or groups. According to this method (Chemi, 2006; Knill, Barba, & Fuchs, 1995; Knill, Levine, & Levine, 2005), the coaching session, whose purpose is to provide help to a help-seeker, starts with an informal greeting between coach and client (filling in). Subsequently, the client experiences artistic decentering, i.e. an arts-based experience that is different from ordinary reality, which involves the client's lack of resources. When this engaging, emotional, value-laden and symbolic experience ends, the client analyses both the artwork and the artistic process, during an artistic critique. Finally, the coach helps to build a bridge between the symbolic experience and the client's life and challenges. The session ends with a phase when the result is considered. A change has been achieved and the client is perhaps enabled

to perceive the world differently, as filled with endless and successful opportunities. This background of arts-based coaching was the context for the innovative educational enterprise engaged in by the University College. Educators, in their role as learners, acquired knowledge and practical experience of the ABC method and were asked, as educators, to implement the arts-based learning in their educational work. This took place in two areas: one, in the classroom with undergraduate students, the other, with external customers in the case of out-reach activities where educators were facilitators of arts-based processes.

The ABI-project also operated with a special focus on innovation, as the ABC method was anchored to a systemic understanding of innovation, namely, Otto Scharmer's Theory U (Scharmer, 2000; Senge et al., 2007). This perspective was brought into the project by the two consultants (one external and one internal) in charge of developing and implementing the arts-based course for educators. The participating educators saw it as a highly inspirational and emotionally engaging framework for understanding their work. It is therefore useful to briefly mention Scharmer's main ideas here, as they shed light on the educators' ways of creating meaning in the project. According to Scharmer (2000), individuals and organisations, even when trying to generate innovation, often use old information within existing limits and routines. This process of finding solutions based on old knowledge is called downloading. Consequent behavioural patterns produce a result that is quick, convenient and clear, but not necessarily new or innovative. Instead, organisations or individual learners should engage in a deeper learning journey based on the individual's emotional and bodily presence and collective co-creation. This can be achieved by engaging the senses (seeing, sensing) and a mindful presence (presencing). When individuals or groups create together, engaging the senses and mindful presence, they often experience a greater drive to crystallise their thoughts on possible modes of action. A rapid prototype of the crystallised actions can be taken as the basis for genuinely innovative solutions (performance). The starting point for integrating Theory U with arts-based coaching was, in the ABI project, Scharmer's concept of sensing, which sets the stage for the arts-initiated learning processes.

The arguments for this integration are several:

- The arts capture and communicate the complexity of human experience, knowledge and cultural community that may otherwise be difficult to access for linguistic articulation, simply because the arts engage alternative communication forms that are emotion-related, embodied, sensory, metaphorical, symbolic.
- The arts engage people and get the individual to notice things in new ways – that is, images can help the individual to see even familiar objects and problems with fresh eyes, hence new-thinking to be used in innovation projects.
- Art literally aids people to look upon phenomena with the eyes of others, see them from different perspectives and unusual points of view (Cole & Knowles, 2008; Eisner, 2008; Langer, 1953, 1961; Weber, 2008).

- In this way, when the participating educators were innovating teaching practice, art was able to direct them towards new thinking and to discourage (too much) downloading of old knowledge.

In this project, the arts have also been used as support and validation within an action research framework, as inspiration and tools for research shared between participants and researchers. This approach can be described as arts-based research (Knowles & Cole, 2008) and corresponds with both Scharmer's Theory U and the ABC method, with their background of sensory, embodied experimentation and symbolisation. The arts within the action research framework have have been a fruitful perspective on the teaching and learning practices that educators and students in the project were trying to innovate. This approach ended up building a meaningful bridge between the newly acquired arts-based learning and experiences on the one hand and the research documentation and reflection on the other. The consequence, relevant in relation to innovation processes in education, has been integration of theoretical and conceptual knowledge with bodily, action-oriented and value-based knowledge. As we shall see later, this innovation perspective of bringing the arts into teaching practice sheds light on the complexity of educators' emotions, as evoked by experiments with the arts.

THE CHALLENGES OF ARTS-BASED EXPERIMENTATION

For analytical purposes we have clustered the emotions mentioned in the data material as positive and negative, differentiating the students' and the educators' emotions. By positive and negative, we intend what the educators and students themselves perceived and articulated as problematic or energy-giving, in other words, their subjective perception of their own experiences (Sutton, 2007, p. 261). This being said, we are aware that a sharp dualism does not exist in reality, between positivity and negativity in affective domains. Affective valence, that is the intrinsic value that individuals give to their emotional experience, is context-related and situational, as Damasio (1999) emphasises. However, our intention in clustering the emotional utterances and expressions in this way, is to unfold the emotional complexity of the educators' responses, which derives from the challenges of engaging in educational innovation. In our case, this was achieved by the development of arts-based learning environments for students, and by the effort of presenting the arts-based activities in an accessible way.

Similarly, the division of the emotions between students and educators is also fictitious, but serves analytical purposes. In reality, much of the educators' own positive or negative emotional state is directly influenced by the students' perception of teaching and student output.

In general, the findings of this study seem comparable to those of other similar change processes involving emotions. In our observations and interviews the educators express frustration as well as motivation and joy when going through

processes involving art making or the senses, as for instance in LEGO-facilitated reflection[1]. On closer examination, however, what stands out from the data collected is that emotions seemed to be surprisingly present and articulated in the participating educators' experience. They were clearly expressed in the interviews by means of a discourse with positive affective valence and consistently observed in engaged behaviours and attitudes (high level of arousal and motivation, fun, joy, playfulness). The experience with arts-based tools seemed to be specifically characterised by meaningfulness and appropriateness to the context. The educators recurrently emphasised this point. To them, experimenting with arts-based teaching and facilitating methods seemed to be an almost natural development of previous skills and a long-wished-for activity. At the same time, the arts-based processes were not compulsory for students and participants: they volunteered. The fact that quite a few students and professionals actually still do volunteer indicates that the arts involvement positively attracts and motivates these specific participants, suggesting awakening of positive emotions like happiness, engagement, and meaning (Gabriele, 2008). We may assume that this positive attraction and motivation affect the educators in ways that allow them to be emotionally involved in positive ways, which we read from expressions like "I feel as if I'm finding an answer to this because it touches me". These two complementary aspects – the positive attraction felt by students and professionals to arts-based processes and the positive curiosity of educators – indicate a link between art and feelings for the educators (for the relation between student emotion display and educators' emotional response and display see also Hagenauer & Volet, 2014). The relational power of aesthetic learning processes ("I can relate myself to the feeling you have") and the feeling of becoming better in putting feelings into words is stressed. But feelings are not the educators' main focus – this is not what the development project is about. They are aware that the method itself has to do with emotions through the arts, which is clear, for instance, in the emotional power of metaphors and artefacts or in experiential participation in the arts. Introspection, artistic seduction, first-hand participation, reflection through metaphors, sharing in a secret community of practice are mentioned and looked upon positively.

According to the participating educators, what is special in the use of the arts is their materiality, the aesthetic challenges, the continuous process of doing and redoing, the playful and experimental approach. Aesthetic experiences seem to contribute to building up a language and vocabulary that are resources-based, strengths-focused (what worked, what was surprising, what helped the individual in the process of art-making) and that make conscious use of metaphors and pictures. The UCN educators expressed themselves in terms of artistic modality awareness, for instance:

> [the artistic] modality was appropriate, I think. The process went well despite the aforementioned confusion. This joint work had been given much thought

> by the participants and seemed to be central in their learning. It was good we had three rounds [of artistic feedback] where [the participants] could move each other's stuff around. One said that it was demoralising that the others pushed his thing around [in the art display], but he ended up by having the desire to build [his artwork] up again after a few rounds.

However, the interviews and the study groups did not provide enough data about the educators' level of awareness regarding emotions in artistic learning processes. In the development project, artistic and arts-based experiences were used instrumentally for coaching purposes and not for their intrinsic learning or aesthetic potential.

When educators asked each other "what is this about?" the answers pointed at creativity and organisational change, active use of intuition, lifelong learning, identity, other alternative languages involving the senses and the body.

The educators' awareness of feelings, recurrently mentioned or hinted at, made them able to formulate what was difficult and what was exciting in the innovation process, both for themselves and for their students. The students were worried that the new arts-based approach would be an add-on to a busy day, making it unmanageable and unusable in everyday life. Besides the more general challenges, common to all collaboration-based work, the ABI project provoked creator's anxiety among the students. "Oh no! We have to be creative!" The challenges in the art-making and artistic analysis of the ABC method generated in students some of the frustrations intrinsic to artistic creative processes: anxiety about creation, frustrations when materials and media struggle against ideas and visions, nervousness about the work's reception. These emotions, though experienced with a negative valence, seemed to the students to open new learning and development possibilities. In general, the students reported to the educators a positive feedback, due specifically to the project's positive energy and a feeling of safety and ease, in spite of the challenges. Students particularly appreciated the co-creational dimension ("doing things together") and active participation in the learning process ("We have to find out ourselves"), but also the different educational frames that allowed for unexpected elements to emerge ("surprise in free frames, free thoughts"), building their new creative identity ("I didn't imagine I was so creative"), an experiential and active approach ("I didn't think too much – I just did it").

As far as the educators were concerned, the emotions they indicated as negative or with negative valence were of wider range and could not always be converted into positive thoughts or behaviours. Among recurring references was the anxiety of not being able to plan the arts-based facilitation or teaching thoroughly. The insecurity and fear that emerged from experimenting with a new pedagogical method only got worse when the educators had to deal with sustained creative expectations. There was exhaustion after sustained reflection on the focused arts-based work ("I am not sure my brain can work anymore today") or awareness that "all innovation is dangerous" and that creative changes take time and effort:

> [The daily tasks] must be out of the way so that I can think creatively […] I think it's hard to make time to think creatively in everyday life, if you are stressed or if you have so many other things that you have no energy left.

Both students and educators felt that everyday busy routines seriously challenged new thinking, creativity and innovation in educational settings. We suppose that this pressure is even stronger when the new methods applied are based on the arts, because artistic work, metaphor building and language are not direct or straightforward. Also, the arts in education demand strong advocacy. In educational contexts that are increasingly focused on accountability and tests, the arts or arts-based methods need to be defended and justified. Emotionally, the educators feel this pressure when they mention their concern regarding scientific documentation of their work on audio files ("now we must say something clever"), as if the documentation, instead of serving a scientific purpose, might be used for accountability strategies. This pressure also, and even more relevantly, derives from fear of their colleagues' judgment – colleagues not involved in the arts-based project might look on it as "hula-hoop pedagogy" and doubt the seriousness of the method or the effort put into it.

There are also worries about content-related issues that are specific to the application of the arts in learning and facilitation. The educators are concerned with the downloading trap, that is – in Scharmer's terms – the illusion of developing something new, while in fact repeating old models. At the same time, they believe that their pedagogical innovation shouldn't be "just cosy" but include plenty of artistic content. Then follows the major concern, which is that "aesthetic analysis is difficult" and that the arts, or the use of them in learning and facilitation, raise a considerable number of dilemmas. Is using the arts in learning and facilitation a form of manipulation, because the educator/facilitator has "a hidden agenda"? How to keep a process open to what is emerging and unfold the artistic work structure? Does the facilitator need to be an expert in the artistic modality chosen or not? The ABI project offered a very complex role for educators. They tried out and trained their skills as facilitators and at the same time had to think how they could transfer these skills to their teaching. They were contemporaneously arts-based facilitators for customers outside the educational institution, supervisors of students' arts-based projects and educational developers of arts-based tools. How did they deal with this complexity? One strategy as outreach facilitators was to ignore the negative challenges altogether. Another, more active strategy was to use past knowledge and experiences from other contexts, e.g. their teaching and supervision competencies, and transfer them to the new context. In their own words, educators cultivated aesthetic skills (analysis of art works, role play, observation and attention), active listening skills and facilitating/supervising skills. Moreover, some of them told us that their preparation for the arts-based task did not focus exclusively on professional content (knowledge of the field, about the target group to facilitate/teach, about theories), but also cultivated an affective-motivational side, which included positive

emotions. There were positive expectations as to the results of the process, intuitive knowledge perhaps from listening to hints, a generally positive attitude embracing relaxation, engagement, enjoyment and openness. On one hand, the educators were aware that "one should have some skills to fully enjoy the flow in these [arts-based] activities". On the other, they experienced that educators should cultivate a positive attitude, as the process "demands a lot of energy". The process does clearly require a strong psycho-emotional disposition (Tishman & Jay, 1993) towards learning and awareness.

POSITIVITY AND THE ARTS

From field observation we noticed a mostly positive response to the arts-based developmental project, with dynamic collaborative relationships, an appreciative approach, a feeling of safety in expressing feelings through metaphors (also when visualising fears) and an overall "lightness" of atmosphere. The educators reported a large range of positive affects: fun was the most frequently mentioned emotion ("It's going to be fun", "it's fun", "it's cosy") but also satisfaction with the project's results. This might be understood both as a biological reaction to pleasurable stimuli (the arts that the educators are passionate about) and as a psycho-cultural response to the successful output of the project. This helped to build a positive professional identity and learn skills perceived as needed and meaningful to the educational task.

The educators' positive affective valence seems to be strongly reactive to the students' perception and achieved learning. It occurs when educators become acquainted with the students' learning and when students give them positive feedback. Educators are specific about what makes them happy and satisfied: when students learn to understand, when they think in new ways and out of the box, when they can use the learning acquired, when they are or become passionate about learning or the subject, when they receive inspiration from each other. Sometimes the educators notice that the students listen to each other, say that the project is exciting or engaging, or clearly show engagement. In this case the educator's perception of positive emotional states rises. Clearly, success in engaging students is extremely relevant for the educators' own emotional perception of the teaching situation. We suggest that this is one of the main influences on the educators' affective valence regarding teaching and facilitation. However, further study is needed to explore this relationship.

When invited to describe and evaluate the arts-based project, the educators responded that it was basically about: inspiration and usefulness (*ergo*, basically about creativity: see a consensual definition of creativity in Feist, 2010, p. 114), equality between educators and students, about listening to each other, tenacity and perseverance in experimentation, new perspectives, immersion in engagement

and passion, passion about learning and arts-based tools. Immersion was achieved, they said, by means of fixed frames and structures, clear purposes and agenda, the reflective activity of putting into words the value of such arts-based activities, the regularity with which they met, learned and reflected in groups and in practice. As might be expected, they also mentioned that what contributed to their immersion and engagement was the extreme excitement and difficulty of the arts-based approach and the creative obstructions they had to face. This statement is not surprising in the case of creative activities, where turning hard-felt challenges into learning opportunities is one of the most common strategies (Chemi, Jensen, & Hersted, 2015). Artists often mention that, in creative processes, what at first glance appears negative or challenging can have a positive, inspiring role in the end. Rules, resistance and obstruction can turn into surprising learning and creative opportunities. What we find significant is that the educators systematically approached the arts-based experimentation creatively, which meant bringing novelty and appropriateness to their common learning process (Feist, 2010).

Last (but not least), a recurrent finding should be mentioned: the critical approach and critical questioning that educators held to, sought for and actively cultivated. Activities and experiments with arts-based approaches should not be misunderstood as *happy-go-lucky* and the educators involved in these activities should not be seen as "cheering idiots" (literal quote from interviews) by their colleagues. The artistic activities must involve seriousness, commitment and challenges: "although we would like to have control over [the project] so it will not be just smooth and 'combed', [arts-based educational design] must be a place where a lot of things happen". This seems to display the educators' concerns about eventual critiques against arts-based activities as something extra or useless.

However positive, the educators' reactions to the arts-based project also included deeply felt needs for the future of the arts-based tools in their education. They often agreed with each other that some prerequisites are necessary to the successful integration of arts-based tools in learning and facilitation: deep engagement, skills, embodied learning, clear frames from leaders (the lack of it can affect the emotions in learning process for the educators negatively). As we can see, they mention more than content matter or cognitive skills about artistic processes and they include the affective level.

CONCLUDING REMARKS AND COMMENTS

The described project examined, if and how arts-based education exploits art as a potential learning tool. In the analysis above, we found strong indications of emotional aspects of learning in students, when art is used pedagogically. Furthermore, the analysis suggests that its potential may be linked to the arts' ability to evoke emotional responses in students. This again calls for rigorous development of educators' awareness of their own emotional responses to educational occurrences in arts-based processes, for the reasons that follow.

- Art itself can evoke emotions (Eisner, 2008), which can create syntheses between forms of knowledge by connecting bodily forms of knowledge with emotions, thinking and linguistic articulation. In teaching and facilitation of learning processes, this insight can inspire increased engagement in learning, meaningfulness in learning activities and inclusion of affects in subject-matter learning in order to support personalised, experience based learning in an institutional learning environment.
- Artworks can function as emotional metaphors, forming new metaphors in the sensory encounter with the viewer and creating emotional resonances. In educational contexts, artistic work can be the students' tool for a deeper and wider understanding of the emotional aspects of own learning processes. It is also an engaging tool for dissemination of learning outputs or dilemmas. However, our analysis shows that educators, too, seem to be affected by the emotional sides to metaphors. This again calls for the educators to be aware of the role of their feelings in teaching and facilitating.
- Art emphasises own and others' bodily connectedness, through experience that would otherwise be stored in the body (Cole & Knowles, 2008; Eisner, 2008; Langer, 1961, 1969; Weber, 2008). In learning situations, where learning is "invisible", the students' work with art can contribute to making learning visible, with the possibility of displaying feelings related to this bodily-stored experience. In this externalisation and description of experience, along with emotional responses and connections to experience, the educator would appear to be emotionally at play or at stake. This must be taken into account in future research and application in practice.
- Within artistic experiences, educators seem to be especially sensitive to students' learning and positive perception of learning, to the extent of being directly reactive to the students' satisfaction. Awareness of these affective dynamics can be actively included in considerations about and planning of educational designs.

These aspects of knowledge can be seen as closely linked to emotions, since the arts have the potential to open people up to expressing, thinking about and planning actions based on emotions (Connery, John-Steiner, & Marjanovic-Shane, 2010; Moran & John-Steiner, 2003). These findings can suggest concrete tools and strategies for using arts-based tools in education. Taking them into consideration could be an initial strategy for taking emotions seriously in learning environments. Building awareness of emotions in general, own emotional responses and specific relationships between emotions and artistic expressions could be the starting point for building learning environments that value and appreciate the complex role of emotions in learning processes. The lesson learned from our analysis also suggests that educators will need special attention and awareness for emotional dynamics when experimenting with the arts in educational settings. This will require not only knowledge about the arts and their creative educational potential, but also serious

study of the foundational and philosophical attitudes of different artistic practices, towards the expression of and reflection on emotions and feelings.

We believe that our study is only the very beginning of a journey towards the understanding of educators' affects in teaching. More knowledge is needed in order to qualify and specify the above findings in other content-related contexts.

NOTE

[1] LEGO-facilitation(LEGO Serious Play) is a method for organisational learning and innovation, using LEGO-bricks as a tool for facilitating individual reflection and sharing of thoughts and ideas in groups by visualising "tacit knowledge" and embodied experience by means of the bricks (Schrage 1999).

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Tatiana Chemi
Department of Learning and Philosophy
Aalborg University

Julie Borup Jensen
Department of Learning and Philosophy
Aalborg University

LONE KROGH AND KRISHNA PRASSAD GIRI

3. GROSS NATIONAL HAPPINESS IN BHUTANESE EDUCATION – HOW IS IT IMPLEMENTED IN PRACTICE?

ABSTRACT

In this chapter we present the socio-cultural background for implementing Gross National Happiness (GNH) policies in Bhutan. The government strategy for "Educating for GNH" will be expounded and, in relation to this, the role of schools and teachers. In doing so, we focus on the concept of happiness, trying to understand its role in the Bhutanese education system. We discuss challenges arising from the fact that in Bhutan the ideology of Happiness currently plays a key role, together with educating children and young people for participation in continuously developing Bhutan in the international context. At the same time, Bhutanese values and rules, based on Buddhist philosophy, must be upheld. All this may seem very complex and mutually antagonistic.

The article will discuss how happiness is understood as a political and ideological concept and how the strategy of GNH is being implemented and perceived by principals and teachers in selected Bhutanese schools. We endeavour to find answers to the following 2 issues: Do GNH policies in themselves create happiness? And, is incorporating GNH in all subjects too challenging?

GROSS NATIONAL HAPPINESS (GNH)

The concept of GNH has to be seen in the light of the enormous modernisation process that Bhutan has been undergoing since the Sixties regarding infrastructure, living conditions, per capita income and the education and health systems. According to Priesner (1999) the major reason for Bhutan's apparently smooth and successful development is its powerful vision, which has evolved from its unique historical, geopolitical and sociological circumstances and which has determined the broad framework on how to proceed. During the late 1960s, a period when Bhutan's development policy generally was considered to have followed conventional patterns of rapid modernisation (Basu, 1996), the late King Jigme Dorji Wangchuck expressed his view that the goal of development was to make "the people prosperous and happy" (Kuensel, 1968). The prominence of 'prosperity and happiness' was highlighted in the king's address on the occasion of Bhutan's admission to the UN

B. Lund & T. Chemi (Eds.), Dealing with Emotions, 37–59.

in 1971, one of the most important events in the country's recent history (Priesner 1999). The vision was elaborated by King Jigme Singye Wangchuck, who in his first years of his reign declared that the country's policy was to consolidate sovereignty, in order to achieve economic self-reliance, prosperity and happiness for the country and its population. While emphasis was placed on both prosperity and happiness, the latter was considered of more significance. For Bhutan "Gross National Happiness is more important than Gross National Product", as was announced in 1972 by the fourth King Jigme Singye Wangchuck (Priesner, 1999, p. 28). For years, the GNH concept served as a guiding philosophy for Bhutan's absolute monarchy, based on the four pillars: 1) Equitable Economic Development, 2) Environmental Preservation, 3) Cultural Resilience and 4) Good Governance.

Holding absolute power, the King used these four pillars in guiding the construction and implementation of policies in Bhutan. GNH entered global political attention in 1986 when the king of Bhutan, in an interview in London, told the Financial Times, "Gross National Happiness is more important than Gross National Product" (Brahm, 2009).

So the yardstick of Bhutanese development is clearly emotional well-being rather than mere economic progress. However, GDP is not being rejected.

> Bhutan uses GDP as well, but only to indicate our material or economic progress; we give equal importance to other things like environmental conservation, sustainable socio-economic development, cultural preservation and good governance; these are further separated into nine dimensions that enable true societal well-being. (Interview of former Prime Minister, JigmeThinley with Fahsi, Mint Press News)

In 1991 the idea was mentioned in the Five Year Plan (7th 5-year plan, p. 22) and, in 1998, Prime Minister Jigme Y Thinley consciously shared this unique development philosophy with the outside world when he mentioned GNH as an alternative development paradigm at the Asia-Pacific Millennium Summit in Seoul, South Korea (Tashi Dorji, 2012). The statement served to indicate a new political direction.

The GNH philosophy is based on Buddhist philosophy, where happiness is understood as a quality of the mind that arises from positive 'mental attitudes'.

These attitudes include, for instance, the intention never to harm others, the desire to provide support to people around us and to remain contented with one's life (Tashi, 2004, p. 483). In this understanding, happiness is a state of mind that does not depend on external stimuli (for example, money and other material things), but on the contrary depends on inner mindsets.

For GNH philosophy, the Western approach to happiness is considered to be reductionist, because it understands happiness as being caused primarily by external stimuli (Ura, 2007, p. 3).

Prime Minister Thinley put it this way:

> We have now clearly distinguished the 'happiness' [.] in GNH from the fleeting, pleasurable 'feel good' moods so often associated with that term. We know that true abiding happiness cannot exist while others suffer, and comes only from serving others, living in harmony with nature, and realizing our innate wisdom and the true and brilliant nature of our own minds. (Thinley, 2009b)

From a Buddhist point of view, happiness is a natural state of mind. Referring to Fisker (2008) and Petersen (2005) the concept of happiness in Buddhism is closely connected with the concept of compassion and can be understood in two ways. Firstly, all human beings have a legitimate right to have a happy life; here it means a good life, including good social relationships, good health and being successful with one's projects. Having compassion means realising that other human beings have precisely the same wishes and needs for happiness. Secondly, it is the ability to feel compassion, which gives us the deep and real sense of happiness. So the happiness is very closely connected to our positive relationships with other human beings.

The Buddhist idea of happiness embedded in GNH is that pleasurable feelings are generated by stabilising the human mind and reducing mental noise, which is a consequence of the unending stream of external stimuli (Ura, 2007).

Despite the Buddhist idea that the 'individual' is an insubstantial notion, the GNH philosophy does operate with individuals, as that is how human beings immediately apprehend the world.

So Buddhist philosophy, and consequently GNH philosophy, are all about enabling the "individual" to understand the insubstantial character of everything, including the very notion of the individual. This is what Buddhists call enlightenment. Realizing this illusory character of everything is happiness (Ura, 2007).

Attainment of happiness is thereby also an individual pursuit – each individual has to realise that there are no individuals and that happiness is a collective good:

> By recognizing the true nature of interdependence, one can see that all karma is collective, that all enlightenment is collective, and therefore that happiness and the policies required to promote it must be oriented toward collective achievement. (Ura, 2007, p. 4)

THE ROLE OF THE BHUTANESE STATE AND GNH POLICIES

In the GNH perspective the State plays an important role in being responsible for ensuring basic human needs – parallel to the Western idea of a Welfare State (Tashi, 2004, p. 484).

Meeting basic human needs is seen as a prerequisite for the achievement of happiness, as starving people cannot be happy in the Buddhist perspective (Upreti, 2008, p. 1100). This is inherent in the Buddhist idea of the 'Middle Way,' which leads to happiness: one should live a moderate life in such a way that it does not lead to excess and luxury nor to ascetics and renunciation.

As mentioned, for Buddhism happiness is collective. The lama[1], the spiritual teacher, plays an important role in the realisation of happiness (Ura, 2009, p. 2). The lama is capable of teaching happiness, because he is enlightened. He knows how to achieve happiness and can pass this knowledge on to his devotees. In the Vajrayana form of Buddhism practiced in Bhutan, this knowledge is esoteric and secret for unenlightened human beings. The devotees must rely on the lama's teaching in order to gain enlightenment themselves. The lama is an unchallenged source of truth. So the rationale behind the GNH philosophy implies that achieving happiness is something that can be learnt.

The Bhutanese State is a relatively new development in Bhutanese history. The 'GNH state' is a term used for a state having the GNH philosophy as its official goal. The Bhutanese constitution reads: "The State shall strive to promote those conditions that will enable the pursuit of Gross National Happiness" (Royal Government of Bhutan, 2008, p. 26).

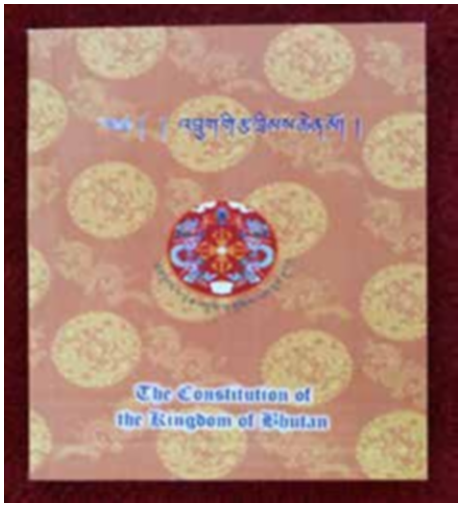

Figure 1. Constitution of the Kingdom of Bhutan

Striving to become a 'GNH state' gives rise to practices whereby the state has to ensure happiness by guiding and educating the citizens (Ura & Alkire, 2008, p. 3). The Prime Minister of Bhutan said: "[Happiness] is far too important also to be left to purely individual effort and search, without collective or governmental endeavour" (Thinley, 2007, p. 3).

This seems to be a logical argument from a Buddhist viewpoint, where the enlightened lama should teach happiness (the Buddhist understanding of happiness). Just as the lama is necessary for Buddhist followers to achieve happiness, the GNH

state has to teach the citizens happiness to make sure that they can understand and practice it. Karma Ura, head of the Centre for Bhutan Studies, puts it this way:

> Individuals often make mistakes regarding happiness that cannot be corrected without policy frameworks that address, resolve, and work to prevent such problems from arising again. Government policies must play a crucial role in educating the citizens about collective happiness. (Ura, 2007, pp. 3–4)

So the GNH philosophy is built on the dominant argument that the State needs to educate citizens in order to achieve its goal. "Education is the glue that holds Bhutan together" (Prime Minister Thinley, 2011).

Figure 2. GNH progress wheel on a school wall

To do this, policies and strategies have been developed and formulated and education strategies for schools, principals and teachers have been defined.

HOW DOES GNH WORK?

GNH is a strategy for social and economic change in Bhutan and has consequently been operationalised in different policy decisions and actions. With the accession to the throne of the 4th King, Jigme Singye Wangchuck, in 1972, it was found necessary to define values and directions beyond the execution of policies in various development domains. In his coronation address in 1974 the king said:

> The most important task before us at present is to achieve economic self-reliance to ensure the continued progress of our country in the future … The king's promulgation of the idea of GNH as a national policy pointed in the direction of seeking a solution to the contradictions Bhutan faced. For example, given the priority of modernising the Bhutanese in the process of national development, the tendency to place greater reliance on the private sector and on market forces was considered to be contradictory. Furthermore the trend toward homogenisation with the rest of the world contradicted the ideological, emotional and psychological foundations of the Bhutanese state and of Bhutan itself. (Mancall, 2004, p. 9)

According to Mancall, GNH may be considered as contemporaneously offering reflections on theories of development, on policies of development and on the values guiding those policies. Its strategies put Bhutan in a challenging position, on the one hand, maintaining old cultural traditions in developing a sustainable economy and, on the other, developing the country to have a voice quite different from existing voices in the world economy. GNH may be considered to encompass both ideological programs and practical strategies based on the policies and the ideologies of Gross National Happiness.

The following definition of GNH is widely used (Ura K. et al., 2012):

> Gross national Happiness (GNH) measures quality of a country in a more holistic way (than GNP) and believes that the beneficial development of human society takes place when material and spiritual development occur side by side to complement and reinforce each other.

As mentioned, the concept of GNH consists of four pillars:

1. Sustainable and equitable socio-economic development (better education and health and poverty reduction)
2. Preservation and promotion of a vibrant culture (transmission of values and strong family ties)
3. Environmental protection (constitutional requirement to maintain 60% of country under forest cover)
4. Good governance (fostering a vibrant democratic culture).

These four pillars are further elaborated into nine domains which are required to be integrated in teaching programmes, given that Bhutanese schools are considered to be the essential glue that holds Bhutan together (Ministry of Education, 2011, p. 3).

The nine domains include:

Standard domains:

1. Living Standards
2. Health
3. Education

New Domains:

1. Time Use
2. Good Governance
3. Ecological Diversity and Resilience

Innovative domains:

1. Psychological Wellbeing
2. Community Vitality
3. Culture Diversity and Resilience

Figure 3. The Nine Domains

These nine domains articulate the elements of GNH and form the basis of the so-called GNH index. The first 3 domains are living standards (such as income, assets, housing), health and education. The next three cover use of time (and time poverty), good governance and ecological resilience. The last three are psychological wellbeing (which includes overall happiness, but also emotions and spirituality), community vitality and cultural diversity and resilience[2].

According to the guide to the Gross National Happiness Index by Ura *et al.* from 2012, the Index weights the nine domains equally. Thirty-three cluster indicators are used to identify whether people have achieved sufficiency or not and create the

Index, and each sub-component indicator of the GNH index is on its own useful for practical purposes or different agencies.

Table 1. Number of indicators under each domain

	Domain	*Indicators*
1	Psychological wellbeing	4
2	Health	4
3	Time use	2
4	Education	4
5	Cultural diversity and resilience	4
6	Good governance	4
7	Community vitality	4
8	Ecological diversity and resilience	4
9	Living standards	3
	Total	33

The nine domains, taken together, reflect the purpose of development in Bhutan towards which they are aiming.

Two kinds of thresholds are used, 1) sufficiency thresholds and 2) happiness thresholds. Sufficiency thresholds show how much a person needs in order to enjoy sufficiency in each of the 33 indicators. The overall happiness threshold meanwhile answers the question "in how many domains or in what percentage of the indicators must a person achieve sufficiency in order to be deemed happy?" (Ura et al., 2012, p. 13).

Figure 4. The nine domains and 33 indicators of the GNH index (Ura et al., 2012)

In accordance with the nine domains, 38 sub–indexes, 72 indicators and 151 variables have been developed and are used to define and analyse the happiness of the Bhutanese people (http://www.gnhbhutan.org/about/#sthash.VEQ4g5kb.dpuf). These sub-indexes, indicators and variables are not given here. However, it is important to mention that the Centre of Bhutan Studies and GNH Research (http://www.bhutanstudies.org.bt/) regularly conducts surveys to measure to which degree both thresholds are met among the population, based on the indicators and variables, in order to define a happiness index for the nation.

As our focus is on education, only this domain will be covered in the article, though we are aware that other domains may have an impact and perspective on education matters.

EDUCATING FOR GNH – A MACRO DIDACTIC PERSPECTIVE

A genuinely GNH-inspired education system aims to ensure that GNH values are so deeply felt and internalised that they manifest themselves simply and naturally in all situations – in and out of school. (Thinley, 2010, in his opening speech of the workshop on "Educating for Gross National Happiness")

Figure 5. School in Thimphu

Thinley argued in 2009 that the infusion of GNH values into the education system was a necessity, saying that

> [to] address the greed, materialism, and consumerist fallacy that have turned us into mindless economic animals and are destroying the planet, requires nothing less than a change of consciousness and hence of lifestyle. Education is the key. (Thinley, 2009b, p. 2)

In order to counter this threat, the logical argument was that GNH values should be infused into the school system. So educating for GNH was considered as a tool to bring about GNH and thereby also social integration. The National Education Framework states that the goal of Bhutanese education is: "Equipping people with the knowledge, skills, values and attitudes that are required to promote a distinctive Bhutanese identity, maintain unity and harmony and ensure political stability" (Royal Education Council, 2012, p. 2).

Educating for GNH is a programme aiming at reforming education in order to create social cohesion and integration. So education has become an important instrument in the creation of national unity and Bhutanese identity, where GNH in the education system is considered as a safeguard against the negative aspects of Westernisation, which may threaten Bhutan. This concept of education as a tool to establish a "distinctive Bhutanese identity" is built on the assumption that this is possible to do and indeed necessary to maintain unity and stability in Bhutan.

GNH highlights the importance of a holistic education approach, ensuring that Bhutanese citizens gain a solid foundation in traditional knowledge, common values and skills. In addition to studying reading, writing, maths, science and technology, students are also encouraged to engage in creative learning and expression. A holistic education seems to extend beyond a conventional formal education framework to reflect and respond more directly to the task of creating good human beings. It is considered important for Bhutan that an education indicator includes the cultivation and transmission of values (Ura, 2009).

Bhutan's entire education system is considered to play a part in effectively cultivating GNH principles and values, ensuring:

- Deep critical and creative thinking,
- Ecological literacy,
- Practice of the country's profound ancient wisdom and culture,
- Contemplative learning,
- A holistic understanding of the world,
- Genuine care for nature and for others,
- Competency to deal effectively with the modern world,
- Preparation for right 'livelihood'.

In an attempt to reflect the holistic aspects of education, four indicators – literacy, educational qualifications, knowledge and values – are considered to be important qualities of education.

1. Literacy:
   Referring to Ura et al. (2012) a person in Bhutan is said to be literate if he or she is able to read and write in any language, English or Dzongkha or Nepali.

2. Educational qualifications:
   In order to understand education in Bhutan, it is necessary to underline that a Western-style curriculum began in Bhutan in the 1950s. Until then, only a very

few people went to school. Before that, monastic education was the only formal education available. While the Western form of education established a more instrumental approach that remains a key vehicle for productivity, employment and higher earnings, it was considered equally important to recognise and promote the consideration of ethical values as the basis of good educational practice. The link with ethical values also seems to be of instrumental interest. For instance, studies show strong associations between criminality and lack of educational attainment (Lupton & Power, 2005; Fagan & Davies, 2007; Friedman, 2010). The approach, known as 'values education', has been introduced across Bhutan (Ura, 2009). It is also emphasised in Bhutan's constitution which reads:

> […] the country '…shall endeavour to provide education for the purpose of improving and increasing knowledge, values and skills of the entire population with education being directed towards the full development of the human personality. It is therefore considered important for Bhutan that an education indicator includes the cultivation and transmission of values'. (Wangyal, 2001)

Although school education occupies some space in the process of imparting knowledge, there are phenomena outside schools that seem to play equally important roles, such as communities and families (Ura & Zangmo, 2008).

The threshold for sufficient education was six years of schooling from any source, including government, non-formal or monastic schools. Using this threshold, only 37,3% of Bhutanese had attended six years of schooling, due to the fact that schooling and non-formal education began relatively recently in Bhutan. (Ura et al., 2012, p. 141).

The Tenth 5 Year Plan of Bhutan stated that the national goal was to achieve nearly 100% enrolment in primary education. Primary schooling lasts six years in Bhutan, hence six years is the minimum legal requirement.

3. Knowledge.

   This indicator attempts to capture learning that may have occurred either inside or outside formal education. Five variables have been chosen: 1) Knowledge of local legends and folk stories, 2) Knowledge of local festivals (*tshechus*), 3) Knowledge of traditional songs 4) Knowledge of HIV-AIDS transmission and 5) Knowledge of the Constitution.

4. Values.

   Values are considered fundamental for human beings, shaping their character and the choices they make in their lives. Whether values are channelled from educational institutions, from families or communities, traditional values are expected to play a huge role in shaping behavioural changes among the Bhutanese population. Bhutan 2020 (1999) states the desirability of cultivating "….universal values that develop the capacity of our young people to distinguish right from wrong, good from evil, and to lead lives that are guided by moral and ethical choices" (Ura et al., 2012, p. 142)

Obviously the conscious articulation of social and moral values is becoming more deliberate as Bhutan modernises because, as mentioned in Ura et al. (2012), positive values enable people to manage the complexities that arise from the fast changing environment. The Bhutan Report (Royal Government of Bhutan, 2000) states: "Happiness in the future will also depend on mitigating the foreseeable conflict between traditional cultural values and the modern lifestyles that inevitably follow in the wake of development". This is a clearly evident threat, as the market takes its place in society.

Figure 6. Young modern people in the Capital Thimphu

IMPLEMENTING GNH IN THE SCHOOL SYSTEM – DIDACTICS AT INSTITUTIONAL AND MICRO LEVEL – THE TEACHER'S ROLE

Educating for GNH seems to put teachers in complex and mutually conflicting teaching situations where, from a pedagogic and didactic perspective, they have to act and find a balance between teaching students the traditional values of the country, changes and modernity. They must consider their own experiences and understandings as teachers, how to represent specific subject areas, the diversity of student backgrounds and the prerequisites and expectations of parents. At the same time, they must meet societal expectations about providing students with good qualifications. Their main role here is, within the framework of these complex interests and expectations deriving from GNH policies and philosophy, to prepare children and students for their future life in a Bhutan that is undergoing changes in a globalised world. Students, too, in line with the thinking of Educating for GNH, have to learn to be critical and creative thinkers, to possess ecological awareness and to be contemplative learners with a holistic understanding of the world, genuine care for nature and for others and competency to deal effectively with the modern

world. Lastly, teachers are the core persons in preparing children and young people for the "right and good livelihood" (Ura, 2009). These expectations clearly seem to put many teachers in challenging and confusing situations, as can be seen from interviews with teachers in 2013,

> […] we are trying our best, but sometimes we are confused. […] We are all quite sure about GNH in our minds, but when it comes to practice that is difficult. Because we are confused, I think some of us do not practice GNH as much as we are told […] for us it depends upon topic, depends on time and all these things. (Teacher, 502–126)

> […] Schools have become the targets of policy decisions. Health will come, *dzongkhang*[3]/(people from district administration) will come. Just the day before yesterday, there was a mental health programme. Before that there was a rabies workshop. […] a few weeks ago we had a young Bhutanese poet sharing his experiences during assembly time. Students were standing. Most possibly sent by the office of Education Minister to demonstrate that kind of poetic writing. So school has become the hot bed of everyone's agenda […]." (Teacher, 112–160)

The intentions of implementing Education for Gross National Happiness were also to induce changes in age-old teaching habits and to internalise values and customs in every step of teaching and learning. Thus, the 2010 intention of the programme "Educating for GNH" in all schools was to infuse GNH values and principles aiming at developing responsible, thoughtful citizens with the "right" values, skills and knowledge.

Another vision of 'Educating for GNH' is that Bhutan's school system will have GNH-minded teachers and GNH-infused learning environments, as well as access to these for all Bhutanese children and youth.

Educating for GNH is being implemented through five pathways:

1. Infusing GNH into school curricula across all the subjects
2. Broader learning environments – meditation and mind training and creating GNH ambience and atmosphere.
3. Non-formal and informal education
4. Holistic assessment
5. Critical and creative thinking (Educating for GNH, 2009).

As mentioned, the underlying rationale draws on the Buddhist notion of the lama, who is not only expected to teach his disciples how to achieve happiness but is also expected to be a good example for students to copy. In the same way, teachers in Bhutan are clearly expected to be role models for students.

The rationality built on the Buddhist truth are that the lama knows what is best for his so-called devotees and which ways are the most appropriate for transferring this knowledge to them. The lama possesses this knowledge because he is enlightened.

It seems that the same logic is being transferred to the role of teacher, where it is taken for granted that teachers, by virtue of their position, know what is best for students and how students can achieve happiness, and are thus able to guide them. However, teachers are trained for the teaching profession and as such are not enlightened. This raises the question: how can teachers contribute to infusing the educational goals of happiness policies into the teaching and learning processes, unless they are very much aware of the 'noble' intentions and how to practise them in teaching?

Although Bhutan has a long tradition of monastic schooling, 'education' today is understood to mean modern education, taking place in secular schools, carried out by teachers educated in a teacher college. An indication of this can be seen in the Dzongkha[4] term for modern education. In the GNH-school, teachers have to teach their students how to achieve happiness. The idea is that students cannot foster happiness on their own, without the teacher's guidance. Consequently, education and teachers play a key role in Bhutan, as education is seen as an important instrument in transforming GNH philosophy from lofty ideas to reality

> For GNH to survive and flourish as Bhutan's guiding development philosophy in generations to come, it is absolutely essential that its education system is fully transformed to embody and reflect GNH values and principles. (GPI Atlantic, 2009, p. 20)

The infusion of GNH into the school system benefits not only the students. The Government believes that it also has spill over effects into the surrounding community. So Educating for GNH needs to tackle problems in the surrounding community (Ministry of Education, 2010).

Within one year, all Bhutan's school principals were expected to have received GNH-inspired education. And within a period of three years, all Bhutanese teachers were expected to have received effective education within their teaching areas, related to the values of GNH (Educating for GNH, 2009).

Where education policies traditionally only aimed at governing the education sector strictly speaking, the Educating for GNH initiative looked to a wider field. Educating for GNH is also an attempt to govern the schools' surrounding communities through different kinds of activities.

TEACHER CHARACTERISTICS – A THEORETICAL PERSPECTIVE

As we have seen, based on the visions of Educating for GNH, Bhutanese teachers are expected to be among the most important partners and actors in infusing GNH into schools, as they are the ones who daily spend time together with the students and teach them in all aspects.

Figure 7. Teaching in an Upper Secondary School class

All over the world people have a variety of different opinions and feelings towards teachers. This is because all human beings during their schooldays have experienced 'good' as well as 'bad' teachers. Teachers spend a lot of time together with children and students, trying to teach them not only the subjects but also national values, as well as how to behave in society. This forms part of the socialisation process, (see Berger & Luckmann, 1996). American research projects[5] in the Sixties showed that the personal characteristics of the teacher play an important role in how much students learn from teaching. According to their results, personal qualities such as compassion and engagement from teachers mean that students learn more than if the teacher lacks these characteristics. Rogers describes the teacher's role, referring to the German philosopher, Heidegger:

> Teaching is more difficult than learning because what teaching calls for is this: to let learn. The real teacher, in fact, lets nothing else to be learned than – learning. His conduct, therefore, often produces the impression that we properly learn nothing from him, if by 'learning' we now suddenly understand merely the procurement of useful information. The teacher is ahead of his students on this alone, that he still has far more to learn than they – he has to learn to let them learn. The teacher must be capable of being more teachable than the apprentices. (Rogers, 1983, p. 18)

Rogers defines the primary task of the teacher as being permitting students to learn and to feed their curiosity. For many teachers this may mean changing attitudes

and ways of teaching. This may involve enabling students to practice more student-centred teaching and learning. Here, students are more proactive in their learning processes and teachers are more flexible,moving between offering information and mentoring students in their own learning processes.

Roger's approach was based on comprehensive education research in the Sixties. Being human and openly sharing information was valued as some of the most important aspects for teachers. Current research, for instance Hattie (2013), based on year-long, wide-ranging quantitative data, has reached the conclusion that the teacher-student relationship, together with transparent, well described and well communicated goals related to subject matter and class rules, seem to be the most important factors for successful teaching and learning.

As mentioned, teachers in Bhutan are expected to perform a variety of tasks, including teaching students the subject matters and teaching them to be creative and critical thinkers. They must also teach students GNH values and to be decent, happy people, who care for others and for the community – and who in the future, can take part in the national and international development of Bhutan within the philosophy and principles of GNH. Given that teachers are expected to teach students happiness as understood in Buddhism, where everyone cares for each other, this seems to correspond with the findings of Rogers and Hattie.

Now the question is how well are teachers trained, pedagogically and didactically, for having these responsibilities?

Education of teachers does not have a long tradition in Bhutan. The B.Ed secondary programme started in 1983 and the first students graduated in 1986. Revisions and improvements have been going on regularly at college level ever since. According to the Personal and Professional Syllabus Handbook (Royal University of Bhutan, Samtse College of Education, 2010) the latest revision was initiated in collaboration with Paro College of Education in 2007. From 2009, the teacher education programme was extended by one year, and is now a 4-year programme. So in addition to visions of Educating for GNH, there is a wish for future generations of teachers to be professionally well educated and committed to their function as teacher, able to meet the challenges of educating students within the expectations of the Bhutanese government.

As it is a relatively new programme, many current teachers in Bhutan have not undergone this professional teacher training. They cannot therefore be expected to be able to teach based on the values and understandings of the teacher education programme and within the principles of educating for GNH, unless they have recently received education and training on GNH. This, however, is not always the case, as some of the interviews showed:

> […] let's be frank, I don't have much idea about GNH. At the beginning of the year, we got a 4–5 day workshop on GNH. […] GNH is a board topic, and when we say GNH, I think the GNH term is very famous, […] this Bhutanese idea. The concept originated in our country, but we are very poor in terms of

> content and how to follow it. It is pretty difficult, and it might take some time for us to come in terms with GNH values with our students, and they might also take time to grasp it in their own little ways. (Teacher, 404–155)

Another important issue is that, because for many years there was a lack of Bhutanese teachers, an enormous number of teachers from India are currently teaching in Bhutanese schools. These often bring teaching principles from India and use an Indian syllabus and teaching materials.[6] Therefore Bhutan at present is strengthening its strategy for continuously educating teachers to teach according to GNH principles and to use practices such as student-centeredness and formative assessment. At the same time curricula and teaching materials are being revised.

Figure 8. Morning assembly on a Bhutanese school

PROFESSIONALISING TEACHERS

If we focus on teacher education, we can see that Government, principals and staff in teacher colleges seem to be very much aware of the challenges. But what does professionalising teachers involve?

The Australian researcher Ramsden (2003) emphasises that a professional approach to teaching has to be seen in the same light as a professional approach to law, medicine or engineering. It is not enough for a teacher to be professionalised within the subject matters. He or she must be a distinguished teacher as well (see Rogers, 1983). This means that teachers must practice an evidence-based approach to helping students to learn. But what are the consequences of this? According to Ramsden, a distinctive characteristic of professionals is that they retain evidence-based theoretical knowledge within teaching and learning on which they base their

activities. This body of knowledge is more than a series of techniques and rules. On the contrary, it is an ordered pattern of ideas supported by evidence, which a teacher uses to decide on the appropriate course of action, from many possible choices, based on didactic analyses. It is believed that a deep understanding of learning and teaching and their relationship to each other is an essential basis for effective action as a teacher. If we associate this with the findings of Rogers and Hattie regarding the importance of the teacher's personal qualities of compassion, engagement and good student communication, we have a description of a professionalised and human teacher. In accordance with the content and structure of the teacher training programme at Samtse, student teachers obviously are trained and may be prepared to teach their subject area on evidence-based foundations, within the context of Educating for GNH.

Figure 9. The entrance of Samtse Teacher College

A TEACHER'S PERSPECTIVE: CHALLENGES OF PRACTICE THEORY

Having clearly defined the figure of a professionalised and human teacher, we now have to face some challenges regarding teachers' background and experiences and students' expectations and experiences. Teachers typically have many years' experience of being (successful) students and have gone through a sort of 'passive apprenticeship' during their own education. The long years spent as pupils and students at school, college, and perhaps university may have an impact in the form of 'apprenticeship of observation' (Zeichner & Tabachnick, 1981) – meaning that the teaching methods applied in these settings will have an important influence on the values and practices of the trainee teacher. This will form part of the resources of the teacher's practice. All teaching and supervision will be based on the individual teacher's so-called "theory of practice" (Lauvås & Handal, 1997), which can be at a unconscious level. This means that the knowledge and experience of education

and teaching gained throughout life will form the basis of a person's personal, often unconscious theories on and understanding of teaching. This individual and personal theory of practice is, according to Lauvås and Handal (ibid.), subjectively the strongest factor influencing teaching practice. It has decisive importance for the choices the teacher makes at an often-unconscious level. It also means that personal and subjective understandings of what constitutes good and effective teaching are crucial for the teacher's way of relating to students, choice of priorities to be taught within the subject area and methods applied in teaching practice. The teacher's theory of practice is challenged in the encounter with students and colleagues who, of course, possess other personal and subjective theories of practice, representing other attitudes, values and traditions. Some teachers may be conscious of their personal theory of practice, but others are evaluated by students as teaching in very sound and appropriate ways, without being able to explain the rationale behind their practice (Krogh, 2010; Krogh & Jensen, 2011). This shows the potentials of complexity in teaching situations and what you do together with students and how it is received by students and by colleagues. In Bhutanese schools there seems to be a certain collision between the philosophy for Educating for GNH, including new goals, aims of student-centred learning and new assessment forms and how students have been taught before. Some teachers in Bhutan, therefore, will need to put effort into changing their attitudes towards students and ways of teaching.

SOME EXPERIENCES FROM BHUTANESE UPPER SECONDARY SCHOOLS

Following interviews with principals, teachers and students from 8 upper secondary schools in Bhutan, we realise that there is still a long way to go, although school leaders and teachers generally seem to do their utmost to understand the ideas of Educating for GNH and to practise them.

Some principals and teachers regard the GNH strategy very much as a process coming from top and emerging through Government to schools and to leaders, then on to teachers and finally from teachers to students, without participants really being involved in decision-making processes. Therefore it can be a challenge to implement the strategy in schools, as most of the staff perceive it as a top-down approach and consequently do not feel much ownership of the strategy:

> I have to be frank, […] it is not bottom-up but top-down. In a way sometimes as an administrator it is difficult to incorporate it (GNH) into the system […]. Maybe it is the noble vision of His Majesty our king, but in practical terms I must accept that it is very difficult to inculcate any expectations of our noble vision". (Principal, 306–32)

However, there are also examples where principals say that they do not find it difficult to infuse GNH into the staff. The big challenge here is clearly to transmit it to the students. Regarding staff, one principal said that he tried to act as a role model

by practising and showing how GNH may be infused. And he expected teachers to act in the same way with the students.

Many staff members clearly feel confused with the GNH ideology being introduced in the schools and they do not feel themselves well enough trained to implement it. Furthermore, as GNH has been introduced only recently (from 2010), some of them find that it is too early to make much comment on it.

Many teachers strive towards integrating GNH principles as far as possible in the teaching of all subjects. However, typically they find it easier to infuse GNH values and attitudes when teaching subjects like languages, economics and some sciences than when teaching maths. One teacher told us that all the GNH pillars and domains are difficult to apply in the classroom and in lessons:

> When I am teaching addition and multiplication, if the students pay attention to the negative and positive signs and multiply correctly, I feel some sort of GNH value infusion is taking place, although we cannot identify the separate pillars. It is very difficult but somehow or other with different activities in schools, we are infusing GNH in teaching and learning processes. (Teacher, 106–95)

It seems as if the happiness element must always be present, as an integrated part of everything going on in schools. Most teachers, therefore, try the best they can to address the issue of happiness, where it fits reasonably into the subject being taught. Some, however, also seem to be a little frustrated:

Other teachers seem able to naturally include the matter of happiness in their lesson:

> The concept of GNH is not discussed separately but merged with the specific content taught […] So when we are discussing the topic 'electricity', we also discuss how to conserve electricity. (Teachers, 204–32)

> The concept of GNH is not taught separately; rather it is infused in the content taught. Likewise I practise the concept of GNH in the classroom by allowing students to interact openly with me, by respecting their ideas and thoughts and by showing a caring attitude to the students. I also ensure that the classroom is clean, hygienic and conducive to learning. (Teachers, 104–41)

Here the teacher seems to act as role model and as 'human teacher', supporting students in sharing their own ideas about the topic.

When teaching democracy the teacher can create a link with GNH by, for instance, emphasising that true democracy can lead to successful Gross National Happiness in Bhutan. Some students appeared to be convinced that freedom of the population can lead to wellbeing for the entire nation.

It is striking that some principles of GNH may be already embedded in the teaching material. Some teachers note that they have been practising GNH values for a long time, only to find it now in education policy and planning. It has become a

'brand', as one of them says! This clearly makes it difficult for some of them to take it as seriously as should be expected.

CONCLUSION

In the chapter two essential issues have been addressed: do GNH policies in themselves create happiness? And, is incorporating GNH in all subjects too challenging?

To do this, the concept of GNH has been unfolded and related to the development of Bhutan over the last decades. We have tried to understand its implications for education development and the importance of teachers' roles in educating future generations to participate in the continuously ongoing development of Bhutan, while maintaining a balance between old Bhutanese traditions and participation in and influence on global development, within the concept of Gross National Happiness. The former Prime Minister Thinley names education as the key and the glue that holds Bhutan together (Ministry of Education, 2011, p. 3). The National Education Framework has stated that the goal of Bhutanese education is: "Equipping people with the knowledge, skills, values and attitudes that are required to promote a distinctive Bhutanese identity, maintain unity and harmony and ensure political stability" (Royal Education Council, 2012, p. 2).

Of course this has put lot of pressure on the teachers and we have found that teacher college programmes are structured and designed to prepare future teachers for participating in this developmental process with students and the surrounding society as partners. On the subject of teacher training, we emphasise the necessity of a professionalisation strategy, that is, that teachers must be able to teach, using evidence-based knowledge and experiences of teaching practice and learning. They must be "human teachers" (Hattie, 2013; Rogers, 1983), able to support students in taking responsibility for being active and reflective in their own learning processes. Making GNH policies something more than political and qualifying school teachers to integrate GNH into teaching different subjects means that it will be necessary over time to ensure that all teachers are offered the opportunity for continuously developing their abilities and competences, so that they will be able to meet the strategies defined in the GNH policies. As far as we can see, the teacher training programmes in Bhutan are in many ways aiming at doing this. But we find that it will be important to integrate this approach further in teacher qualification activities. Our concerns are on how teachers of all kinds in schools can be further prepared for the task of educating for GNH. Here, we underline the importance of developmental programmes to raise awareness among the current teaching body on practising the principles of Educating for GNH, if Bhutan wishes to achieve a successful balance between being a country that follows the noble principles of GNH and one that also plays an important role in global development.

NOTES

[1] There are two ways of becoming an enlightened lama in Bhutan, you can either be born as a lama or you can become a lama through education and meditation.

[2] A team of researchers was established for each of the nine domains, and each team developed a set of statistically sound measures for its domain. For instance, a researcher with a psychology background and two researchers with a statistic background developed the psychological wellbeing domain. The compilation of the teams' work resulted in the first GNH questionnaire in 2005 (Braun 2009).

[3] Dzongkhag means district.

[4] Dzongkha is the national language of Bhutan.

[5] D.G. Ryans. Characteristics of teachers: Their description, comparison and appraisal: a research study. Washington D.C. American Council on Education, 1960.

[6] A process of revising syllabus and teaching materials based on GNH principles are in process.

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Lone Krogh
Department of Learning and Philosophy
Aalborg University

Krishna Prasad Giri
Samtse Teacher College
Royal University of Bhutan

ANNIE AARUP JENSEN

4. HOW DOES IT FEEL TO BECOME A MASTER'S STUDENT?

Boundary Crossing and Emotions Related to Understanding a New Educational Context

ABSTRACT

This chapter examines, from a student perspective in Higher Education, the emotions and feelings that students may experience in a new educational context. Through a specific case – a master's programme with a diverse student population – students' emotions are analysed and interpreted from a socio-cultural perspective and categorised according to Pekrun's (2014) four types of academic emotions. The findings show that boundary crossing, i.e. from one educational context to another, triggers in particular negative epistemic emotions (cognitive problems related to understanding the institutional logic and discourse) and related negative achievement emotions (fear of failure) during the first semester. A higher degree of explicitation and negotiation of meaning is suggested as a pedagogical solution to this problem.

INTRODUCTION

Entering a study programme at master's level in Denmark means that you are not fresh out of school, but have a variety of experiences from the bachelor's degree and often also from job settings in study jobs or full time employment. Students have self-images and understandings of their abilities, skills and competences. Coming to university implies risks, challenges the learning identity of the learner and questions the transferability of competences (Christie et al., 2007). From a socio-cultural perspective, a university and a study programme may be understood as an activity system with its own logic and communication/discourse system (Säljö, 2003). This means that newcomers must learn to understand the system and the discourse and translate their understanding, knowledge and skills into that framework, in order to situate themselves within the system.

The process of meaning-making is essential to adult learning processes (Mezirow, 1991). When meaning-making becomes difficult, if for instance you struggle to understand what is going on in an unfamiliar setting, or you as a learner are faced with subject-related issues that seem to offer no clues helpful to understanding, the situation may lead to an emotional response such as feelings of confusion,

B. Lund & T. Chemi (Eds.), Dealing with Emotions, 61–80.

uncertainty, self-doubt or even anger or, in a different vein, feelings of curiosity and interest. On the other hand, when meaning is created, whether it is in the form of an *aha* moment, or through hard cognitive labour, the emotional response may be of a positive nature, like relief, feelings of self-confidence or joy. In these cases, the emotional response to the situation may be a strong motivational driver for (continuing) learning processes, but may also present an additional challenge for the learner who has to overcome the feelings or learn to deal with them. Students coming to university for the first time may experience the change in learning style and culture from what they have been used to so strongly that it amounts to what Christie et al. (2007, with reference to Griffiths et al., 2005) term a 'learning shock'. In addition they may feel bewildered and dis-located.

Research into academic emotions, i.e. emotions related to students' learning processes, concludes that emotions influence students' knowledge and skills, and vice versa (Pekrun, 2014; D'Mello & Graesser, 2011). Furthermore, students' emotions and feelings have an impact on their learning processes and learning strategies (Pekrun, 2014). Students in student-centred learning environments who experience feelings of insecurity, uncertainty, anxiety, fear of failure and low self-esteem are reported to be more likely to be oriented towards a surface-learning approach. This means that they focus on reproduction and memorisation (rote learning) rather than on reaching a deep understanding of the subject in question (Ibid.). The latter approach is termed a deep-learning approach (Marton, 1976; Säljö, 1975). In a recent study M. Baeten et al. (2010) found that students are more likely to adopt deep-learning approaches, as opposed to surface-learning approaches, if they feel self-confident and show high self-efficacy (M. Baeten et al., 2010). Furthermore, feelings of stability and being able to see the relationship between the study programme, the assessment and the student's future practice will also prompt students towards deep-learning approaches.

On the one hand boundary crossing, i.e. coming from one educational institution or activity system to another, may offer strong learning possibilities (Engeström, 2003), but on the other hand, the emotions triggered by this process may be counter-productive to deep-learning processes. In view of the relation between quality of learning and students' feelings (Baeten et al., 2010), it is important to understand the character and the rationale behind these feelings in order to consider the pedagogical options for supporting deep-learning approaches.

This chapter will investigate whether students' emotions, analysed and interpreted from a socio-cultural perspective, might suggest new understandings of the problems reported and the triggers involved, indicating some pedagogical solutions. The question will be studied through a specific case, a master's programme with a diverse student population in terms of age, educational background and job experience. The study programme is situated in a learning environment with a group-oriented study tradition, where collaboration and social learning forms a substantial part of the theoretical foundation of the pedagogy.

THEORETICAL FRAMEWORK

Pekrun (2014) operates with four categories of academic emotions which are relevant for student learning: achievement emotions relate to success and failure with activities (e.g. contentment, anxiety, frustration); epistemic emotions relate to cognitive problems (e.g. curiosity, confusion, surprise and frustration); topic emotions relate to the topics students work with (e.g. empathy); and social emotions relate to teachers and peers (e.g. pride, shame, jealousy, love, compassion, social anxiety) (Pekrun, 2014, p. 8; D'Mello & Graesser, p. 2). Social emotions are particularly important in collaborative educational settings.

A key point in the socio-cultural activity theory is that communication and interaction between people are essential in all learning processes, and it is through communication that socio-cultural resources are created. Learning is understood as acquiring the resources for thinking and being able to carry out the practical projects which are part of our culture. Becoming able to use tools and artefacts in a broad sense is part of the learning process (Säljö, pp. 22–23). Language is regarded as a collective tool for action and as such a resource, which is developed prior to the individual's thought processes. The existing discourses lend themselves to the individual's thinking and at the same time are the tools with which the individual thinks and speaks. In this perspective, learning means to be schooled in understanding and making use of discourse systems (ibid., p. 251). Each institution, in this case, educational institution, will have its own discourse and communicative logic, and learning means to acquire this particular discourse and be able to navigate within this communicative framework.

One important point about learning, in this perspective, is that learning and learning difficulties are not to be understood as individual properties or capabilities, or to be seen as an indication of the individual student's cognitive capacity. Instead they should be perceived as difficulties in handling and acquiring particular forms of communication. This difficulty arises because the individuals are not able to easily connect with the communication forms and relate them to their daily life experiences (Säljö, 2003, p. 237). In other words the communication becomes too abstract.

The students in this master's programme are coming from one educational practice to another, from one activity system to another and it might therefore be relevant to conceive of the situation and their challenges as related to the concept of 'boundary crossing' (Engeström, 2003). Boundary crossing in this understanding is a potential learning situation, if the following sequence of actions is taking place, ideally:

- questioning, challenging and rejecting existing practices across boundaries
- analysing existing practices across boundaries
- collaborative, mutually supportive building of new models, concepts, artefacts or patterns of conduct across boundaries
- examining and debating suggested models, concepts, artefacts or patterns of conduct across boundaries

- emulating and appropriating new ideas, concepts, artefacts or patterns of conduct across boundaries
- negotiating, bartering and trading of material or immaterial resources related to new ideas, concepts, artefacts or patterns of conduct across boundaries
- reflecting on and evaluating aspects of the process across boundaries
- consolidating the outcomes across boundaries (Engeström, 2003, pp. 4–5).

Boundary crossing in this sense represents a powerful learning potential as it might lead to expansive learning. Expansive learning is the concept or metaphor for learning developed by Engeström, which is based on the premise that learning is neither just a case of acquisition, nor solely a question of participation. The "learners learn something that is not yet there" (Engeström & Sannino, 2010). This means that the learners themselves construct the object of their learning process, work on conceptualising it and then move on to implement it in practice. This process is understood as a collective activity. In Engeström's work this theoretical understanding is primarily related to activity systems such as workplaces and institutions. Boundary-crossing actions, if they are to be labelled as such, must be two-way interactions, which means that both sides must display commitment and be engaged in the process. Furthermore, in order to be expansive, the process should result in a transformation of the activity systems involved.

BACKGROUND OF THE STUDY

Aalborg University, which is the framework for this investigation, is a PBL (Problem Based Learning) university. The students in the programme in question are young adults, though some a little more mature having had work experience.

The context of this study is a two-year full time master programme in learning and innovative change. The admission requirement is relatively broad, which results in a diverse student population holding academic bachelor degrees (e.g. in languages, sports science) as well as vocational bachelor degrees in areas such as teaching, nursing, nutrition and health, physiotherapy. Some are mature students who have been practicing as primary school teachers, nurses, consultants and so on for a number of years, before returning to get a master's degree. The result is a diversity of students with respect to subject field, age, work experience, study competence and experience with study forms in academic environments.

The study programme is, as mentioned, based in a PBL university so the pedagogical approach to learning is problem-based project-organised group work with supervision. This means that the students are encouraged to work collaboratively and thus benefit from each other's knowledge, skills and competences and support each other in their learning processes (Lund & Jensen, 2012; Lund & Jensen, 2011). The problem-based project-work in general runs through an entire semester (one project each semester) and accounts for 50% of the student workload.

As a compulsory part of this study programme, students participate in an individual Student Development Dialogue (SDD). The SDD model is an encouragement for students to focus on and reflect on their individual development in relation to the study programme, on how to integrate their specific bachelor education in studying for the master's, on how to become aware of their wishes for a future professional profile and to determine how to realise their ideas (Lorentsen, 2008). When introduced into the master's programme in 2005, the idea of a student development dialogue was a novel initiative in a Danish educational context.

The rationale behind introducing SDD to the study programme was to support students' learning and development processes, to help students understand the study programme and its possibilities in relation to their specific background, experiences and wishes, and to facilitate the students' ability to be explicit about their knowledge, skills and competences through the reflective processes, or, to put it differently, to facilitate the students' meaning-making processes.

The general characteristics of this method are that it is based on a developmental perspective, in the sense that students take stock of and assess their own progress in order to plan further development. The plan is based on an identification of wishes and needs for development, which is the result of a reflective process prior to the meeting, and clearly defined steps have been devised to support this process. Students have ownership of the process – this means, for instance, that the student sets the agenda for the meeting.

The student development dialogue takes place three times during the master programme, once each semester (7th through 9th semester). The point of departure for each dialogue is an SDD-form with a number of questions to spur the students' reflection in preparation for the dialogue. The SDD-form reflects the formal requirements for each semester as well as the overall progression of the study programme.

The dialogue partner is a teacher or supervisor connected with the study programme, and the meetings are strictly confidential. The term 'dialogue partner' was chosen to indicate that the relationship is intended to be as equal as possible, and that the dialogical form is the foundation for development. The role and ethics of the dialogue partner are taken very seriously, and it is ensured that the dialogue partner will not appear as either project supervisor or examiner for the student.

The idea is that students actively study the formal goals and intended learning outcomes of the study programme as they are stated in the study regulation, make an effort to interpret them and relate them to their own background. Based on this reflection, students describe in the SDD-form their competences as they see them, and the visions, dreams or plans they entertain for their future professional life. When filling in the preparatory form for the dialogue meeting, students will, to varying degrees, include not only various aspects of their thoughts and reflections, but also the feelings or emotions they are experiencing at that particular stage, as expressed by student N,

> My Student Development Dialogue went well and it was nice to have the SDD-partner to talk to about the study programme. There were many frustrations being a new student at the university and when you have never attended this kind of study programme before… (Reflections in SDD-form after the first meeting, N, 7th sem.)

From a socio-cultural perspective, the Student Development Dialogue may be understood as a process through which the activity system, i.e. the university and the specific study programme, offer newcomers a dialogue partner who might assist in introducing them to the discourse and language of the study programme and with whom they can negotiate understanding of the discourse of the institution. The dialogue partner is also someone to talk to about problems that might be related to understanding that particular discourse and the inherent institutional logic. From a socio-cultural perspective, it is considered valuable to have a competent dialogue partner to support newcomers in the process of making their cognitive contextualisation coincide with the institution's discursive contextualisation (Säljö, p. 45).

Based on the written data material, this chapter will study the students' self-reported feelings and emotional development during the first semesters of the master's course. The research focus here is on the types of emotions involved in becoming a master's student in that particular programme and the learning processes that this may provoke.

EMPIRICAL DATA

The empirical data consist of 132 written SDD-forms prepared by students in semesters 7 through 9 of their master's programme, documenting some of the emotions and feelings expressed by the students. The data cover a period from 2007 to 2010, i.e. 4 cohorts of students, each having participated in 3 dialogues.

Researching emotions in education may be challenging because of the ethics and of the problems of getting insight into students' thoughts and reactions (Schutz & DeCuir, 2002). In this case, access to the informants' emotions and feelings was by means of their self-reported emotional status. The interpretation of feelings and emotions and the choice of words to describe them rest, therefore, with the informants and represent the result of a reflective process. It is not a question of researching spontaneous expressions of emotions and feelings, but rather statements, which have been critically thought through during the students' preparation for their Student Development Dialogue. This reflective process leads to the students' appraisals about the world, their goals (i.e. considering past, present and future in relation to the education in question) and, through this process of transactions with the world, emotions emerge (ibid., p. 126). It is thus the result of a process with cognitive dimensions.

DATA COLLECTION AND ANALYSIS

The method of analysis of the study is document analysis, in the sense that the texts analysed were not produced primarily for research purposes and the researcher was not involved in production of the texts (Lynggaard, 2012), i.e. the preparation forms for the Student Development Dialogue.

The preparation form filled out by the students poses some overall questions and themes regarding the study, the students' interests and ambitions and their assessment of own competences in relation to their study. The individual student decides what to put forward, what to focus on and, most importantly, the degree of detail of the written answers. In this study, the students' accounts of their emotional responses and/or reactions to their learning situation are taken as an indication that these particular issues are experienced to be of great importance for the students at that particular time and are therefore possibly of importance for their learning and development, since they choose to be explicit about them and bring them up for discussion in the meeting with the dialogue partner.

The data have been analysed from the socio-cultural perspectives of language and discourse as an indication of contextualisation and integration into a new activity system, and boundary crossing as a potential expansive learning situation (Säljö, 2003; Engeström, 2003). The emotional aspects have been decisive in the selection process, as the focus has been on material exhibiting expressions of feelings and emotions, thus indicating the degree of importance to the students, be they positive or negative feelings (Pekrun, 2014). A process of discourse analysis (Phillips & Hardy, 2002; Silverman, 2001) has been combined with categorisation of the emotions expressed, according to Pekrun's four types of academic emotions (ibid.).

A limitation of this research method is that students who have not expressed feelings in their SDD forms might indeed have experienced emotional reactions or faced challenges and may have discussed this during the face-to-face meeting with their dialogue partner. This is, however, not recorded and thus not accessible for analysis.

FINDINGS

The data show a general pattern – that students refer to feelings of 'frustration', 'confusion', 'chaos', 'uncertainty' and the like during the first semester (7th) of the programme. By the next semester (8th) the picture will have changed and there are fewer expressions of that nature. The negative emotional feelings will to a large degree have subsided and be replaced by positive emotions and feelings of confidence.

Boundary Crossing and Expansive Learning

As was indicated in the above quote from student N, the diversity of student background in the study programme means that many students feel they are facing a new study environment, with requirements for them as students that may be unfamiliar and demanding, perhaps even daunting. They are, as mentioned, coming from one activity system to another, which means that the knowledge, skills and understanding they have, have been formed by and in the context of previous activity systems (Säljö, 2003, p. 152 ff.). As Säljö points out, transferring knowledge, skills and understanding from one system to another is by no means unproblematic because each system operates based on different preconditions and with different logics. A translation process is therefore needed (ibid).

Some students come from another type of educational institution (e.g. university college) and are going to university for the first time, so they face different and unexpected demands and requirements. Among these, is the fact that students must be able to create their own vision of the functions and jobs they are aiming to qualify for during the study programme. Most master's programmes do not aim at any one specific profession and the job profile and labour market is consequently less well defined,

> As described in previous SDD-forms, the 7th semester was for my part characterised by a lot of turbulence and uncertainty regarding whether this study programme was the right one. Coming from a vocational bachelor programme with a clear job profile to the university where – to a much larger degree – it was up to me to shape the education was a bit of a shock. (R, 9th sem.)

The unknown future prospects and the demands – or freedom – of the student to create his/her own direction (to some extent) was clearly felt as a heavy burden, which made the student question his/her choice of education. Studies show (Greenbank, 2014) that students often defer reflections about career path and options until the very end of their education, and in cases where the master's programme is a continuation of the bachelor programme, they will not necessarily be confronted with that question before graduation. They may, however, have deliberately chosen to do a master's degree at university as the result of some reflections and ideas on which options this transition might entail. From a socio-cultural perspective, one issue here might be the change of institutional logic. They are coming from an educational institution that teaches and educates for a specific job type and professional career. It thus offers a discourse of a specific profession, related to concrete job functions which the students may have encountered in practice during their upbringing and which are integrated as a part of their education in the form of internships. The students are therefore able to communicate in the institutional discourse related to that professional area, and have concrete images of that. At university they are faced with the lack of a discourse aimed at one specific professional field. Instead,

students are offered a number of theoretically founded discourses which they must then try to understand, without having a specific, related practice area. At the same time, they must try to imagine a professional context that might be relevant for themselves. This is a double challenge, since the students may not yet know what kind of career they will opt for and, for good reasons, do not yet have insight into the professional areas they might wish to pursue. Consequently, they are not able to relate the theoretical discourses to any specific part of reality. This phenomenon is in fact what the following student describes,

> The thoughts I have been having have mostly been about the fact that I find myself in a very frustrating phase, because I feel that I am learning a lot, but at the same time I have difficulty in putting into words the learning and the competences I am developing. This is also related to me having a hard time defining what I precisely would like to benefit from the study programme – that is, what I want to do once I have finished my degree. When I do not have a more or less specific practice context to relate the competences to, I find it difficult to assess what I really learn and what I may use it for. (CC, 8th sem.)

In this case, the feelings of shock and frustration might be understood as related to the student's initial struggles to grasp the task that (s)he[1] has to take on in constructing a new and unknown object for the learning, which would be the first step in an expansive learning process. This problem might be understood in terms of the student lacking a 'horizon' to aim for. Christie et al. (2007) describe this phenomenon with reference to Hodkinson: "…Hodkinson (2004: 7) argues 'horizons. are influenced both by opportunities which a person has access to, and also to a person's perception of self, of what they want to be, and of what seems possible'." It appears to be a lonely struggle, since one important aspect is missing here, namely, the collective effort of sense-making. In both cases, the academic emotions produced may be categorised as epistemic emotions triggered by cognitive problems.

Students may experience conflicting logics between their previous education and the present study programme when it comes to interpretations and particular understandings of, for instance, the use of methods for doing research, analysis and so on. Entering a new educational/learning culture (activity system) might mean that some of the concepts and learning methods are interpreted differently from what the students have been used to.

> It has been hard to write a project because I thought it was my strong side, but the content and the argumentation turned out to be different from what I was used to. So I have been held back by myself, because I sometimes could not or would not understand other options, because I thought I had cracked the code regarding writing a project. (L, 8th sem.)

For student L, too, it is a question of epistemic emotions. In this case, the student also explicitly refers to problems of understanding the logic, the institutional discourse, here referred to as 'the code'. This may result in some kind of disorientation and

perhaps even a struggle to give up or set aside previously learned methods and understandings, in order to accept and try out new approaches. This student expresses the nature of the struggle when stating that the problem was just as much a lack of willingness to adopt a new logic. The student had an understanding of being a person who, having mastered the art of project writing, was suddenly confronted with a logic, which – if accepted – took away that mastery. Research in adult learning processes states that it is imperative for adults to feel that they are regarded as professionally and personally competent persons in order to be able to enter into learning processes. They must experience stability in their self-image (Nørlem-Sørensen & Marstal 2005). From a boundary-crossing perspective, the student seems to be stuck in the first step of the process – 'questioning' – and rejects the existing practice of the new context. (S)he does not seem to be able to find common ground with existing practice in the previous context, nor does (s)he find motivation or interest in moving on to the next stage, 'analysing the existing practices', which might have provided some insight into the rationale behind the respective methodological approaches. This phenomenon could be interpreted as a case of resistance to the learning situation (Illeris, 2003), which in fact contains an important potential for expansive learning. In this case, too, it appears to be a lonely struggle, where a collective effort as described in the next step – 'collaborative, mutually supportive building of new models, concepts' – might have helped the student.

The pedagogical issue here might be how to make students aware that what they have learned before is not necessarily wrong, but that they have entered a new context with other learning goals – and that this calls for new/other methods, in addition to what they already know. A question might be who "the collective" should be and, in the context in question, an answer might be the project group together with the group's supervisor as a representative of the university/study programme.

In the following quote, the problem of entering a new professional field is directly related to learning a new discourse and terminology. The student gives an account of the strategy (s)he applies in order to try to overcome this challenge. The student deals with the problem by handling it in a systematic way, in an attempt to support the learning process,

> As it has been a completely new field, I find that the study regulation has been a bit overwhelming. There is a lot we have to do… I must navigate in an entirely new professional terminology, and I try continuously to form mental structures where the many concepts are 'implemented', so that I may keep an overview of what we are learning. (AA, 8th sem.)

The feelings which the student reports as a consequence of this situation are of being overwhelmed (epistemic emotions). These feelings are being kept in check by conscious efforts to deal with them through cognitive strategies, where the student is working consciously with the new conceptual framework, based on an understanding that this a central key to moving into this unknown universe. At the same time, it appears that the student at this point is actively using elements of

the discourse of the study programme ('form mental structures') in the account. However, if the statement is considered from the boundary-crossing and expansive learning perspective, this process shows little in terms of questioning, examining and debating, looking more like an assimilative and perhaps accommodative process. On the other hand, new ideas may have been emulated and resources may have been related to this and negotiated during the processes. The interpretation of the statement is not unequivocal. Again, this example very much points towards an individual approach to working with the challenges. Below we will look at the role the collective plays or could play.

The Class as a Forum for Emotions

When entering a new educational context, students try to situate themselves within that context and determine their own subject-related strengths and weaknesses. The process of mastering the academic and professional resources of that context is in part also a process of becoming gradually able to determine their own competence. The class may be one of the first places where the students encounter the subject area and the related discourse, where they start assessing themselves and their fellow students based on communication and interaction. The following statement from a student in the first semester of the programme (7th semester) shows both his/her interpretation of the competences of fellow students and how this interpretation is used as a measurement to assess own competence,

> Became insecure because many of the others in class know more at the moment than I do about the subject area. (Z, 7th sem.)

At this stage, it is fair to assume that the assessment is primarily based on a perception of how well other students seem to master the discourse within the subject area and to what extent they participate in the interaction and communication. The perception of fellow students' mastery of the discourse is interpreted as an indication of their knowledge level by the student, which leads to feelings of insecurity. The emotions expressed by Z seem to combine achievement emotions (fear of failure) and social emotions (social anxiety). The next example shows how the act of increased participation in the oral/verbal activities is understood as a positive development,

> I have become better at participating in oral presentations and discussions in class. So the very act of daring is clearly improved. … I dare do more than I did, when I came. (L, 8th sem.)

Speaking in public or in class is often perceived as intimidating, and much might be at stake (e.g. the fear of losing face) if one does not feel that the environment is supportive and friendly. For adults, in particular, the stakes are often high since their self-understanding may be in a process of change (Knowles, 1970). Overcoming such fear might in itself be considered a triumph and a positive development (achievement emotions). The student's growing courage to increase participation

would from a learning perspective at the same time provide additional opportunities for increasing learning through the change from passive to active participation and from receiving to producing knowledge.

The final example illustrates a phase in the process of self-assessment undertaken by the individual in comparison with fellow students, where the student has reached a level of self-confidence and thus is at ease with his/her situation in the context. It appears that it is through the communication in that context that the student measures his/her own levels of competence,

> My subject-related competences definitely meet university level! In the end this was confirmed in the exam, which went really well, but I also have the experience that I am on equal terms with the others in the class, so that speculation/worry is gone. (K, 8th sem.)

In addition to the measurement against fellow students ('on equal terms with the others in the class'), there is the formal assessment undertaken by the system ('the exam') – and, from the statement, it appears that both' systems' (fellow students and the study programme) play important roles in the student's self assessment and understanding of what' university level' means as a criterion for competence. The statement shows that degree of mastery is evaluated based on the collective discursive community (the institutional logic). The student at this point feels confident in mastering the intellectual resources and in being able to self-evaluate. There is no feeling of insecurity. The academic emotions expressed here may be categorised as achievement emotions (confidence and pride related to success).

For other students, the process of self-assessment is harder and they continue to struggle with the challenge of situating themselves and their competence in the educational context,

> The worry whether the work I do on my own is good enough. (D, 8th sem.)

This student does not appear to master the discourse or the resources sufficiently to be able to assess him-/herself as was the case with student K, even though both students are in the same semester in the programme. In this case, the social context and feedback is still necessary for the student to achieve some degree of confidence. The emotions in this case are also categorised as achievement emotions (anxiety of failure) and epistemic emotions (insecurity related to solving non-routine tasks).

Group Work as a Context for Emotions and Learning

Comparison with the other students may lead to more than feelings of insecurity, for instance, if students feel that they are unable to adapt to the logic and make use of the resources as swiftly as the other students do. In group work, the extent to which an individual group member measures up to the rest of the group quickly becomes evident,

> …I somehow have a feeling that I am the one behind in the group, because everybody else accomplishes more than me. I immediately feel that I am stuck and get doubts about how to move on. … But I feel pressurised by the fact that the others do so much more than me. (M, 7th sem.)

Student M expresses negative feelings related to achievement (fear of failure in meeting the standards), epistemic (not knowing how to solve the problem/task) and social emotions (feeling pressured). Implicit standards/norms governing group work are formed through the degree of active participation displayed by the group members and the extent of contributions provided. Perhaps the lack of an explicit norm for the group work emphasises the problem in this case. An explicit and negotiated agreement on the framework of group work might have legitimised student M's contribution and made it acceptable. The student appears to measure fellow students' contributions by their quantity, which causes the student to feel unable to live up to the implicit expectations. But other criteria, such as academic quality, might have been an equally relevant standard to go by. Understanding the discourse is important. It is likewise important to be able to apply the discourse in the different learning scenarios and thus create visibility and transparency, allowing students to identify the communication ground rules and enabling them to master them. In practice, this means negotiating the meaning in detail, since all group members may have their individual interpretation (Nørlem-Sørensen & Marstal, 2005).

From a pedagogical perspective it is important for project work in groups – conceptual framework included – to be thoroughly introduced, both theory and practice. Since this learning method (PBL) is a central characteristic of our university and study programme, it becomes essential to facilitate fundamental understanding of all aspects of the method, in order to avoid or at least reduce the students' uncertainties and doubts. In this particular case, it would mean that the students should be able to address issues relative to studying and working together in groups, such as how to plan the work, to fine tune mutual expectations and so on. It would be important to create learning sessions where students can formulate and discuss their own previous understandings of the concepts, as they are coming from a variety of educational institutions and study programmes. These sessions should also provide the opportunity for students to discuss the understandings and interpretations inherent in the logic of this study programme because it may not coincide completely with their own. From a socio-cultural perspective, this could be termed as a question of discovering to what extent the individual's cognitive contextualisation coincides with the institution's discursive contextualisation (Säljö, p. 244). If the group were to initiate a process of developing and negotiating their own guidelines and rules for collaborative work, they might in fact be embarking on a potentially expansive learning process.

The learning processes and their outcome are not always immediately visible to students, but social contexts such as group work may provide the opportunities both for the learning processes to take place (through communication, discussion,

negotiation), and for students to become aware of their own development and learning outcome,

> There were many concepts and much theory to be read and understood, which at times created some pressure. I have however seen that I understand and know more than perhaps I myself felt, for instance, when contributing to group work. (F, 8th sem.)

The institutional logic of project and group work requires participation, and the group offers a framework where the student has to be active and productive using the intellectual resources and tools of a specific subject area. This means that the student is challenged into making – or trying to make – contributions, which display understanding and are not just reproduction of existing knowledge. This process supports the learning process. These contributions will be discussed and further negotiated within the framework of the group – another process of enhancing understanding of the discourse of the subject area. Student F found that group work elicited knowledge and understandings of subject areas that at that time resided perhaps more in the form of tacit knowledge. And the experience of applying knowledge and understanding in group interaction supported the student's insight to his/her level of competence. The pressure experienced by student F seems to have been compensated by the experience of mastery of the subject area, which F achieved. These may be categorised as achievement emotions and epistemic emotions related to the discovery of own knowledge.

The group, consequently, may serve as a place where the individual student becomes aware of own competences. In addition, the data show examples of the group being used as a forum for developing specific behavioural strategies for the benefit of the collective process,

> Regarding my stubbornness, I have been conscious that in our group work I should try to yield, instead of becoming grumpy and tired of it. I have basically succeeded, but I definitely still have to be conscious about it. (H, 8th sem.)

In this case student H has become aware of the importance of his/her ability or reluctance to negotiate meaning, and how it affects the work processes and his/her own feelings. The student trains him-/herself to rein in certain emotional reactions in order to improve particular aspects of the collaboration process. Student H shows signs of social emotions (consideration). From a pedagogical perspective this shows some of the demanding aspects of group work and the potential of transformative or expansive learning.

The Individual – Taking Ownership of Learning and Development Processes

From the perspective of the individual student, entering a new study programme may give rise to feelings of both excitement and apprehension regarding the learning journey ahead,

> To dare to move into unknown territory and believe that my resources and potentials will carry me through unscathed. (E, 8th sem.)

The quote is from a student reflecting on the feelings (s)he had when embarking on the master's study programme. A great deal is required of students in terms of faith, belief and self-confidence from the very outset, in order to trust in an unknown future. The emotions expressed may be categorised as both achievement emotions (hope of success) and epistemic emotions (curiosity about the unknown).

One of the recurrent traits of the data is that students in the 7th and 8th semesters expressed feelings of' pressure' or' stress' caused by various factors related to their study. The data, however, also shows a number of ways in which the students dealt with the different types of challenges they experienced during their study. Student C demonstrated an approach where the student has constructed an understanding of the programme's scope, combined with his/her own aspirations, that allowed him/her to reduce the workload and hence avoid feelings of stress,

> I have decided that I do not have to read everything, only that which is necessary. This reduces my stress level. (C, 8th sem.)

The student must have defined some criteria for him-/herself in order to determine what is 'necessary'. Of course, from a pedagogical point of view, this poses the interesting question: how to decide on this when you are still in the process of getting to know the subject area? Does this student have a specific job profile in mind when making his/her selections? Nevertheless, the student has taken on the responsibility of finding a way to navigate in the complexity, which makes it possible for him/her to create a meaningful learning process. The emotions expressed may be categorised as epistemic in the sense that the student has defined a problem and solved it with success.

Other students have found different approaches helpful in dealing with feelings of stress and insecurity,

> Have become better at taking one thing at a time and not feeling pressurised by the large amount of work. (B, 8th sem.)

> I have found out that it is OK not to be the best and am happy as long as I am working on something I like. The process is more important now than the result. (P, 8th sem.)

Student P has changed his/her focus from competitive, externally oriented motivation to intrinsically motivated process-orientation. This indicates a change in the self-image of the learner and that a learning process has taken place (Mezirow, 1991). In both cases the emotions may be characterised as epistemic. In student P's case there are also achievement emotions (joy in the learning process).

Students reported gains in self-confidence through comparison, from feedback from fellow students and from exams. This perceived acknowledgement brought about positive learning-oriented behaviour,

> I am much more confident and believe that I actually have something to contribute. … in general I have tried to strengthen myself and my knowledge by taking responsibility for tasks related to lectures and group work. (A, 8th sem.)

Student A seems to recognise the resources that (s)he has come to master and is willing to experiment by actively offering to contribute. The feelings of professional self-esteem, on the one hand, support the student's learning processes and, on the other, are increased through this process. The academic emotions expressed are achievement emotions.

Some students describe having developed specific competences related to an increased feeling of self-confidence,

> I have developed into being much more independent and 'resolute'. To dare to speak out when something does not work (I am here thinking about group work in particular since that was where the greatest impact was). (C, 8th sem.)

> My competences have been strengthened more in the subject-related area. I have gained the overview – almost – that I wanted. The academic chaos that ruled in the 7th semester has calmed down inside. I trust much more that I now have a greater academic competence, and I see it in my group and during lectures. (V, 8th sem.)

Both student C and student V express achievement emotions. When student V talks about 'academic competence' it is related to mastery of the discourse and understanding of the institutional logic. The feelings of 'academic chaos' describe the emotions experienced during his/her learning process of coming to understand and grasp the new context (epistemic emotions).

When students obtain an increased knowledge of and sensitivity towards the importance of the discourse, it may also be extended to the discursive construction of the self. One student is explicit about his/her growing awareness of the importance of discursive self-representation,

> I must be careful how I talk about myself. I end up looking as if I do not believe in my own skills – and basically I do, in fact, believe in myself. I will therefore try to work my way towards a new understanding of myself and the image I paint of myself – to myself. (O, 8th sem.)

In this case student O has developed strategies for working with him/herself in order to be able to ensure that the discursive presentation of self-confidence coincides with the self-image.

The Pedagogical Perspective

From a pedagogical perspective, how much are students' emotions and feelings supporting or hindering their learning processes and what does the educational

environment offer in terms of resources to facilitate learning processes seen from a socio-cultural perspective?

The analysis shows that the emotions expressed in the SDD forms are primarily epistemic, achievement and social emotions, either alone or in combination – some of a positive, others of a negative nature. Emotions related to the topics of study are not touched upon.

The feelings and emotions reported by the students in the SDD forms mostly relate to challenges experienced in coming to understand the new institutional logic (negative epistemic emotions), the discourse and themselves as agents within this contextual framework, i.e. being able to act with the discourse (achievement emotions). The pattern is that the challenges are felt most strongly during the first (7th) semester of the new educational context. During the following semester most of the students have come to understand and/or have developed coping strategies enabling them to focus on the positive aspects and potentials of the education. When the students feel able to participate actively and experience the value of their own contributions, this leads to various elements of empowerment (positive achievement and epistemic emotions). The social emotions expressed by the students are primarily connected with social anxiety, related to comparison with peers and the individual's interpretation of peers' view of him/her.

As indicated throughout the analysis, there are pedagogical solutions to a number of the problems presented. In particular, in response to the negative epistemic emotions related to problems of understanding the new educational framework, the institutional logic and the discourse related to the specific teaching and learning method (in this case PBL), there are ways of working towards greater transparency.

The resources in the programme supporting this process in terms of providing frameworks for introduction to and meaning-making of the institutional logic and discourse consist of three key elements: the Student Development Dialogue (combined with a learning portfolio[2]), the lectures and class work, and the problem-oriented project-work in groups. The contribution of the SDD has been analysed in this paper. Students here have a platform for exposing/presenting their problems and insecurities to a representative of the activity system, the dialogue partner, and can receive feedback on their understanding of the institutional logic. At the same time, this is a place to try out the discourse. The learning portfolio is the student's own space to register, analyse and document interests, insights, development and learning processes, as well as to state goals and reflect on successful and less successful learning processes and outcomes. The learning portfolio is mostly considered a written resource and feedback on the processes will primarily come from individual students themselves. The students' reflections and considerations in the portfolio feed into their work when preparing the SDD-forms. Discussions in class and, last but not least, group work are essential platforms for students to test their understandings of the system and its requirements, practice their proficiency in the discourse and receive feedback from their peers and supervisors. The PBL approach is a resource – and a tool for learning – which offers interaction and communication as the basis

for both written and verbal discourse. Group work may be very challenging, both academically and emotionally, and holds the potential of transformative or expansive learning processes.

The question is, whether it is possible – and desirable – to reduce or eliminate some of the negative feelings that students report having experienced. Learning takes time, as stated by this student,

> I have realised that an individual does not become an academic after one or two days at university – that I have to work my way into the understanding of that part. That has provided me with a feeling of peace – which now makes room for taking the time to acquire new knowledge. (T, 7th sem.)

On the one hand, time should be allowed for students to 'work their way into the understanding', taking into account that learning processes are the individual's construction of knowledge and mastery of the resources. On the other hand, it might be possible to provide stronger support for students regarding boundary-crossing processes, through a higher degree of transparency and explicitation. One pedagogical approach might be to create, in the initial stage of the study programme, a learning scenario inspired by Engeströms (2003) boundary-crossing sequence, thus creating a framework for joint negotiation of meaning and introduction to the prevalent discourse. An important point in such a process would be that the participants would come to see that the discourse is not a static entity, and that they as contributors will be co-creators of the discourse in the course of their learning process. Such a pedagogical approach could reduce the negative epistemic emotions related to the cognitive problems of understanding the institutional logic and discourse and the ensuing negative achievement emotions related to fear of failure. At the same time, it might enhance the students' feelings of integration into and ownership of their education. Students create their identity or self-image in relation to their experiences of competence and feedback. So when students experience mastering something, this contributes to their identity formation in this area. Christie et al. (2007), citing Wenger, put it differently: "Participating in a new practice or community involves us in forming an identity in relation to our competence such that 'we know who we are by what is familiar, understandable, usable, negotiable; we know who we are not by what is foreign, opaque, unwieldy, unproductive" (ibid., p. 153).

CONCLUSION

Being in the position of learner demands a certain readiness to develop further or even (re)construct your self-identity in this regard, and a willingness to venture into new territory without knowing what the outcome will be. More mature students, who have had a professional career, may experience that they have to let go of the comfort of knowing that they are working in a field where they are experienced practitioners, to accept the insecurity that comes with the feeling of not knowing.

The data show that students, particularly during the first semester, seek to navigate and situate themselves in the context through self-assessment, measuring own competence against their peers in class and in group work. The latter provides ample opportunities for such evaluation and may lead to feelings of uncertainty and inferiority, as well as experiences of being confirmed in having the ability to make valuable and constructive contributions.

The problem uncovered by this study is that individual students try very hard to make sense of the new context, and make their cognitive contextualisation coincide with the institution's discursive contextualisation. Negotiation of meaning related to their transition from one educational context to another is an important tool in this process. Although the receiving activity system, i.e. the university/ study programme, provides a framework for scaffolding students' introduction to the discourse and institutional logic and meaning-making, this does not appear sufficient, judging from the students' reported emotional responses to the situation. Even though the system offers collective frameworks, the processes of coming to terms with the new context appear to be lonely ones, where the problems are experienced as the individual student's personal problem, while in fact this could be regarded as the system's problem and handled accordingly. A pedagogical solution might be, to be explicit about the problem areas uncovered here, i.e. the cognitive problems related to understanding the new activity system and the ensuing fear of failure. Such a process would provide students with the framework for dealing in detail and explicitly with their educational background and the related discourse and institutional logic in a comparative and/or contrasting perspective. This would give a concrete point of departure for a meaning negotiation process and create a framework for expansive learning related to the students' boundary crossing.

NOTES

[1] For anonymity reasons 'his/her' and '(s)he' will be used throughout the chapter.

[2] See Lund 2008.

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Annie Aarup Jensen
Department of Learning and Philosophy
Aalborg University

SARAH L. GRAMS AND ROMAN JUROWETZKI

5. EMOTIONS IN THE CLASSROOM

The Powerful Role of Classroom Relationships

ABSTRACT

Emotions seem to play an important role among those concepts that have an effect on learning processes in the classroom setting. The existing body of research in the field of educational psychology and neuroscience shows that emotions are meaningful not only when we are interested in how to learn "better", but even when examining how we learn at all.

In order to build a theoretical base for the topic of this chapter, we want to start off by describing briefly how emotions are defined in the research field of educational psychology and how we have decided to apply the concept in this chapter. We will then review the latest research results regarding emotions and learning in the classroom setting. In doing that, we are not only going to look at emotions in regard to student learning, but also include recent findings on teacher well-being and teacher strain as preconditions for the successful creation of learning environments that are conducive to both students' learning and work-related well-being in teachers.

Based on scholarly research and our own empirical data, we will be able to highlight the meaningful role of the *teacher-student relationship*. Not only is it one key variable in fostering students' learning engagement and their social-emotional as well as academic achievements in the classroom, but a positively perceived interaction with students can also be identified as a key factor in buffering teacher stress in everyday school life. The last part of this chapter will discuss the implications of the presented results for practice in teaching.

THEORETICAL BACKGROUND AND REVIEW OF FINDINGS

Concepts of Emotion

Firstly, we want to give a brief overview of emotion-related concepts and clarify the approach we take in the following paragraphs. The following three overlapping and interrelated constructs can be identified as the ones most referred to in the research field of educational psychology: *Affect, emotion,* and *mood*.

Affect is mostly defined as the broadest of the three concepts, including the other two as subcategories (Schutz et al. 2006). The difference between *emotion*

B. Lund & T. Chemi (Eds.), Dealing with Emotions, 81–98.

and *mood* however, is described in three dimensions: *intensity, duration and focus* (Linnenbrink 2006). While mood, on the one hand, is described as perceived to have low intensity, a diffuse focus and relatively longer duration, emotions, on the other hand, are described as shorter, more intense perceptions that are directed towards a particular object (Meyer & Turner, 2006; Schutz et al., 2006).

Opposing this viewpoint, Pekrun (2006) argues against a strict framework distinguishing the three different concepts (affect, mood and emotion) as such, since this can create difficulties in dealing with variations of emotions that cross the boundaries of the described definitions. For example, phenomena that are intense, but with a diffuse focus, *or* of short duration, but with low intensity, would be difficult to classify based on the above mentioned framework. Pekrun (2006) therefore suggests:

> […] intensity, duration and the specificity of object focus can be seen as dimensional rather than dichotomous characteristics. […] moods and intense emotions can be conceptualized as parts of one and the same multi-dimensional space of emotions, rather than as distinct categories. (Pekrun, 2006, p. 316)

In this chapter, we want to examine the role of affective processes and emotions in the context of learning and teaching, but without investigating the relationship between their discriminable dimensions or differences. Therefore, we will follow Pekrun's perspective, acknowledging the existence of variations in emotions within a multi-dimensional field of *intensity*, *duration* and *specificity*.

We find it relevant however, to point out to our readers that some authors (including those we will refer to in the following paragraphs) distinguish between the concepts of *affect, emotion* and *mood* in the ways described above. In order to provide a definition of our perspective on *emotions*, we will also follow Pekrun: "[…] emotions are seen as multi-component, coordinated processes of psychological subsystems including affective, cognitive, motivational, expressive, and peripheral physiological processes" (Pekrun, 2006, p. 316).

In the next paragraph, we will draw on recent literature in order to learn more about the role of emotions for student learning.

Emotions in the Classroom

In the past ten years, increasing attention has been paid to the role of emotions in the classroom when it comes to explaining differences in student development and social-emotional, as well as academic learning achievement. The concept of Classroom Emotional Climate (CEC) has evolved, which is defined as the "[…] quality of social and emotional interactions in the classroom – between and among students and teachers (e.g., teacher and peer support, student autonomy) […]" (Reyes, Brackett, Rivers, White, & Salovey, 2012, p. 700). Classrooms, in which a high CEC is present, are characterised by teachers who are aware and sensitive towards the academic and emotional needs and individual perspectives of their

students and who show interest in them. A warm, congenial and caring teacher-student relationship exists here, while harsh disciplinary practices and sarcasm, disrespect or humiliation are absent (Reyes et al., 2012). But how does the level of CEC influence learning experiences of students? A growing body of research can confirm that an emotionally supportive environment affects the engagement of students, which stimulates their interest and enjoyment in class, as well as their social-emotional and academic learning (Frenzel, Goetz, Lüdtke, Pekrun & Sutton, 2009; Hamre & Pianta, 2001; Jennings & Greenberg 2009; Meyer & Turner, 2006; Reyes et al., 2012).

At this point, we want to raise awareness for a distinction in the way we look at learning processes in the educational context, which is often ignored or left un-discussed. Speaking of students' *learning,* we mainly refer to the kind of learning outcomes that can be explicitly named, assessed and spelled out, such as maths, languages, reading competencies or the rules of basketball. The information referred to here points at *what* students learn and what they can consciously recall and explain, such as new vocabulary they learned in language class. This kind of information is stored in the *declarative* (explicit) memory (Gross, 2001; Squire, 2004), but it is not the only information that students memorise when they learn.

Another process of learning is active simultaneously, even if neither teachers and parents, nor the students themselves have a conscious influence on it. Our brain is not only concerned with *wha*t is new, but also with *how* we experience it and how we do it.[1] This kind of knowledge is stored without our conscious awareness and is impossible to describe in words. It includes knowledge about how, for example, students are supposed to behave in class, as well as knowledge regarding physical actions such as how to ride a bike. This information is processed and stored in what is called our *procedural* (non-declarative, or implicit) memory. This means that, next to learning *explicit*, new information, students also always build a memory of *how* they learn, for example, how classmates acted and reacted when someone made a mistake and whether or not they felt that English class was "fun" (Gross, 2001; Squire, 2004). These processes of implicit learning are embedded in the concept that we call *social-emotional learning*.

Also stored in the procedural memory is information that has been accumulated explicitly (declaratively) at an earlier stage but which has developed into a routine or habit and is no longer available for conscious recall and description, such as knowing how to hold a pen and the processes of writing or reading. Adults might recognize this transformation of information from the experience of learning to drive a car. Once consciously and explicitly learned, car driving develops into a routine over time.

For both the *declarative* and the *procedural* memory, research has shown that *emotions* are vital to processes of accumulating and storing information in our brains (e.g. Squire, 2004).

In order to be able to refer to such research findings, we have to leave the classroom setting for an excursion into research in the field of brain injuries. In

studies unrelated to the educational context and based on adult patients suffering from lesions in parts of their brains that are relevant to emotional perceptions, Immordino-Yang and Damasio (2007) could offer relevant insights into emotions in cognitive processes and suggest links to educational settings:

> […] the neurobiological evidence suggests that the aspects of cognition that we recruit most heavily in schools, namely learning, attention, memory, decision making, and social functioning, are both profoundly affected by and subsumed within the processes of emotion […]. (Immordino-Yang & Damasio, 2007, p. 3)

This research shows that affective processes are not only relevant for *explicit* and *implicit* learning experiences, but that they also affect how we are able to access the knowledge when we need to apply it after it is "stored". Emotions can be seen as more than just *involved* in our processes of adding and recalling memories of (learning) experiences – they seem to represent the *facilitating structure* for the application of our knowledge (Immordino-Yang & Damasio, 2007).

> […] rational thought and logical reasoning do exist, although hardly ever truly devoid of emotion, but they cannot be recruited appropriately and usefully in the real world without emotion. Emotions help to direct our reasoning into the sector of knowledge that is relevant to the current situation or problem. (Immordino-Yang & Damasio, 2007, p. 8)

While the research results that Immordino-Yang and Damasio refer to, are based on samples unrelated to the educational context and draw on adult patients, they make it plausible, however, to expect the analysed processes to be of relevance to learning experiences of students.

One assumption that can be derived from these findings is, that the emotional involvement, the engagement with the subject of learning (be it declaratively or procedurally stored information) needs to be associated emotionally, in order to be deeply seated in our memory. We may expect this to be valid not only for situations where students perceive positive emotions, such as *joy* when they learn about a new subject they are interested in. Negative emotions, such as *being picked on or feeling disrespected* when trying to contribute to classroom interactions will be equally deeply seated, because, parallel to the consciously initiated, explicit learning processes, the *social emotional* experiences are forming the ways in which students learn about social interaction, implicit rules and values, empathy, ethical conceptions, etc.

We can conclude that negative and positive emotions are potentially involved when we learn. In addition, these findings allow suggesting implications for conducive, "memory-friendly" teaching: the more emotions are involved in educational processes and in the didactical set-up of teaching, the more available will the knowledge obtained be for its application in practice. Conversely, the more the curriculum directs learners to draw mostly on the "rational domain", the harder it

will be for students to transfer this knowledge into situations outside the classroom (Immordino-Yang & Damasio, 2007).

When these suggestions from our "excursion" into brain injury research are combined with what we reported earlier from studies on Classroom Emotional Climate (CEC), the results clearly highlight the fundamentality of the relation between emotions and learning processes.

This encourages us to include further research results, more closely related to the emotions perceived by students in the classroom setting. We start by looking at concepts that put emotions into relation with the performance of students in school, introducing the concept of *achievement goals* and *achievement emotions* (Pekrun, Elliot & Maier, 2009). The idea behind this theoretical conception is that a student's approach towards a performance-related situation being either positive or negative (*achievement goals* of wanting to avoid a test situation or anticipating it positively) is linked to the student's actual performance via a mediating influence of positive or negative *achievement emotions*, such as hope, pride, anxiety, boredom, hopelessness, anger or shame (Pekrun et al., 2009). Empirical findings from studies that apply this framework clearly support the suggested relations. The academic performance of university students is best explained by their *prior approach* to the task, in combination with the *emotions they perceive* regarding the anticipated test. "Hope and pride were positive predictors of performance, whereas boredom, anger, anxiety, hopelessness, and shame were negative predictors of performance" (Pekrun et al., 2009, p. 129).

Other empirical studies investigating students' emotions in regard to academic outcomes, emphasise specifically the impact of the *teacher-student relationship* (Hamre & Pianta, 2001; Hughes et al., 2008; Ly et al., 2012; McCormick et al., 2013; O'Connor & McCartney, 2007). As an example, the following conclusions could be drawn:

> First, positive associations were found between quality of teacher-child relationships and achievement. Second, high quality teacher-child relationships buffered children from the negative effects of insecure or other maternal attachment on achievement. Third, the effect of quality of teacher-child relationships on achievement was mediated through child and teacher behaviors in the classroom. In sum, high quality teacher-child relationships fostered children's achievement. (O'Connor & McCartney, 2007, p. 340)

Likewise, Noam and Fiore (2004) conclude in their review that relations and the building of stable relationships are a basic requirement for successful learning in schools: "[…] positive teacher-relationships could not only boost academic performance but could also raise students 'overall sense of self and psychological well-being […] "(Noam & Fiore, 2004, p. 12). Referring to their own study, they point out that relationships and the feeling of belonging are also conducive to children's development in adolescence (Noam & Fiore, 2004). Meyer and Turner (2006) confirm these findings, suggesting "[…] that engaging students in learning

requires consistently positive emotional experiences, which contribute to a classroom climate that forms the foundation for teacher-student relationships and interactions necessary for motivation to learn" (Meyer & Turner, 2006, p. 377).

Regarding a more specific aspect of the teacher-student relationship, *perceived affective teacher support*, empirical results point in the same direction and emphasise the "[…] importance of perceived teacher affective support in relation to sense of belonging, academic enjoyment, academic hopelessness, academic self-efficacy, and academic effort in middle school mathematics classrooms" (Sakiz et al., 2012, p. 235).

We want to conclude our review of student-related findings in the research field of emotions in education by looking at the concepts of student *engagement* or subject-related *enjoyment* and *enthusiasm* in class. Several authors not only empirically confirmed that the *engagement* of students in the classroom fosters their academic achievement, but that their enthusiasm is furthermore related to the teachers' own enthusiasm in class (Frenzel et al., 2009; Hughes et al., 2008; Kunter et al., 2008; Kunter et al., 2011, Reyes et al., 2012, Wu et al., 2010). In addition, the enthusiasm of teachers was found to mediate the effect that *teachers' enjoyment* had on their *students' enjoyment* in class (Frenzel et al., 2009).

In looking back at our previous distinction of (declarative and procedural) memory processes, it becomes clear that we can assume strong correlations between concepts acquired within the *implicit* (procedural) domain, such as perceptions of achievement emotions, relationships, affective support, enjoyment or enthusiasm and concepts that assess *declarative* knowledge (academic outcomes).[2]

Emotions in Teachers

When looking at emotions at play in the classroom, much attention has been given in the last ten years to investigating the perspective of students, leading to a conclusive body of research, some of which we referred to above. Emotions of teachers, however, have been analysed and empirically captured to a much lesser extent (see also *Chapter Two* by Chemi & Jensen in this book). Unsurprisingly, though, the reviews and studies available show an impact of teachers' emotions in the classroom on their performance similar to those of students (Guglielmi & Tatrow, 1998; Jennings & Greenberg, 2009; Sutton, 2004; Sutton, et al., 2009; Sutton & Wheatley, 2003). Of studies investigating teacher characteristics in regard to their performance, rather more focus directly on the symptoms of strain and stress in teachers, while well-being in teachers is scarcely addressed. The concept of burn-out, for example, represents a field of investigation from which we can learn that perceived strain in teachers may lead to symptoms that affect the way they interact with students: "Burned-out teachers and the learning environments they create can have harmful effects on students, especially those who are at risk of mental health problems" (Jennings & Greenberg, 2009, p. 492).

A relatively new development can be seen in the combination of self-reported job satisfaction and coping in teachers with their students' ratings on perceptions of classroom characteristics. For mathematics classes in Germany, it was shown that students gave a higher rating for instructional quality to those teachers who, in turn, rated themselves low on emotional exhaustion and high on job satisfaction (Klusmann et al., 2008; Kunter et al., 2013). Furthermore, results showed that "teachers' self-regulatory type was systematically linked to differences in students' motivation" (Klusmann et al., 2008, p. 702). These results highlight the strong link between teachers' emotional state and the way that students perceive their performance in the classroom.

Earlier, we referred to the teacher-student relationship as a meaningful concept in regard to student outcomes. But how is the work-related strain and well-being of teachers related to the way they build relationships with their students in class?

Significant correlations have already been found between teachers' self-reported perceptions of stress as well as negative affect and the relationships that they themselves *anticipate* being able to build with students (Yoon, 2002). However, research in this field has not addressed the link between teachers' level of occupational well-being and their students' ratings of the teacher-student relationship. This encouraged us to conduct an empirical study of this correlation. Based on a sample of 97 classroom teachers and their 2080 students at eight comprehensive schools ("Gesamtschulen") in Germany, we were able to identify a significantly positive correlation between *student ratings of the teacher-student relationship* and *occupational well-being in their teachers* (Grams, 2014). It is necessary to be aware of the mutual processes at play, however, when we investigate interactions of teachers and students. While teachers seem to have an impact on the students' way of perceiving their learning environments, students simultaneously have an impact on the way that teachers perceive their work in class (Nickel, 1976). Furthermore, student-related factors are among the most reported work-related strain factors in teachers (Grams, 2014; Rudow, 1999).

Following this perspective, it is little surprising that we also found teachers' perceptions of their interactions with students to be a central *mediator* (a "buffer") in regard to how perceived work-related stress factors affect their occupational well-being. Based on a sample of 531 school teachers from the comprehensive schools of our study's sample, we can see that interactions in the workplace with both *students* and *colleagues* have the strong potential to "buffer" perceptions of strain at the workplace, resulting in reports of higher well-being in teachers (Grams, 2014).

Together with our earlier conclusions regarding emotions in the classroom context, these findings underline the powerful impact of *teacher-student interactions* and *relationships with colleagues* on teachers' and students' performance and well-being at school. In the following section, we want to take another close look at relationships in the classroom, by presenting an empirical study related to students' *learning enjoyment*.

EMPIRICAL STUDY: STUDENTS' LEARNING ENJOYMENT AND RELATIONSHIPS IN CLASS

Purpose

The recent literature dealing with the engagement and learning enjoyment of students in class has scarcely taken the students' own perceptions into consideration. Information on students has so far been mainly based on teacher reports (Hughes et al., 2008; Martin et al., 2012). In those studies where student ratings were included, however, student outcomes of classroom characteristics or classroom emotional climate (CEC) were derived from subject-related evaluations, based on mathematics or language classroom settings only (Kunter et al., 2008; Reyes et al., 2012). The study we want to present here aims to further investigate relationships in the classroom setting and their impact on students' learning enjoyment. Given our findings discussed above, our hypothesis is:

> Learning enjoyment in students is positively related to their perceptions of both the teacher-student relationship and the relationship with classmates.

For this analysis, we use reports of students' perceptions on different variables in the classroom. Instead of referring to a subject class or subject teacher, the student-reports in our sample are related to perceptions of one specific classroom teacher – the teacher they spent most time with during the school day. This means that the specific subjects taught by the teachers in our sample were randomly varied and our findings are not only valid for one subject area (as previous studies are). In the following paragraphs, we introduce sample characteristics and the method of data collection, before presenting our findings.

Sample

The student sample comprises 2748 students in 5th and 6th form (aged 10-13), from eight comprehensive schools in Germany. *Table 1* shows the distribution of age and sex in the sample. We can see that it is evenly distributed in regard to sex and age. The sample is based on 132 classes (student groups).

Most classes in comprehensive schools in Germany have two classroom teachers who lead the classes together. In 42 classes of our sample, the students completed the questionnaire twice, to report on their relationship with both of their classroom teachers. The 42 student groups that are represented twice within the sample are treated as different classes on the data level, because we are looking at distinct relationships between the double-participating students and each of their teachers. The inferential statistics we are going to apply will be controlled for class-effects, in order to avoid bias due to the double-participation of student groups.

Table 1. Age and Sex in student sample

Age	*Female*	*Male*	*Age total*	*Age %*
≤ 10 years	183	158	341	12%
11 years	603	598	1201	44%
12 years	511	503	1014	37%
≥ 13 years	73	119	192	7%
Sex total	1370	1378	2748	
Sex %	50%	50%		100%

Method

We included four variables in this study (see also *Table 2*, where we present the number of items and one example item for each variable):

- Learning enjoyment
- Teacher-student relationship
- Relationship with classmates
- Perception of disruptive behaviour

We have chosen this set of variables in order to represent the two possible sources of *mutually perceived relationships* in the classroom: the *teacher* and the *classmates*. In addition to capturing the explicitly emotion-based concept of *learning enjoyment* that our study focuses on, we also want to assess a fourth variable, to illustrate the role that the perceptions of negative, *disturbing behaviour of classmates* play, in regard to the way students perceive learning enjoyment in class. The perception of disruptive behaviour is therefore part of our student questionnaire, representing an additional student perception of (negative) classmate behaviour. The variable is captured with only two items, asking first, if students perceive disturbances from classmates and, if so, how many students are perceived as "frequently disturbing the class". We are aware that this concept is built on social construction and the prevailing definition of "disruption" that is considered valid in each classroom and for each student. We are using it, however, to extend the investigated concepts of "positive perceptions" with a negatively poled variable, serving the validation of our statistical analysis.

The students participated during regular schooldays via an online questionnaire. All participating students had written parental consent. The classroom teachers were not present while their students filled in the questionnaires. Announcements introducing the students to the questionnaire and clarifying the name of the teacher they were going to focus on were made in a standardised manner. When students participated twice (regarding both classroom teachers), they did so with a period of at least one week between times of participation.

Table 2 shows the four variables that we applied in the student questionnaire. The items used were invented and approved by scholars in the field of classroom climate research and newly combined for our study[3]. In order to test their applicability with our student target group, we conducted a pilot-study to ensure that students from 5th form (aged 10-11) would comprehend each question. We then examined the four resulting variables in regard to validity and reliability, finding them to be psychometrically sound.

Table 2. Student Questionnaire

Scale (Number of items)	*Example Item*
Learning Enjoyment (6 items)	I enjoy learning new things.
Teacher-Student Relationship (17 items)	I can trust my classroom teacher.
Relationship with Classmates (9 items)	If someone in class has a problem, the others help him/her.
Perception of Disruptive Behaviour* (2 items)	There are students who often disturb the class.

*Note. * negatively poled variable.*

Findings

In order to examine the interrelations of the variables in our study, we want to present the correlation matrix of the four scales (see *Table 3*): learning enjoyment (*learnjoy*), teacher-student relationship (*t-s_rel*), relationship with classmates (*class_rel*) and perception of disruptive behaviour (*disrupt*).

Table 3.Correlations: Student Variables

	learnjoy	*t-s_rel*	*class_rel*	*disrupt*
learnjoy	-			
t-s_rel	.65	-		
class_rel	.50	.49	-	
disrupt	-.23	-.21	-.40	-

Note. n = 2748, all correlations are highly significant, p > .001 (Pearson Correlation).

All correlations in *Table 3* are highly significant. We can see a strong positive correlation between the students' perceptions of the *teacher-student relationship* and their perception of learning enjoyment ($r = .65$, $p < .001$). The variable *relationship*

with classmates shows moderate positive correlations with learning enjoyment and the teacher-student relationship ($r = .50$ and $r = .49$, $p < .001$).

The students' perceptions of *disruptive behaviour* show only weak negative correlations with learning enjoyment ($r = -.23$, $p < .001$) and with the teacher-student relationship, ($r = -.21$, $p < .001$) but they show a moderate negative correlation with the students' relationship with classmates ($r = -.40$, $p < .001$).

In line with other results in the research field, the correlations show that students' enjoyment of learning is related to the way they perceive their relationship with their classroom teacher. Another unsurprising finding is that students' perceptions of the disruptive behaviour of their classmates is more strongly (negatively) related to the way they perceive their relationship with classmates in general than it is to the other two variables. This is not surprising, since the students' general perception of their classmates can be considered as the source for both related concepts (*class_rel* and *disrupt*).

In order to further examine our data in regard to our hypothesis, we want to look at the impact of each variable on *learning enjoyment* one at a time, holding constant any parallel interaction with the other included variables. We will do this by conducting a multiple regression analysis.

Table 4. Multiple Regression with Learning Enjoyment as Criterion Variable, OLS[4]

	Model 1	*Model 2*	*Model 3*
(Intercept)	0.00	-1.03**	-1.00**
	(0.01)	(0.40)	(0.39)
t-s_rel	0.60***	0.56***	0.48***
	(0.01)	(0.02)	(0.02)
disrupt		-0.18***	-0.07*
		(0.03)	(0.03)
class_rel			0.23***
			(0.02)
R^2	0.42	0.47	0.50
Adj. R^2	0.42	0.45	0.48
Num. obs.	2748	2748	2748

*Note. (SE), *** p < .001, ** p < .01, * p < .05, controlled for age, sex, classroom-affiliation.*[5]

Based on the results in *Table 4*, we can examine how the perceived relationships with the teacher and the classmates as well as the perceived disruptive behaviour in class can account for the level of perceived learning enjoyment. We thereby define learning enjoyment *(learnjoy)* as the criterion variable and teacher-student

relationship (*t-s_rel*), relationship with classmates (*class_rel*) and perception of disruptive behaviour (*disrupt*) as independent variables.

We add the independent variables stepwise, to get a more precise picture of their relation to learning enjoyment. The calculation also includes age and sex of students, as well as their classroom-affiliation and holds the impact of each of these variables constant (not displayed in *Table 4*).

When all three independent variables are added at the same time (Model 3) we can see that the variable relationship with classmates (*class_rel*) strongly lowers the impact of the reported perception of disruptive behaviour (*disrupt*) on learning enjoyment. While the variable relationship with classmates (*class_rel*) has now a highly significant beta-weight ($\beta = 0.23$, $p < .001$), the parallel impact of the perception of disruptive behaviour in Model 3 has decreased ($\beta = –0.07$, $p < .05$).

This effect can be explained by the results in *Table 3*, showing a moderate positive correlation between relationship with classmates and perception of disruptive behaviour ($r = .40$, $p < .001$). Because these two independent variables have a moderate interrelation, the one having the stronger correlation with learning environment (relationship with classmates) is found to be more significant in Model 3. The addition of the relationship with classmates also slightly lowers the impact of the teacher-student relationship, but it remains a highly significant predictor ($\beta = 0.48$, $p < .001$).

Adding the three independent variables one at a time allows us to identify whether or not all three variables together (Model 3) can explain the variance in learning enjoyment better than just one or two of them (Model 1 and 2). We can compare the three models, by looking at the reported adjusted R^2 for each of them. It allows us to assess which model explains most of the variance in the criterion variable, learning enjoyment.

While all three models have satisfactory effect sizes (adj. $R^2 > 0.42$) the model with the highest adjusted R^2 is Model 3. It explains 48% of the variance in learning enjoyment, which can be characterised as a large effect size (Cohen 1988).

Interpretation of Findings

What can we learn from this empirical study? The multiple regression analysis (*Table 4*) clearly suggests that the learning enjoyment of students is best explained by all included variables of classroom-relationships: the relationship with the teacher, and the relationship with classmates, which in turn seems to be negatively correlated with the level of disruptive behaviour in class. We are conscious of the fact that we have not included “all possible” factors that might have an impact on the perceptions of learning enjoyment in students; for example, we have not assessed teacher instructions, classroom management, the subject (or subjects) that are predominantly taught by the classroom teacher etc. Therefore, we can only draw conclusions on the impact of the variables that we have included in our analysis. Being aware of these limits, however, makes it even more meaningful that the factors we decided

to look at can explain nearly 50% of the variance in students' learning enjoyment. We will refer back to this result in the following, final section of the chapter, where we discuss the implications of research presented for the practice of learning and teaching.

DISCUSSION OF IMPLICATIONS FOR LEARNING AND TEACHING

We started out by examining the role of emotions in student learning. Together with concepts such as learning enjoyment and enthusiasm, we found the relationship to teachers to be an influential, emotionally effective factor influencing students' development, social-emotional learning and academic achievements (see also *Chapter One* by Birthe Lund in this book for relations to students' creativity and *Chapter Two* by Chemi & Jensen for relations to arts-based education). Throughout our literature review and in presenting the findings of our own investigations, it became obvious that teachers hold a key role when it comes to students' perceptions of their learning environment. In addition, we saw that perceptions of interactions with students in general and relationships with students specifically, are correlated with teachers' evaluation of job-related well-being. While these findings illustrate the need of taking a transactional perspective on classroom interactions, emphasising the mutual impact that students' and teachers' backgrounds, experiences, expectations, attitudes and actions have on each other (Nickel, 1976), they also identify the teacher as a relevant facilitator. In the following paragraph, we will therefore pay tribute to the teachers' influential role in regard to emotions in the classroom and elaborate specifically on the implications of our findings for their scope of action.

Teachers as Facilitators

Looking back at the findings presented here, we can identify the teacher as a significant actor in creating environments conducive to student learning. The ways in which the actions (and in-actions) of teachers in the classroom seem to affect the students, when seen through an "emotional lens", are manifold. These ways range from how teachers manage classroom interactions in terms of formal instructions and sets of rules etc., to the subject-related content they present (and how they prepare it didactically), ending (or perhaps just beginning) with the way they interact, talk, connect, respect, consider and reflect in contact with their students. It may appear possible and even helpful to disassemble these different aspects in which teachers have considerable impact on how and what students learn in their classrooms when we investigate them through our research. However, we cannot avoid complicating the picture by admitting that all of these processes are interwoven as they happen simultaneously in the field, while affecting each other mutually.

So what can teachers do to facilitate student learning "at its best"? In answering this question, we will try to make the findings of the studies that we reviewed applicable for practice. We start by looking at the relational, the *how-aspect* of contacts in the

classroom. What is it that makes teachers – and probably not just teachers – able to experience and initiate positive interaction with their students? One of the processes at play is the self-regulation of emotions (Klusmann et al., 2008; Sutton 2004; Sutton et al., 2009): The way we cope with potential stress factors and the way we evaluate our situation. These processes are not only relevant to the workplace, but also to our private lifes. What teachers can do to deal with perceived stress at work, therefore, has one starting point in self-reflection and self-management practices. A wide range of studies show that stress symptoms, such as burn-out syndrome, do not arrive overnight, but are the result of a long process of strain and negative emotions (Maslach & Leiter, 1999). Teachers have the chance and the possibility to become aware of their negative emotions before they turn into symptoms that strongly affect their ability to work. Self-reflection and sensitivity towards emotions allow teachers to take steps of self-management. Finding a private balance through leisure activities in order to cope with job demands and attempting conscious handling of available free time are additional steps that lead to improved mental equilibrium (Griffith et al., 1999). Another influential factor, which has the capacity to provide a "buffer" for teachers' perceptions of stress at school, is social interaction with colleagues (Grams, 2014). For school leadership, this implies the facilitation of space for teachers to meet within infrastructures that welcome informal conversations as well as the development of work-related collegial collaboration (for example, mutual lesson observations and collegial counselling). For teachers, our findings suggest the recommendation of making a conscious effort in seeking mutually supportive relationships with colleagues and cultivating a regular exchange with them.

When we go further and look at teachers' subject-related scope of action, research results indicate additional implications. Findings clearly suggest that teachers should be aware of, and consciously target the emotional aspect of providing "new knowledge" in class. The more the new information is "emotionally processed", the more accessible it will become for students in situations outside the classroom. What we have learned about the role of emotions in learning also supports the concepts of open and experimental learning settings. The active process of "making one's own experience" will naturally create emotions (for example, genuine surprise about the unexpected outcome of an experiment) and it will likely also trigger the students' motivation and curiosity in "trying something new".

We will now take the "emotion perspective" on teachers' influence in classroom management. The results from our empirical study on learning enjoyment which we presented in this chapter – together with the extensive body of research we reviewed – underline the impact of relationships in the classroom. Students' perceptions of their relationships with their classmates and their teacher appear to have a positive impact on their perceptions of learning enjoyment (the concept of "looking forward to learning something new"). These findings clearly highlight the supportive function of relational aspects in classroom climate. As a consequence, teachers do their students a favour when they allot a sufficient amount of time to the active creation and discussion of the *ways* the members of the class want to work together.

Which expectations do we have towards our interaction in class? How do we share our criticism and dissatisfaction? Further options are (to name only a few): electing class representatives for different daily responsibilities, setting up a weekly exchange session regarding "social issues" such as emerging conflicts, group decisions, or (re-) arrangement of the seating plan – potentially even decorating the classroom as an activity of shared responsibility and creation of a common space of learning. While we can assume that such activities have an influence on the relationships in class and thereby on the learning enjoyment and the engagement of students, they also provide a platform for the implementation of common values and social awareness, both constituting parts of students' social-emotional development. Finally, teachers can directly address emotional regulation and self-awareness development in their students through adequate methods that can be built into everyday teaching (e.g. Napoli et al., 2005; Greenberg et al., 1995).

One concept has emerged during our investigation that seems especially powerful not only for students' learning, but also in regard to the occupational well-being of teachers. We will discuss it in more depth in the following paragraph.

Zooming in: The Powerful Role of Teacher-Student Relationships

In this chapter, we have extensively pointed out the impact that teacher-student relationships have for the learning experiences of students. Perceived emotional teacher support not only seems to play a significant role in students' perceptions of learning enjoyment, but also in their academic achievement and development in adolescence. But interestingly – that's not all.

An issue that we have already raised is the precondition that a teacher needs to be capable of initiating and maintaining "positive relationships" in class. We have already mentioned the potential of self-reflection and collegial support when it comes to the emotional self-regulation and perceived occupational well-being of teachers. But what else can be done?

Our findings particularly encourage us to emphasise that by investing time and resources into the social-emotional setup of classroom interactions, teachers will not only benefit their students, but they may also benefit themselves. Negative experiences with students represent a powerful impact on teachers' overall job-related well-being (Grams, 2014). This is unsurprising, since the interaction with students represents the main purpose and framing characteristic of the teaching profession. Teachers may therefore easily be vulnerable to a dissatisfying session with their class, for example, when an anticipated subject milestone or expected progress could not be reached.

But most of all, teachers are vulnerable in their relationships to students, because they are human. They are emotionally involved and they care about the common goal of their profession: the progress and improvement of each student. Consequently, it will be easier for teachers to cope with a session that failed to arrive at subject-related goals, if the social climate in class is mutually appreciative and perceived as

peaceful. The classroom teachers we worked with in our study used to emphasise how much better "everything worked" when they got to teach in their "own class". They liked to call the class where they were the classroom teacher "my island" or "safe space". Clearly, given the increased time they spend with "their" students and due to the establishment of a shared classroom climate, they perceive their teaching there as easier and more successful, compared to their work in classes with student groups that they know less. Our findings support what we will call the "credo" for this chapter: investment in the teacher-student relationship will pay for itself many times over.

NOTES

[1] The processes we are describing here are not meant to refer to what has been previously discussed as the "hidden curriculum" (Snyder, 1971; Sambell & McDowell, 1998). The procedural and declarative memory processes are not depending on, or limited to the school (or any other specific social) context. They exist in all individuals and are per se unrelated to "implicit agendas" or social constructions. They may however play a part in the processes by which "hidden curricula" can affect students' education and development.

[2] The challenge for research in Educational Psychology lies in identifying proxies that enable a valid assessment of students' perceptions within the non-declarative knowledge domain.

[3] The applied student scales are based on the following authors:

Teacher-student relationship:	Kemna, 2012; Ditton, 2001; Thies, 2002; Mayr, Eder, & Fartacek, 2011
Learning Enjoyment:	Pekrun, 1992; Mayr et al., 2011
Relationship with Classmates:	Eder, 1998; Saldern & Littig, 1987

[4] OLS = Ordinary Least Squares Method,

[5] We tested for Multicollinearity using the Variance Inflation Factor (VIF). All results are < 2 (t-s_rel = 1.62, disrupt = 1.35, class_rel = 1.74), which confirms that Multicollinearity has no problematic impact.

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Sarah Lisa Grams
Department of Learning and Philosophy
Aalborg University, Denmark

Roman Jurowetzki
Department of Business and Management
Aalborg University, Denmark

CHUNFANG ZHOU, TATIANA CHEMI AND BIRTHE LUND

6. A COMPARATIVE STUDY OF STUDENTS' PERCEPTIONS OF HUMOUR IN LEARNING CREATIVE DESIGN BETWEEN CHINA AND DENMARK

ABSTRACT

In this chapter, we explore the similarities and differences in design students' perceptions of humour in experiences of creativity development in project groups between China and Denmark. Theoretically, we link theories of humour, learning, emotion and creativity from a socio-cultural approach. Empirically, we carried out interviews with a total of 26 students (13 from each culture). We found that, in both cultures, students think all humorous people are creative and they welcome humour in project groups. They also regard humour as not only a personality or communication tool but also the outcome of applying creative ideas to design practice. Danish students think being humorous aids individual involvement in group work and that humour itself can be a kind of creativity, while Chinese students think humour is mainly used to maintain harmonious individual relationships with the group and that humour is instantaneous, a one-off ability of using language creatively in ongoing communication contexts. These findings are helpful in unpacking the black box of humour from a learners' perspective, cross-culturally, and as a contribution to future joint studies on humour, learning, emotion and creativity in design education.

KEYWORDS: Humour, Creativity, Group Learning, Design Education

INTRODUCTION

The term 'learning' can refer to outcomes of the learning process that affect the individual, to mental processes taking place in the individual that can lead to changes or outcomes, or to interaction processes between individuals and their material and social environment (Illeris, 2007). In the past, learning has been labelled as cognitive, behavioural or socio-cultural and so on. Social approaches have provided powerful evidence of shaping roles of the context in which learning takes place. So learning is regarded as collaborative meaning-making or as construction, rather than knowledge acquisition. Learners are seen as transforming as well as being transformed, when participating in communities of practice. Knowledge is not a

B. Lund & T. Chemi (Eds.), Dealing with Emotions, 99–119.

fixed and stable commodity, but rather co-constructed by people in interaction (Wenger, 1998; Illeris, 2007).

Even though creativity has not been discussed thoroughly from a learning perspective, a few contributions have indicated that the two phenomena may be closely linked (Chemi, Jensen, & Hersted, 2015; Craft, 2005, Sawyer et al., 2003). Generally, creativity involves the generation of novel and useful ideas (Sternberg 1999). Although creative ideas, questions or solutions seem to originate in individual minds, there are a growing number of studies suggesting that creativity is fundamentally a socio-cultural phenomenon (Meill & Littleton, 2004; Grossen, 2008), which is shared and distributed. This means a series of factors within the context system can affect individual creativity in interactive learning or working environments, such as task challenge, freedom, playfulness, humour and idea support, among others (Ismail, 2005). It also means that, in collaborative contexts, creativity and learning can be influenced by each other when groups of people are exploring new meanings (Zhou, 2012). Accordingly, there is an increasing number of socio-cultural studies suggesting that learning and creativity go hand in hand (Grossen, 2008).

Design is, undoubtedly, a creative activity. Designers contribute to finding solutions and developing products in a very creative way. Initiative, resolution, economic insight, tenacity, optimism and teamwork are qualities that stand all designers in good stead and are indispensable to those in responsible positions (Pahl, Beitz, Feldhusen, & Gorte, 2007). The significant roles of designers in developing creative industries have been emphasised in many countries, including China and Denmark. In the book *How Creativity is Changing China*, Li (2011) said that the shift from "Made in China" to "Created in China" was underway. The emerging creative industry in China is facilitating such a shift, while design is one of the key factors in increasing added value to industry and in bringing about economic transformation. Similarly, in Denmark in autumn 2010, the government appointed a committee to articulate a vision for the future – "Design 2020". Its purpose was to suggest how design could be strengthened and used in order to contribute to growth, productivity and innovation – areas in which Denmark faces substantial challenges (The Danish Enterprise and Constructions Authority 2011).

As one of the factors influencing individual emotion (Liu, 2012) and stimulating creativity in collaborative contexts (Humke & Schaefer, 1996) and as one form of creativity (Florence, 1993; Cayirdag & Acar, 2010), humour has been discussed in educational contexts (Gurtler, 2002). According to Zhang (2005), humour is the intentional use of verbal and nonverbal behaviour to elicit laughter, pleasure and delight and it is identified as an immediacy. However, humour is not always supportive of positive learning. Appropriate forms of humour are required for creative learning (Wallinger, 1997), humour that helps to build connections between the humourists and other persons (Zhang, 2005). Humour, like creativity, is also cultural-dependent. As Zhang (2005) suggested, although the cognitive and psychological processes of humour mechanisms are fundamentally similar across distinct cultures, cultural

expectations and preferences largely colour the perceptions, interpretations and evaluation of humorous incongruities and arousals in content, target and style.

The interplay of humour with emotion, creativity and learning has been widely discussed (Frymier, Wanzer, & Wojtaszcayk, 2008; Cayirdag & Acar, 2010; Liu, 2012), but there is a lack of specific attention to topics related to fostering creative designers in higher education, to meet the growing needs of industry. Previous contributions from Chen and Martin (2005), Nevo and colleagues (2001) and Myers and colleagues (1998) have explored a cross-cultural approach to humour, but most of these works show the limitations of quantitative studies. Their quantitative questionnaire surveys were mainly focused on examining different personalities or different attitudes towards humorous behaviours among participants from different cultural contexts. So less attention has been paid to the comparison of participants' conceptualisation of humour in relation to their creative activities, between different learning cultures. This calls for qualitative studies focusing on life stories of creative people. In contrast to the statistical nature of quantitative research, qualitative research is naturalistic, interpretive and multidimensional (Kvale & Brinkmanm, 2008).

Given the above, this chapter focuses particularly on learners' perspectives on humour in creativity development in design. Our study involves 26 students, two universities and two cultures – 13 students from Northeastern University (NEU) in China and 13 from Aalborg University (AAU) in Denmark. Qualitative interviews were carried out, followed by data analysis, centred on the research question: How do design students perceive humour in relation to their creative design experience in group learning contexts and what are the similarities and differences in design students' perceptions of humour between China and Denmark? Based on our findings, this chapter cross-culturally contributes to the interplay between humour, creativity, learning and design education theoretically, empirically and methodologically.

BRIDGING HUMOUR, CREATIVITY AND LEARNING BETWEEN CHINA AND DENMARK

Defining Creativity: From What to Where

The two most common characteristics of creativity have been identified in the literature as newness or uniqueness and value or utility. This is true for all cases of creativity, whether in science, art, politics or other fields (Runco, 2007). Moreover, four special focuses have been identified as being significant in defining creativity – A) the person, B) the process, C) the product and D) the place. However, a systematic approach to creativity accepts that creative behaviour is developed from complex interactions between those special focuses (Thompson & Lordan, 1999).

As the *Handbook of Creativity* (Sternberg, 1999) relates, in past years the development of scientific thinking about creativity has followed a trajectory: an early emphasis upon isolated individuals and their internal traits and capabilities, followed by a developing focus upon the interaction between individuals and the

environment. Thus, researchers have shifted their focus from "what creativity is" to "where creativity happens". In considering "where", we might further clarify the characteristics of creativity as follows (Zhou, 2012):

1. Creativity in the mind:
   As argued by "personal" (cognitive or psychological) approaches to creativity, all creative ideas are generated from a cognitive process in the mind. The basic cognitive process (e.g. attention, perception, memory, information processing) and individual differences (e.g. intelligence, language, personality style) have close connections with creativity (Amabile, 1996).

2. Creativity in collaboration:
   Creativity is generated from a collaborative process beyond the individual, defined as group creativity. It focuses on interpersonal interactions, as one kind of social influence. Evidence of collaborative efforts exists demonstrating that collaboration involves an intricate blend of skills, temperaments, effort and sometimes personalities to generate a shared vision of something new and useful (Sawyer, 2007). Or, it may emerge through dialogue and "being in relationship", which is seen as dynamic interaction in a constructivist framework (Craft, 2005).

3. Creativity in the social system:
   Social influences (e.g. social structure, economy, culture, religion, policy, community, organisations, family) are taken into account. Social processes and structures can dramatically influence creativity, either supporting or undermining, or neither (Runco, 2007).

Shifting the perspective from "what" to "where" may provide a deeper understanding of creativity and lay the basis for linking it with other concepts, including humour, learning, emotion and design, in the following sections.

On the Relations between Humour, Emotion, Creativity, Learning and Design

Humour as a structure of human communication. Even though humour is today often used as a synonym of comedy and fun, its original meaning differed from other forms of comedy. Italian playwright Luigi Pirandello (1974) reconstructed the etymology and history of humour, linking it to black humour and bile. According to ancient medical studies, the body was made up of fluids (Lat. *umor*), one of which was the black fluid, bile. The expression of bile was originally thought to be restricted to Northern Europe alone, within humoristic literature. Humour is marked by amusement of response, but also by a dark side.

The ambiguity in almost all forms of comedy and humoristic expressions indicates that we could define humour as a structure of human communication and expression based on a high degree of ambiguity and uncertainty. Irony, for instance,

is "usually seen as something that undermines clarities, opens up vistas of chaos and either liberates by destroying all dogma or destroys by revealing the inescapable canker of negation at the heart of every affirmation" (Booth, 1975, p. IX). This makes the communication process opaque and unstable: the receiver must "decode" and reconstruct with "another" meaning, different from the one explicitly stated and hidden between the lines of the actual message transmitted. Saying one thing and meaning another implies a space where the meaning is broken up as it is spoken, but also a space for its logical reconstruction while being decoded. Once the original meaning has been reconstructed, it becomes defined and stable.

Seeking humour for positive emotion. Bergson (2002) describes humour as a cultural tool for punishing socially unacceptable behaviours. According to his theories, individuals laugh at what they perceive as departing from accepted and shared norms. Laughter, far from being expression of amusement, is in this case expression of cultural differences and social positioning: "us" against "you". A learning context that indulges in this kind of humour will generate dysfunctional alliances at the expense of a positive emotional environment. Punishing humour works well emotionally for the group, perhaps helping it to find and communicate its group identity, but less positively for the individual(s) left out of the group. Humour can thus be a tool of social and cultural exclusion.

Wallinger (1997) suggests that humour comes in different forms, including satire, cheerfulness, eccentricity and sarcasm. It can be a socially acceptable way to express aggression and tension, relieve us of stress and help us escape from daily pressures.

While aware of these nuanced views on humour and the lack of unidirectional understanding on humoristic practices, we wish to focus here on positively felt forms of humour and their emotional response, together with their implications for creativity and learning in higher education. This means that we will not look at the punishing, obscene, existential forms of humour but at the kind of humour that elicits amusement, liberating laughter, fun and playfulness. This kind of humour, according to a number of contributions (Teslow, 1995; Fredrikson, 2001; Remero & Cruthirds, 2006) is acceptable in collaborative contexts and is actually beneficial to learning and creativity.

One of the theoretical views that we look to for supporting our views is the Freudian understanding of humour, as a psychic means of overcoming a perceived emotional and psychological obstacle. Even though Freud was looking at a very specific form of humoristic expression – wit (*Witz*) – his conceptualisation has been broadened to humour in general. According to Freud (2002), humour emerges in order to turn painful experiences into pleasure: "where a tendentious joke is employed, pleasure is produced, then it is reasonable to assume that this gain in pleasure corresponds to the saving in psychical expenditure" (p. 116). The Freudian saving of psychical expenditure activates pleasure and a sort of therapeutic catharsis. Freud (2002) also emphasised that humour can be used against individuals or categories of individuals,

for instance when analysing jokes, he noticed that "the jokes made about Jews by outsiders [*Fremden*] are mostly brutal comic anecdotes, in which [the effort of making] a proper joke is saved by the fact that to the outsider the Jew counts as a comical figure. The Jewish jokes originating with Jews admit this too, but they know their real faults […]. I do not know whether it often happens in other instances that a people should make fun of its own nature to such an extent" (pp. 108–109). So, both punishing and excluding humour and self-irony are fundamental parts of the dark side of humour. However, Freud analyses humour as an essentially positive and emancipatory influence on the psyche.

But how can humour be appropriate to creative learning environments? According to Freud (1960), there are two types of humour: non-tendentious and tendentious. Jokes or humorous attempts labelled harmless, non-tendentious, or abstract are those that are perceived as innocent and lacking a specific purpose by recipients. On the other hand, humorous attempts labelled tendentious or purposeful often "run the risk of meeting with people who do not want to listen to them" often because they target others' personal characteristics (Freud, 1960, p. 107). Frymier, Wanzer and Wojtaszczyk (2008) mentioned that both tendentious and non-tendentious types of humour can be applied in teaching practice but there should be a balance between them. Teachers' humour orientation, verbal aggressiveness and nonverbal immediacy were related to how students viewed teachers' humour. Meanwhile, student humour orientation, verbal aggressiveness and communication competence were related to how students viewed teachers' appropriate and inappropriate humour (Frymier et al., 2008).

Interplay between humour and creativity. When humour stimulates a positive emotion, it can lead to a momentary expansion of the thought-action repertoire. It therefore follows that such an expansion could lead to a greater sense of self-efficacy in dealing with specific problems or stressful events (Vilaythong, Arnau, Rosen, & Mascaro, 2003). So humour is a key element influencing or reflecting a creative climate (Romero & Cruthirds 2006). As underlined by Teslow (1995), laughter in the learning context opens paths of communication, loosens fixed positions and can enable students and teachers to perceive ordinary information in unusual patterns and connections. We believe that liberating laughter, the response to a joyful emotional experience (as opposed to the punishing laughter that generates frustration and inappropriateness), can be a mark of or means to a positive and creative learning environment. Fredrickson (2001) argued that people see positive emotions as a signal that their environment is safe and respond to this signal by being more exploratory and playful, thus allowing their minds to become more creative. Humour has also been argued to be an attention-gaining strategy (Teslow, 1995). The most general description of what is required to gain attention is the presentation of a sudden change in stimulation, an arousal. Interestingly, suddenness is an important aspect of humour, as all theories of humour place importance on sudden, unexpected

changes or cognitive shifts (e.g., being caught off guard, or noticing a verbal or visual incongruity) (Morreall, 1983).

Florence (1993) saw humour in itself as a form of creativity. As Wallinger (1997) discussed, seeing the humour in a given situation requires the ability to view it in a different light, to reassemble aspects of it from a different point of view. This skill is also required of those who demonstrate creativity and humour, creativity and intellect often go hand in hand. Since schools encourage creativity and intellect, humour is a part product of interaction among the individuals involved, be they adults or children. So Torrance (1970) defined humour and playfulness as characteristics of creative people. Creative people have the abilities of appreciating humour, understanding information contained within humour created, as well as the ability to create humour. In addition, humour is connected with playfulness in the assessment of creative climate. Humour and playfulness, for example, are proposed as a common factor of creative climate in Ekvall's research (1996) – "the perceived ease and spontaneity, a relaxed atmosphere with laughter and jokes".

Creativity and learning: Going hand in hand. As mentioned previously, the understanding of learning has been developed quite beyond what we traditionally understand as psychology (Illeris, 2007). For example, Wenger (1998) suggested learning occurs naturally through people's participation in the practices of social communities and through their construction of identities in relation to these communities. Illeris (2007) described three dimensions of learning: the content dimension is what we learn in relation to knowledge, understanding and skills; the incentive dimension covers motivation, emotion and volition that concern the mobilisation of the mental energy required by learning; and the interaction dimension involves action, communication and cooperation which are important elements in learners' exchanges and relations with the environment and, in connection with this, promote the individual's integration in relevant social contexts and communities. Thus, learning occurs in a triangle constructed by these three elements.

Creativity and learning are closely related to each other. As Craft (2005) argued, creativity is a complex ability leading to idea production. Domain-related knowledge and cognitive abilities such as divergent thinking, analytic reasoning and evaluative thinking are all involved. Learning, to the extent that it involves actively building a network of interrelated ideas, discovering or rediscovering concepts and principles, is itself a creative act at the personal level (Grossen, 2008). Craft (2005) said that when we learn something new, we are making new connections between new ideas and making sense of them for ourselves in the process of constructing knowledge and in this sense creativity helps to shape new opportunities of learning knowledge. Considering these points in collaborative contexts, we see that participants build on each other's ideas to reach an understanding that is not available to any of them initially and they must enter into critical and constructive negotiations of each other's suggestions. They also need to share and evaluate well-grounded arguments

and counter-arguments, critically, through collective discussion. During such a process of knowledge exchanges between individuals, the interplay of individual and group creativity happens and in this sense, creativity and learning go hand in hand in collaboration (Zhou, 2012).

Design as a creative activity. The literature has many interpretations regarding design as a creative activity (Pahl et al., 2007). For example, Gero (1996) said that design can be conceived as a purposeful, constrained, decision-making exploration and learning activity. Decision-making implies a set of variables, the value of which has to be decided. Searching is the process commonly used in decision-making. Exploration is akin to changing the ways of thinking problems within restructuring of knowledge. Designers operate within a context that partially depends on their perceptions of purpose, constraints and related contexts. These perceptions change as designers explore the emerging relationships between putative designs and the context and as they learn more about possible designs.

Designers operate as problem solvers in the sense they have to solve "open-ended problems", employing creative thinking, problem solving, goal setting and interaction. If this is done in teamwork, participants influence each other's constructive process by influencing, asking questions, arguing and agreeing and so on. Gero (1996) argued that creative design involves both schemas of routine and non-routine. He emphasised that creativity is not simply concerned with the introduction of something new into a design, although that appears to be a necessary condition for any process that claims to be creative. Rather, the introduction of "something new" should lead to a result that is unexpected (as well as being valuable). More formally, we might describe routine designing as following a defined schema where the expectation of what follows is defined by the schema. Creative designing, which is part of non-routine designing, can be described as disturbing the schema to produce unexpected and incongruous results.

When designing as part of a group, the same processes are activated. Designers find and refine problems, test and evaluate, develop and share creative ideas as a part of problem solving. They are then involved in decision-making, communications and co-ordination. This may create motivation and commitment or the opposite. It depends on the organisational climate – the behaviours, attitudes and feelings characteristic of life in that organisation. This constitutes the psychological process of learning. The concrete creative design process and its development are consequently influenced by the context and culture in which they are situated.

Chinese Humour and Danish Humour

According to the literature (Yue, 2010), humour was firstly documented around 2500 BC in China when the first Chinese poetry and literature appeared. Traditionally, humour was used in a rather latent, suppressed manner in Chinese culture. For example the poet Quyuan aptly described the traditional Chinese concept of humour

as deep, remote and silent. From a historical perspective, Chinese humour has mostly consisted of telling jokes and performing funny shows. Humour has traditionally been given little respect in Chinese culture – Confucius once ordered the execution of humorists for having given an "improper performance" before dignitaries in 500 BC. Lin Yu-tang translated the term 'humour' in the 1920s and it has become increasingly popular in China. During the 'Cultural Revolution' (1966–1976), however, humorists of various kinds were criticised and even prosecuted. Since the 1980s, humour has been rehabilitated as an important element of creativity, personal charisma and social harmony. However, humour has rarely been studied in China.

As with Chinese humour, the specificities of Danish humour are often mentioned in humour research, but seldom explained in depth in studies written in English. In a study by Lundquist (2014), Danish humour (as used in professional settings) is judged as ironic, self-ironic, sarcastic and direct, with no limits or taboos. Danish people have a low degree of gelotophobia, the fear of being laughed at. These ideas might be related to the Danish philosopher Kierkegaard, who integrated humour and irony as significant components in his philosophical system. He discussed irony in his dissertation, *On the Concept of Irony With Constant Reference to Socrates* (1841) and later incorporated irony in his writings, to distance himself and undermine his own authority as an author, placing responsibility for the existential significance derived from his texts squarely on the reader. The point of placing responsibility on the individual is in line with the individualism that is often seen as a characteristic trait of Danish national culture (Lundquist, 2014).

The lack of research on humour in both China and Denmark highlights the need for a comparative study. We must place "a humour-mirror" between the two cultures, so they can look at themselves and learn from each other. In this sense, this chapter will study the distinctive relationship between the positive emotions generated by humour and the enhanced learning and creativity perceived by design students in higher education.

RESEARCH METHODOLOGY

Research Context

As mentioned previously, the research context of this chapter involved two universities – Northeastern University (NEU) in China and Aalborg University (AAU) in Denmark. All participants in this study came from student project groups working on Industrial Design in their 7th semester. In China, through Project-Organised Groups (POG), students can gain opportunities to participate in projects supported by government, companies or universities. Usually, the project group consists of supervisors and their students from different levels and diverse backgrounds. In Denmark, AAU was founded on the new educational model of Problem-Based Learning (PBL) in 1974. The AAU PBL model is a combination of a Problem-Based and a Project-Organised approach. The students are supposed to

attend the courses and apply them in their project work and the output of the courses is assessed along with the project report at the end of the semester.

Research Methods

The advantages of qualitative studies were considered in choosing the interview as a research method in this study. As Ten Have (2004) suggested, the crucial feature of qualitative research is to "work up" one's research material, to search for hidden meanings, underlying features, multiple interpretations, implied connotations and unheard voices. Group interviews were conducted with a total of 26 students in Industrial Design (13 from 3 groups in Denmark and the same in China).

All the interviewees were invited in the first instance and participated voluntarily in the interviews. A capital letter (C or D) and a number (from 1 to 13) were used to mark each interviewee in data collection. This means interviewees from China were marked from C1 to C13 and interviewees from Denmark were marked from D1 to D13. Each interview lasted around 40 minutes and was recorded. The interviews were semi-structured, allowing in-depth follow-up of initial responses to questions asked by the interviewer. Many open questions were used to find out students' perceptions on humour. These were, however, developed from the following main guideline questions:

1. In your project work experience, which kind of environment stimulates positive emotion for developing new ideas?
2. Is there anyone who is very humorous working with you?
3. What is humour? Can you provide a personal definition?
4. In your daily life, how did you learn humour?
5. Do you like humorous people? Why or why not?
6. Do you think of yourself as a humorous person? If you are, on which occasions and how are you humorous?
7. Do you think there is any need for humour in the study of design?
8. How do your think of the relationship between humour, emotion and creativity and learning?

All the interviews were transcribed as text. Then content analysis was employed, a process by which the "many words of texts are classified into much fewer categories" (Weber, 1990, p. 15). Categories are usually derived from theoretical constructs or areas of interest devised in advance of the analysis (pre-ordinate categorisation) rather than being developed from the material itself, though referencing the empirical data may in turn modify the categories (Cohen, Manion, & Morrison, 2007). The conclusion or the new theory generated thus emerges inductively from the data collection and analysis and appears as the final finding.

FINDINGS AND DISCUSSIONS

Similarities in Students' Perceptions of Humour between China and Denmark

In both cultures, students think that an open and flexible group facilitates individual creativity and such a context also gives birth to humour. This is in line with discussions in many previous studies, such as Cayirdag and Acar (2010) and Grissen (2008), which emphasised that when group openness is encouraged, students may feel psychological safety in a friendly environment where diverse group members are more likely to suggest novel ideas, criticise others' ideas, challenge the status quo, ask naïve questions or admit mistakes, because they lack fear of ridicule or more subtle forms of interpersonal rejection (Zhou, 2012). We found in the interviews that most interviewees in both cultures were satisfied with their group-working atmosphere and the individual's positive emotion was stimulated:

> I think it is good inspiration [of positive emotion], because we four have similar backgrounds [in industrial design] and we are working on different parts in the project, but we know the differences (between diverse parts) and the working processes. Sometimes we had some new ideas to combine everyone's work. (Interviewee, D6)

> We are working in a positive and open group. It means we all are very happy and every one prepares for his [or her] job very well. We do not have many complaints that would kill most of the creative ideas. (Interviewee, C2)

Group openness also encourages informal discussion, talk or chat and even social activities outside project work. It then provides conditions for generation of humour – both Danish and Chinese students said humour occurred in free situations, such as in a supervisor meeting, group discussion, during breaks and even on the way to library or canteen. Humour, from the students' point of view, can be regarded as a tool for creating closer relationships with others, by making them laugh. Students think that responses to humour differ from person to person, as people have different reactions to joking. And they agree that humour is an instantaneous phenomenon, which is always an unexpected result of conversation. So sometimes the emergence of a joke or funny behaviour changes the planned track of discussion, thereby generating unexpected creative ideas:

> Just like [a case that happened] several days ago – we had the task of designing a slogan for a restaurant. We were very tired of discussing the design plan, focusing on the good appearance of handwritten words in the slogan. But we could not find a satisfactory solution. Then one of us suddenly began to pretend he was eating very delicious food. He looked very funny and made us all laugh happily. Then we realised we should move towards integrating

> the feeling of delicious flavours into the design. Yes, this was stimulated by humour. (Interviewee, C10)

As Gero (1996) suggested, emergence allows for the introduction of new behaviours and new functions and is the equivalent of designer refocusing their attention and/or reinterpreting the results of their actions so far. He also argued that creativity is involved with the production of an unexpected result through the confluence of two schemas. The first schema provides a set of routine expectations; the second schema is needed to understand the unexpected result. The unexpected result can produce (or be produced) in a number of different ways such as humour. Meanwhile, Sawyer (2003) found that collaborating groups have the key characteristics of emergence, forming "collaborative emergence", meaning novelty is a collective process and involving the dialogues between actors and audience in a way of constructing the unexpected meaning. In this sense, Sawyer (2003) suggested that creativity is an emergent process that involves a social group of individuals engaged in complex, unpredictable interactions. So to link these points and the interview findings discussed above, this chapter provides the empirical evidence of emergence of creativity from a humorous approach.

Students then addressed "healthy" humour, humour that should be harmless to others and positive to their emotion and group atmosphere. Both the Chinese and Danish students welcomed humorous peers or supervisors. They considered "a great sense of humour" to be a charming personality trait or inborn gene in some people. So in the students' eyes, not all creative people are humorous, but all humorous people are creative. Accordingly, some of them did not think they were good 'creators of laughs' in the group, but they were very good 'laughers". They also thought there should be a balance with serious work and inflexible atmosphere – if humour brings too much leisure to group work, it will waste time, which destroys the group's work plans.

It was also very interesting to find that, in both cultures, supervisors like to express humour when sharing with students their experiences of how they dealt with learning challenges when young. In such a way, the supervisors were behaving as "learning experts". This was helpful in stimulating the group dynamic and individual confidence when faced with difficult problems in project work. We might indeed say that supervisors are fond of "acting as learning experts" through use of humour in practicing supervision principles and encouraging students in "letting go" and "learning by hands-on experience". This occurred in both contexts – POG in China and PBL in Denmark:

> He [the supervisor] used this way [humour] to facilitate us. He told us how he was foolish when he was young and we were much cleverer than him. I think it [the supervisor's humour] is an important thing to get group work moving. This is also a reason that we like him. (Interviewee, D4)

> He [the supervisor] joked with us saying when he first started to study design, he was like a dancer whose feet were in chains. This inspired us to think freely, to be open to expressing a designer's ideas on the product. (Interviewee, C5)

Besides talking about humour related to their peers and supervisors, students in both China and Denmark also say that social media is their main way of enjoying humour. The social media include online news, movies, cartoons and online forums among other things. When students from both cultures talked about learning humour from social media, such as in the movies, they mentioned that humour is cultural-dependent. For example, one Chinese student said that Western humour (mainly American and European) is more exaggerated and explicit, while Chinese humour is more introverted and implicit. Some Chinese students even maintained that humour is quite different from area to area due to the diverse subcultures within China. For example, one student came from southern China and when he first arrived at NEU (in north-eastern China), he had difficulties in understanding some 'funny stories' told by local students:

> In the first semester, sometimes when my local classmates were chatting and suddenly laughed together, I knew they were telling funny stories that I could not understand. I come from the South and there are many differences of humour culture between the North and the South, even between different smaller areas in China. (Interviewee, C11)

The appropriate use of humour is beneficial to group creative work and to building good relationships with others – something mentioned by students in both cultures. And as young designers, the interviewees thought humour should also be a meaningful designing style showed by their products. In this sense, humour is the "outcome" of applying creative ideas to design practice, helping to increase novelty of product and therefore attract more purchasers. "Humorous" design products may also enhance public awareness, such as on sustainability, or deliver some positive social values, such as loving others. So more precisely, humour, thus, in the minds of design students, is not only a "communication tool" or "personality" but also a "social creative path towards well-being". Both Danish and Chinese students gave examples:

> If a product is humorous, it brings not only fun but also reflection on some topics that leave a deep impression on the audience. So humour can be a power stimulating others to rethink the meaning behind the product itself. This to design a humorous product is much more than to design a point of laugh. (Interviewee, C7)

> I saw a product – a lamp. It was an expression of humour, I think, because its model is very funny, but it tells people how to save electricity. So it would be wrong to say this product is only a joke. (Interviewee, D13)

So, as seen by students, humour also involves designers' social responsibility. Humour becomes a foundation for this. This means that industry basically needs "humorous designers" who have good communication skills to build collaborative relationships with others for group creativity. It also needs "humorous design products" that manifest creativity and embody designers' social responsibility. Thus, humour is an integral element of a designer's life that must not be overlooked.

Differences in Students' Perceptions of Humour between China and Denmark

Both theoretical work and empirical evidence in this chapter suggest that humour is a cultural-dependent concept. One of the differences in students' perception of humour between China and Denmark is related to creativity of the humourists. As mentioned previously, in both cultures, students agree that not all creative persons are humorous, but all humorous persons are creative. Chinese students think if someone is humorous, it is mainly due to his/her excellent verbal skills and creative use of Chinese language in ongoing conversation contexts. But Danish students think that a strong sense of humour is an instant ability to grasp a creative idea or look at something from a different viewpoint with a comical result.

> It [Chinese humour] is a personal ability of using the language in expressing a special meaning in the immediate communication or telling jokes stimulating laughs. So humorous people are mostly good at Chinese language. (Interviewee, C10)

> Someone who makes something very funny but with a positive meaning. He [a Danish humourist] is very creative in finding something that the others have not noticed or he is very imaginative in thinking about some problems differently from the others. (Interviewee, D13)

In other words, Chinese students think humorous people are creative in making a new form of discourse, while Danish students emphasise that being humorous means seeking for a new content/reason of fun. Such a difference may be helpful in understanding the points discussed in one of Chen's early studies (1982), where he said Chinese jokes, from their very beginning, tried to express both "denial humour" (critical of reality) and "complimentary humour" (complimentary of reality), which is different from the "pure humour" expressed by Western jokes (just making people laugh). So Chen (1982) suggested that Chinese humour places great emphasis on "expressive subtleness and appreciative delicacy" and as such, Chinese jokes tend to be highly dialectic and aesthetic. We might therefore also expect Chinese jokes to make great play on words. An example might explain this further: if someone has not found a job after graduating with a Ph.D., he might introduce himself to new friends in a humorous way, saying "I am a 'postdoc'". The Chinese pronunciation of "postdoc" is "bo shi hou". Normally, "Bo shi" means Ph.D. study or Ph.D. degree and "hou" means a subsequent period (after Ph.D. study). In this sense, "bo shi hou"

corresponds to the English meaning of "postdoc". However, in Chinese, there are many different words with the same pronunciation of "hou" and one of those words means "a pending situation or waiting for somebody or something". So in this sense, the guy calls himself a "postdoc", being self-ironic about his jobless situation. As Lee and Ang (2003) pointed out, word suggestiveness can be particularly relevant in ideographic writing systems such as Chinese. In the English language, the mental code for verbal material seems to be phonological, while in the Chinese language, phonemic information is used much less. Instead, Chinese characters seem to be encoded visually and mapped on meanings directly. So a new meaning for a Chinese word relies on a new semantic association between words. This suggests that Chinese jokes are made more accessible to the audience, if the jokes are able to bring word suggestiveness of fun in delivery of newer meaning.

In comparison with Chinese students, Danish students think humour itself can be seen as a kind of creativity. This provides evidence for previous theories (Florence, 1993; Wallinger, 1997; Torrance, 1970), as discussed earlier in this chapter. As creative behaviour involves much more than developing funny jokes, this further indicates that Danish students locate "humour" in a broader scope than Chinese students, who mainly focus on a narrower sense of "verbal humour". We might add that Danish students are more aware of humour in their daily life than Chinese students. As Yue (2003) argued, Chinese people have never lacked humour and have been highly productive and creative in humour production and comprehension. Unfortunately, due to various cultural, sociological and political reasons, the Chinese have been highly cautious, conservative and critical regarding humour appreciation. There is a difference between China, which has developed a national culture of rigid hierarchy from a traditional society and Denmark, moulded into a pragmatic, egalitarian and consensus-seeking society. As De Gruyter (2014) noted, work relations among Danes are typically "Scandinavian" – organisations are horizontal, flat, with low power distance. He found that among Danish people, humour, irony and self-irony are forms of humour easily accepted. This social environment in Denmark lays the foundation for Danish students having a broader comprehension of "what humour means".

Another difference between the students' perceptions concerns the aim of being humorous in building a creative, group learning environment. Both Danish and Chinese students agree that humour can be a communication tool, contributing to building closer relationships with others. But those Danish students who thought of themselves as humorous said that humour served to allow others get to know themselves better, to trigger a atmosphere encouraging group members to learn from each other, or to share fun with others. For their Chinese counterparts, the aim of being humorous was principally to maintain a "harmonious" relationship with others and avoid group disagreements.

> Personally I always give sufficient respect to the others. Sometimes I make critical comments on others' ideas but seldom use a joke. Group harmony

> requires us to have more positive suggestions than disagreements with others. (Interviewee, C5)
>
> It [humour] makes me closer to others and at the same time enables my group to like me and to know me well. When the others laugh, I also feel very happy. As we know, humour also signifies conversation. (Interviewee, D4)

This is in line with what has been much discussed in relation to differing influences of collectivism and individualism on individuals' behaviour in group contexts (Goncalo & Staw, 2006). It is well known that the traditional Chinese social system is a collective society, which is rather defensive and discouraging of independence. It stresses the importance of social harmony that can be achieved through compromise, moderation and conformity. So among Chinese students, there is a greater emphasis on meeting a shared standard so as to maintain harmony in one's relationships to the group (Kim, 2007). As group disagreements are not welcome, the high level of group conformity, at times, is a killer of individual creative ideas. By contrast, in individualistic Danish group, people are viewed as independent and possessing a unique pattern of traits that distinguish them from others. Such groups may at times appear to be divisive, even unruly to the extent of increasing group disagreement, delaying decision processes and decreasing creativity in the collaborative context (Goncalo & Staw, 2006).

A Summary of Findings

Through data analysis, we found design students' diverse perceptions of humour in relation to their creative design experience in project groups, in contexts of POG in China and PBL in Denmark. The similarities and differences of perceptions found further indicate what POG and PBL may learn from each other and how the two strategies can improve themselves for fostering creative designers from a perspective of humour.

The similar perceptions on humour from students in both cultures include: "humour is helpful to developing creativity", "humorous people are welcomed by project groups", "humour is a tool for stimulating positive emotion and building closer relationships with others", "humour is an emergent phenomenon" and "humour is the application of creative ideas into design practice". These points indicate that in both contexts in this study, students feel free to express humour and enjoy the creative climate stimulated by humour. So the strength of learning by student projects on developing creativity in design education has been revealed.

It means that when students are positively engaged in group learning activities, in both PBL in Denmark and POG in China, their positive emotion is involved, which may stimulate humour or be reflected by humour, as part of the process of building a creative climate. However, such a process sometimes is unpredictable, since both humour and creativity happen in emergent situations. The findings of

this chapter indicates a series of principles used by both PBL and POG presently, such as "learning by doing", "letting students go" and "supervisors' learning facilitation", should be hold on in the future that provides design students with conditions of sharing creative ideas, humour and positive emotion in their meaningful and playful learning process and that allows possibilities of emergency of creativity and humour.

However, the Danish students think to be humorous is for better individual's involvement into group work and humour itself can be a kind of creativity; while the Chinese students think humour is mainly used to keep individuals' harmonious relationship with the group and humour is a immediate ability of using languages in the ongoing communication contexts. This suggests that some teaching efforts are required for improvement of POG in China and PBL in Denmark. Chinese supervisors in POG should focus on helping students to broaden their conceptualisation of "humour". Humour includes both verbal and non-verbal behaviours. So the Chinese students' tendency of defining "humour" mainly as creative "verbal behaviour" is a barrier to understanding, recognition and expression of humour, which may block their developing creative ideas in the learning process and prevent them from applying creative ideas to design practice. Both Chinese and Danish supervisors should pay more attention to the role of students' humour in facilitating deeper group learning. Although a harmonious relationship is a key to keeping group synergy, it may sometimes lead to conformity in the decision process, so decreasing creativity. Chinese supervisors should encourage students to break traditional cultural barriers in order to build a more "frank" group discussion atmosphere. Here, humour might be suggested as a way to express disagreement or deal with miscommunication, thereby helping with a thorough exchange of individual ideas. Danish supervisors need to not only emphasise that students can be humorous with the aim of better individual involvement in group work but also should ensure the group dynamic.

Any creative product is the result of interplay between individual and group contributions. In this sense, humour inserts itself into such interplay and plays the role of fostering a creative climate.

FACILITATING LEARNING AND TEACHING BY APPROPRIATE HUMOUR

Based on the comparative results, we now go on to reconsider, in a general sense, how to facilitate the learning process of design students and teaching creative designers by integrating humour into learning environments in the future.

Firstly, from a cross-cultural perspective, humour is better defined as being both cultural-general and cultural-specific than by saying 'humour is cultural-dependent'. Both Danish and Chinese students had many common views on humour, as well as different aims in being humorous and different approaches to conceptualising humour. Relating this to teaching design students, we might ask how to use appropriate humour that will meet the common/diverse needs of intercultural student

groups? And how to use humour to help students (in multicultural group contexts) overcome cultural shock when engaging in group work?

Secondly, humour is an emergent phenomenon that may trigger development of creative ideas, which might also generate emergence in group work. Since creativity and learning go hand-in-hand, humour brings them closer, in the students' search for new knowledge, by stimulating positive emotion. Along with fun, healthy humour gives groups a more comfortable and enjoyable learning atmosphere, where students spark creative ideas, full of randomness, playfulness and imagination. This also brings more interplay between routine and non-routine ways of thinking when problem solving and facilitates group engagement into deeper learning. Thus, humour adds more positive value to the creative process and creative climate. Consequently, in the learning environment, teaching strategy should focus on learning process rather than on outcome assessment. As the recognition of humour is different from person to person, this requires awareness about different forms of humour and their different purposes, focusing on the ones that can elicit positive emotions. Then, as supervisors also have their individual sense of humour, how should they behave well as a 'learning experts'? They should be capable of using humour appropriately on occasions such as when the students meet challenges in the learning process. They must also have insight into how much humour should be a professional requirement in facilitating group work and allowing students to express and enjoy their humour appropriately in developing creative ideas. Lastly, they must have insight into the response of students to humour, ensuring the supportive roles of creative climate in students' ongoing learning processes.

Finally, for design students, humour is regarded as one of the elements of designing products, rather than as a personal trait, a communication tool or a way of having fun. This calls for humour to become a part of learning culture in design education. Undoubtedly, humour is language-related. It involves both a narrow sense of thinking language as a communication tool, as in the case of 'verbal humour' in China, and a broad sense of thinking language as a mindset in building a learning community, as in the case of 'funny humour' in Denmark. So as teachers, how to better understand students' "language of humour" (locally and internationally) and how to integrate humour into a foundation of a creative learning community where young designers are stimulated by positive emotion in a collaborative learning process, freely share creative ideas with peers and develop creative products?

Humour, in short, is set to be a key pillar of designers' social identity and their social responsibility, underpinning their social positions in developing creative industries. This calls for more research into the links between design, creativity, learning and humour in the future.

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Chunfang Zhou
Department of Learning and Philosophy
Aalborg University

Tatiana Chemi
Department of Learning and Philosophy
Aalborg University

Birthe Lund
Department of Learning and Philosophy
Aalborg University

BIRTHE LUND AND TATIANA CHEMI

CONCLUSIONS

We have now examined the role of emotions in different cultural and educational settings, from China to Bhutan, from Germany to Denmark. When we, the authors, began to enquire into the role of emotions in learning, we had knowledge and experience of the emotional aspects of learning and teaching, as educators as well as researchers. We were from the beginning aware of the crucial role that students' engagement plays in learning contexts and of the strong influence that teachers may have on students' engagement. The teachers' ability or disposition to deal with their own feelings and with their students' emotional responses constitutes a vital aspect of learning environments. We knew and experienced that emotions play a significant role in learning environments, though often tacitly and unrecognised. The students' eyes fixed on you, the teacher, either expectantly curious or unmistakably bored; the vivacious chatting of students sharing their knowledge and comparing each other's understandings; the frustration when a lesson goes wrong or the satisfaction of solving a cognitive puzzle. Our journey through the literature on emotions has been an enriching process as well as a meaningful experience.

We found, through the different settings, a number of common traits in our findings. This surprised us, because the chapters visited different educational contexts and focused on a variety of subjects. Addressing emotions implies that educators, no matter their work context, become aware of specific qualities. Firstly, it is imperative for educators to recognise a student's subjectivity. When learning occurs in humans, the relations we create with each other shape the student's notions of self. In this way, we as humans create and recreate each other in continuing social interactions. Understanding the interplay in the context in which learning unfolds becomes fundamental. Educators and learners should strive for awareness of how to look at concepts in general, avoiding a shallow or superficial approach and cultivating a deep understanding, particularly in case of concepts about emotions. An example is offered by some of our key concepts: happiness can be approached shallowly as mere hedonism, or rather looked at as a deeper pleasure that involves meaningfulness and human relatedness (Csikszentmihalyi & Csikszentmihalyi, 2006; Feldman 2010). Another key concept to us is creativity – this can be misunderstood as mere "doing", or seen as the complex interaction among individuals that produces tangible products, which are novel and useful (Kaufman & Sternberg, 2010).

Our studies encourage us to recommend a conscious approach to emotion-related concepts in education, in order to improve awareness and create a deeper understanding. Looking at emotions in learning often brings about the need of

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distinctions among concepts: the idea of emotions, emotions in themselves and the feeling of emotions, the experience of emotions, the expression of emotions, the awareness of emotions. We learned, for instance, that participation in the construction of the idea of emotions is not the emotion itself and that reflection on these concepts and experiences should take place.

Our shared findings constitute thematic common threads that the authors have attempted to make clear with internal meta-references throughout the chapters. But we also reached some shared insight, as mentioned in the following paragraphs. We found both qualitative-narrative and quantitative-statistical evidence that context is fundamental for creativity and learning to unfold. This confirms previous knowledge on creativity and learning (Amabile, 1983) and constructivist approaches to learning. But we also present original cases that specifically address the role of emotions in creative and innovative learning processes. Claiming that context is fundamental means, too, that the learner's bodily and sensory limits influence any learning process – we always learn in our bodies and our emotions are embodied. Schools do not fully take on board that consequence, even though the embodied and creative argument is fundamental for how we look at schools.

Another common feature was that we found several ways in which simply changing habits had positive effects. However, even though this change primarily contributes to positive perceptions of learning or teaching experiences, it may also generate insecurity, especially in educators. Fear of losing control, for instance, may be the reason some teachers avoid radical changes in school settings. We show a variety of ways of doing things differently in a number of educational contexts and of experimenting with teaching and learning settings, appreciated by the students. In other words, we bring evidence of the need for and possibility of pedagogical innovation. The practice of doing things differently answers to a constructivist and pragmatic experiential approach that is well aware of the value of variety in pedagogy (Bruner, 1996; Vygotsky, 2004).

Another shared finding involved doing something specifically different, something involving the body, the senses, one's aesthetic sense, experiences, emotions. We looked at educational contexts that work with innovative settings (role play, humour, academic emotions, happiness, arts-based practices, emotions in the classroom) and that all include a special take on the emotional side of learning and teaching. This finding, which is general but recurrent throughout the chapters, can mean that doing something differently, by explicitly including emotions in education, can make all the individuals in the learning process (students and teachers) more aware of their emotional responses and of the impact that emotions have on their own learning or teaching. This awareness of emotional impact seems particularly important when students and learners build –or better construct- identities, experiment or live through transformative learning processes within education.

The gap between the old and the new pedagogies (the former requiring withholding of emotions, the latter looking at learning as an organic process) is already emphasised in our introduction and was our starting point. In our empirical

research, this gap became even more apparent, but brought about a number of new perspectives. When looking at the powerful potential of emotional concepts in education, we are not unaware of possible ethical dilemmas. A number of such dilemmas, for instance, arise from recognising the role of emotions in learning and teaching as fundamental e.g. teaching as manipulation of emotions/thoughts, teaching as manipulation/propaganda of establishment. What does it mean to recognise and use emotions in learning environments? And the application of our insights brings our common reflection on learning up against problems of design of learning environments. How is it possible to conceive, plan and implement teaching in such a way that this includes emotions? What can teachers do? What do students need to "know"?

We collected our shared findings, generated by collective dialogues and shared content development. But there were also findings specific to each chapter, which may be summarised as follows:

Chapter One analyses the students' emotional and behavioural reaction to pedagogical challenges when learning to innovate. The analysis concludes that creativity-enhancing learning processes tend to generate both insecurity and engagement, due to the fact that the result of creative processes in itself tends to be unpredictable. If education regulates and tries to avoid unpredictable situations, then it is considered to be a challenge to the dominating culture of education, to support formation of creative and innovative students. The hidden curriculum, which refers to the norms and values that are implicitly but effectively hard in education, socialises students to meet the demands from society. Control and regulation of emotions are part of this hidden curriculum and may then be counterproductive to formation of creativity-enhancing learning.

In Chapter Two our empirical findings derive from the analysis and interpretation of action research-based empirical data from an arts-involving educational development programme within social education studies in Denmark. The findings imply that arts-involvement may evoke, shape, facilitate, carry and express emotions and feelings otherwise often not dealt with in social education learning environments. These emotions and feelings seem, however, of vital importance for the students, in order to build identity and meaning within the profession of social education, which makes arts-involvement an interesting pedagogical means of teaching in this context. The study furthermore suggests that educators, when bringing arts into the learning environment, are affected emotionally in two ways: a) by introducing the artistic activity into the learning setting as an experimental act, putting their own teaching experience at stake, and b) by the emotional responses from the students. The educators therefore seem doubly exposed to the emotional effects of arts-based experimentation in pedagogy. This implies that educators may benefit from considering emotional aspects both for students and themselves when planning for and experimenting with arts-involvement in pedagogy.

In Chapter Three, two essential issues are addressed: do Gross National Happiness (GNH) policies in themselves create happiness? And, is incorporating GNH in all

subjects too challenging? Based on comprehensive empirical data (interviews and observations) we return a negative answer to both questions. Implementing the policies and ideologies of GNH in education has put a lot of pressure on principals and teachers and it clearly may take some time before GNH policies become something more than political and qualifications for school teachers. Some teachers find it difficult to integrate GNH principles in their specific subjects. To resolve this, it will be necessary over time to put a great deal of focus and resources into offering teachers the opportunity for continuously developing their abilities and competences. As far as we can see, the teacher training programmes in Bhutan are already in many ways aiming at doing this. Our concerns are on how teachers of all kinds in schools can be further prepared for the task of educating for GNH. We find that it will be important to integrate this approach further in teacher qualification activities more generally. We also underline the importance of developmental programmes to raise awareness among the current teaching body on practising the principles of Educating for GNH, if Bhutan wishes to achieve a successful balance between being a country that follows the noble principles of GNH and one that also plays an important role in global development.

Chapter Four: Through a specific case – a master's programme with a diverse student population – students' emotions were analysed and interpreted and categorised according to Pekrun's (2014) four types of academic emotions. The findings showed that the situation of boundary-crossing, i.e. coming from one educational context to another, triggered negative epistemic emotions (cognitive problems related to understanding the institutional logic and discourse) and related negative achievement emotions (fear of failure) during the first semester. A higher degree of explicitation and negotiation of meaning is suggested as a pedagogical solution to this problem.

Chapter Five: Based on scholarly research in the field of educational psychology and the authors' own quantitative studies, the chapter outlines the impact of concepts such as "emotional classroom climate" and "students' perception of their teachers' affective support". While the teacher can be identified as an important facilitator within classroom interaction when looking through an emotional lens, the concept of the teacher-student relationship can be identified as fundamental in various ways. Not only does it affect the social-emotional and academic learning outcomes for students, but it also has the potential to foster occupational well-being and teacher performance at the workplace. Practical implications for the teaching practice are discussed.

Chapter Six: When comparing the Chinese and the Danish approach to humour in education, we found that in both cultures, students thought that all humorous people are creative and they welcomed humour in project groups. They also regarded humour as not only a personality or communication tool but also the outcome of applying creative ideas in design practice. The Danish students thought being humorous promotes better individual involvement in group work and that humour itself can be a kind of creativity. The Chinese students thought humour is mainly

used to keep individuals' harmonious relationship with the group and humour is a immediate ability of creatively using language in ongoing communication contexts.

Last but not least, we would like to highlight the need to advance the study of emotions in learning and teaching, by looking in a focused way at school-specific emotions.

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MICHAEL A PETERS

AFTERWORD

EMOTIONAL REASON: CHALLENGING COGNITIVISM IN EDUCATION

In 2004 R. W. Picard and nine colleagues at the MIT Media Lab published "Affective Learning – A Manifesto" that registered a challenge to cognitive theories recognizing the way that the computer as model and metaphor had tended to skew research on learning as a form of information processing by privileging the "cognitive" over the "affective." The manifesto attempted to redress the imbalance to support an increasingly research-based "view of affect as complexly intertwined with cognition in guiding rational behaviour, memory retrieval, decision-making, creativity, and more" (Picard, 2004). They wanted to build new learning systems that used affect as a basis for new education and machine learning. They noted that "the extension of cognitive theory to explain and exploit the role of affect in learning is in its infancy."

Educational research lagged far behind the latest neuro-biological and evolutionary findings and had considerable difficulty translating scientific studies into classroom practice. Studies attempting to recognise the role of emotions in learning could do no better than proclaiming "Emotions affect learning" advising that teachers need to understand how their students' emotions affect learning and make judgments about when emotions are interfering with or supporting learning. In this context educational researchers also jumped on the "emotional intelligence' bandwagon and used the concept to advise teachers to help their students "manage their emotions". The emphasis also fell on creating "emotionally safe learning environments" where students felt safe and could take risks to develop their learning confidence.[1]

By 2014 Reinhart Pekrun (2014) could make an argument for the central place of emotions in the classroom:

> The classroom is an emotional place. Students frequently experience emotions in classroom settings. For example, students can be excited during studying, hope for success, feel pride in their accomplishments, be surprised at discovering a new solution, experience anxiety about failing examinations, feel ashamed over poor grades, or be bored during lessons. In addition, social emotions play a role as well, like admiration, empathy, anger, contempt, or envy concerning peers and teachers. Moreover, students bring emotions to the classroom that concern events outside the school, but can nevertheless have a strong influence upon their learning, such as the emotional turmoil produced by stress within the family.

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> Emotions control the students' attention, influence their motivation to learn, modify the choice of learning strategies, and affect their self-regulation of learning. Furthermore, emotions are part of students' identity, and they affect personality development, psychological health and physical health. From an educational perspective, emotions are important because of their influence on learning and development, but students' emotional well-being should also be regarded as an educational goal that is important in itself.

Focusing on emotions that students experience at school Pekrun (2014) proposed ten principles that cover the nature and diversity of students' emotions, functions, antecedents, and the regulation of emotions, and the role of education in modifying emotions, including the influence of teachers, classrooms, schools, peers and the family. On the basis of the research he distinguishes four major kinds of academic emotions: Achievement emotions that relate to student success and failure; epistemic emotions largely cognitive that surround problem solving including surprise, curiosity, confusion, and delight; topic emotions pertaining to lessons including emotions like empathy, anxiety and, or aesthetic enjoyment; social emotions relating to teachers and peers "such as love, sympathy, compassion, admiration, contempt, envy, anger or social anxiety".

Educational neuroscience studying the learning brain is identifying core concepts and principles at the heart of the emerging field:

- Human development is shaped by a synergy of biology and experience
- Emotion is fundamental to learning
- There are developmental sensitivities for certain aspects of language learning
- The literate brain can be created through multiple developmental pathways Mathematics is created in the brain with biology and instruction (Hinton et al., 2008: 87).

In the early attempts this century to examine the significance of emotions in learning their role was not as a central part of reason and rationality, as part of cognitive development. This was a brave attempt to recognize emotions but it did not try to theoretically rework the cognitive paradigm that was responsible for excluding the emotions to start with.

Thomas Dixon (2012) has mapped the history of "emotion" as a keyword in crisis from the point at which William James wrote an influential article for *Mind* called "What is an Emotion?" in 1884. He comments "Before then, relevant mental states were categorised variously as "appetites," "passions," "affections," or "sentiments" (p. 388). James, like Wittgenstein later, was trying to establish or define a psychological category and examine its meaning and he theorized emotion as a direct perception of some object in the world. James and the founders of the discipline of psychology bequeathed the discipline and related areas a set of inherited confusions between mind and body, thought and feeling that bedevilled the profession thereafter

and gave way to an even more diversified semantic and cultural history that seems to threaten the scientific operationalization of the concept.

Certainly the classical cognitivist account has become increasingly problematic not least because of the tendency to treat the individuals' cognitive processes in isolation from the thinking of others and from their environment, downplaying the influence of the dimension of collective intelligence, the role of collective emotions and overlooking the role of environmental factors in cognitive development.[2] These criticisms have led to new paradigms of embodied cognition and the extended mind, both of which open up the possibility for recognizing more formally the role of emotions in cognition and cognitive development. Both views have begun to emphasize goal-directed interactions between individuals and their environment in a problem-solving orientation against the classic cognitive paradigm that defines cognition in terms of the formal logic of rule-following and information processing that assumes a computational model of rationality. This postulate of a sort of internal set of brain processes unaffected by the environment excludes the role of emotion and makes it difficult to account for any collective dimension of intelligence or imagination.

The Cambridge Embodied Cognition and Emotion Lab assumes "First, cognition is grounded in actual bodily states, and second, many cognitive processes serve the broader goal of facilitating action in a specific environment."[3] Their work has explored various dimensions of embodied cognition in a number of interdependent contexts: The Body and the Social World: Embodied Morality where research supports the idea that moral judgement is driven by intuitive processes rather than deliberate reasoning in which emotion plays a fundamental role; The Body and the Physical World: Embodied Perception where findings indicate that "even perceptions of physical space turn out to depend on the social and emotional context" and, Embodied Metaphors, where "a certain set of basic bodily experiences that are essential in providing basic cognitive metaphors." In regard to the latter, Simon Schnall (2012) writes:

> In contrast to traditional theories of cognition, according to embodied approaches, cognitive processes do not have the goal of arriving at a mirror image of the world, but rather, cognitive processes allow humans to successfully act in their physical and social world. Thus, one of the main assumptions of embodied cognition is that the human body constrains action and its regulation, and as a consequence, produces a cognitive apparatus that facilitates action.

As Schnall explains the early work of Lakoff and Johnson (1980, 1999) on cognitive metaphors largely confined to linguistics has been confirmed in other areas of social experience confirming the metaphoric basis of many cognitive processes.[4]

Recent research examines the extension of theories of embodied cognition to the study of emotion and emotion knowledge such as the ways in which emotion concepts are supported by simulation in sensory-motor systems, the influences of

emotion in processes as the encoding of words, lexical access, and the perception of faces, and the ways 'emotions have important relations to processes of attention, memory, and are constituted in part by physiological processes, all of which are inputs to the mechanisms that support the subjective experience of time"[5]

Giovanna Colombetti writes of the 4E approach to the mind: embodied, embedded, enactive and extended.[6] She argues:

> My own view is that the embodied-mind perspective ought to give up on this dichotomy of the body vs. cognition that is still influential in emotion theory and affective science. Instead, we should characterize the cognitive aspects of emotion as embodied, and the bodily aspects of emotion as cognitive.

Increasingly, both philosophical and psychological studies are ridding themselves of the old dualisms inherited from Cartesian culture to look at more radical interactive embodied accounts of cognition, rationality and learning that do not privilege formal calculative rationality but rather recognize the essential role that emotions play in thinking and learning. Education has tended to lag behind many of these developments and also has great difficulty in translating research on embodied emotions as an approach to cognition in a way that impacts on practices.

This is the significance of Birthe Lund and Tatiana Chemi's edited collection. It brings the role of the emotions in education centre stage and engages in a thematic research project to explore educational contexts that work with innovative settings and the emotional side of learning and teaching and the special significance of emotions in the act of creation and new thinking. In one sense the reversal of hierarchical binary that was the controlling principle for Cartesian culture has not yet taken place. Cognitivism is still trying to adopt an approach to thinking and rationality that allows for emotion as a supplement rather than re-siting the problem altogether to acknowledge that the embodiedness of all human functioning in radical interaction with the environment – a philosophical view that stems from Darwin to be taken up by Heidegger, Dewey and Vygotsky. The new approach does not privilege thought over feeling, or cognition over emotions but recognizes that these dualisms disappear in the biological systems of the body as it interacts in dynamical and self-organising ways with its changing environment. Lund and Chemi's book recognises the new emphasis on the emotions in the innovative economy and the necessity for educationalists – researchers, teachers, and policy makers – to understand how the emotions contribute to artistic endeavour, to creative and innovation practice, and also to a new positive view of the emotions in learning and education.

NOTES

[1] See for instance the session called "Feelings Count: Emotions and Learning" developed by Linda Darling-Hammond, Suzanne Orcutt, Karen Strobel, Elizabeth Kirsch, Ira Lit, and Daisy Martin With Contributions From James Comer, M.D., Stanford University School of Education

[2] See the entry on Embodied Cognition at http://www.iep.utm.edu/embodcog/

[3] See http://www.psychol.cam.ac.uk/cece/research

[4] Schnall cites the work of Landau, Meier, & Keefer (2010).
[5] See the Niedenthal Emotions Lab at http://psych.wisc.edu/niedenthal/research.html
[6] See http://www.hdc.ed.ac.uk/seminars/emotions-body-and-world.

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Michael A. Peters
Wilf Malcolm Institute for Education Research
University of Waikato, New Zealand

ABOUT THE AUTHORS

Tatiana Chemi, PhD, is Associate Professor at Aalborg University, Chair of Educational Innovation, where she works in the field of artistic learning and creative processes, a field that she specifically focused on during postdoc research at the Danish School of Education. She is currently involved in research projects examining artistic creativity, arts-integrated educational designs in schools and the role of emotions in learning. She is the author of many published articles and reports and is also the author of *Artbased Approaches. A Practical Handbook to Creativity at Work* (2006), Fokus Forlag; *In the Beginning Was the Pun: Comedy and Humour in Samuel Beckett's Theatre* (2013), Aalborg University Press; *The Art of Arts Integration* (2014), Aalborg University Press and with Jensen, J. B. & Hersted, L. (2015), *Behind the Scenes of Artistic Creativity*, Frankfurt, Peter Lang. In 2013, Aalborg University Press named her Author of the Year. She is co-founder and leader of ARiEL (research in the Arts in Education and Learning).

Krishna Prasad Giri is currently employed at Keera Pat International School (KPIS) in Bangkok, Thailand. He has a master degree in mathematics and has been teaching for the last 10 years. He worked as an Associate Lecturer and Researcher at Samtse College of Education, Royal University of Bhutan until July 2014. He has experience of implementing educational assessment and virtual learning in the teaching learning process. He has done research into *The Impact of Modernization on Culture and Traditions of the Rai Community of Lumbay* in Bhutan, and has also written a paper on *Gross National Happiness: Ideology versus Practices in Bhutanese Secondary Schools* in collaboration with Lone Krogh, Associate Professor and head of HE Research Group at the Department of Learning and Philosophy, Aalborg University. He is presently writing about Gross National Happiness (GNH) in Bhutanese education, in connection with a collaborative research project between researchers from Aalborg University and the Royal University of Bhutan.

Sarah Lisa Grams, MSc in Educational Psychology, has recently accomplished her PhD education. Her main research interest is occupational teacher well-being and its relation to classroom interaction, with an applied focus on school development and teacher training. During her PhD research, she developed a tool to evaluate stress factors in teaching staff, aiming to identify fields for organisational development in a school-specific way. She has been involved in various contexts of teaching and learning: from primary school level, to university teacher training and supervision as well as in the context of school development processes. Sarah is furthermore working within class climate research, teacher self-management and self-efficacy development, as well as inclusive education. Her most recent publication following her PhD thesis is in Ottesen, E., Lund, B., Grams, S., Aas, M., Prøitz, T.S., European

Educational Research Journal (2013) Vol. 12, No. 4, p. 463–479, *Methods as Commodities within European Education: A Norwegian-Danish case*.

Julie Borup Jensen, PhD in 'Innovation and knowledge use in teacher practice'. Currently, she is Assistant Professor at Aalborg University and is a long-term member of the research group FIU, Forskning i undervisning og uddannelseskulturer (research in education and the culture of education). Her two professional backgrounds of classical violin and nursing are channelled into her cross-disciplinary research field of creative learning. Here, she brings artistic and academic tools into play in arts-based research on professional development in public sector-professions. Her publications include a range of articles and book contributions in Danish and English, on themes such as public sector innovation, innovative professional development and action research – all with a focus on creativity as part of learning, innovation as a social exchange of knowledge and practices, and arts in teaching and learning settings.

Annie Aarup Jensen, Associate Professor and PhD in 'The acquisition and development of intercultural competence in practice'. Her research interest is primarily adults' learning processes and the development of teaching, learning and assessment forms to support the process, in particular in relation to Problem Based Learning. She has many years' experience in creating, implementing and evaluating problem-oriented, project-organised and group-based study programmes and has done extensive pedagogical research into the university's study programmes. She is furthermore interested in the international and cultural aspects of teaching and learning and is the co-founder of the research group I. C. Learning (research into international, intercultural, interdisciplinary culture learning). She has published a number of articles and the latest co-edited anthologies are *Visions, Challenges and Strategies for Problem Based Learning* (2013) and *Teaching and Learning Culture: Negotiating the Context* (2013).

Roman Jurowetzki, MSc in Innovation Economics and final year PhD fellow at the Department of Business and Management at Aalborg University. His main research focuses on the evolution of large technical systems and the development of quantitative methods for their analysis. He is also involved in several projects related to bibliometrics and research evaluation. In the past two years he has been working with the secretariat of The Global Network for the Economics of Learning, Innovation, and Competence Building Systems (GLOBELICS), which globally promotes academic knowledge creation and exchange in the field of innovation and development, with a strong conceptual focus on interactive learning.

Lone Krogh, Associate Professor and Head of Higher Education Research Group (HERG) at the Department of Learning and Philosophy, Aalborg University. Her main areas are academic staff development, well-educated adults' learning processes, higher education didactics and development of education and teaching. Her interests also include evaluation/accreditation/assessment, as well as educational politics

and development in a globalised setting framing higher education institutions. She has experiences in implementing PBL strategies nationally and internationally. Writing about Gross National Happiness (GNH) in Bhutanese education is related to a collaborative research project between researchers from Aalborg University and The Royal University of Bhutan where data has been gathered 2012–2014. She has published a number of articles, and the latest co-edited anthologies are *Visions, Challenges and Strategies for Problem Based Learning in a Danish and Global Perspective* (2013), Aalborg Universitetsforlag and articles in *University Teaching & Learning* (2015), eds. Rienecker et al, Samfunds Litteratur.

Birthe Lund, MA, PhD, Associate Professor in the Department of Learning and Philosophy at Aalborg University, head of the research group FIU Forskning I undervisning og uddannelseskulturer (research in education and the culture of education). Her research focus is design and evaluation of creative and innovative learning processes in education, as well as philosophy of education. She has published a number of articles: Innovation Strategies in School in Creativity and Innovation.: Preconditions for entrepreneurial. red. / Kjell Skogen; Jarle Sjøvoll. Tronheim 2010. Jensen, Annie Aarup & Lund, Birthe, *Creativity development by management training in POPBL, In Visions, Challenges and Strategies for Problem Based Learning; Birthe Lund, and others: Storyline as a space for simulated practice: a teaching experiment in higher education in: Storyline – A Key to Effective Learning and Teaching,* Cambridge Scholars Publishing; Ottesen, E., Lund, B., Grams, S., Aas, M., Prøitz, T.S., European Educational Research Journal (2013) Vol. 12, No. 4 , p. 463–479, *Methods as Commodities within European Education: A Norwegian-Danish case*.

Chunfang Zhou, Ph.D., is Assistant Professor at the Department of Learning and Philosophy at Aalborg University, Denmark. In 2012, she finished Ph.D. study on 'Group Creativity Development in Engineering Education in Problem and Project-Based Learning (PBL) Environment' in Denmark. Chunfang locates her research in the area of Science, Technology and Society (STS), with a particular focus on creativity study and its relations to group learning, science and engineering education, organisational innovation, Problem-Based Learning (PBL), engineering and technology design, and Information Communication Technology (ICT). Since 2004, Chunfang has published more than 20 journal articles, 20 conference articles and 10 book chapters. She especially contributed to cross-cultural studies on creativity in higher education between Denmark and China. In 2007, her master thesis "Core Competence Development in Science and Technology Groups in Universities in Liaoning Province" was awarded as the "Best Master Thesis" by Northeastern University (NEU), China. In 2009, her published journal article "Research on the Research Group's Structure and Creative Climate of Universities in Liaoning Province, China" won the "Annual Article Award" of Japan Creativity Society.