

Reconnecting Knowledge Utilization and School Improvement: Two Steps Forward, One Step Back¹

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Concerned about the lack of attention currently being given to dissemination and knowledge utilization in school reform, Karen Seashore Louis' main purpose in this chapter is to 'reconnect' knowledge utilization and school improvement. In addressing her theme, she reviews the current "state of the art" in knowledge utilization theory, and discusses how it is connected both to school effectiveness and improvement research. In the second section of the chapter some new perspectives, that have the potential for altering the way in which we understand knowledge utilization, are considered. In concluding, Seashore Louis outlines an emerging model that reconnects knowledge utilization and school improvement theory, as well as identifying implications for practice.

Theories of knowledge utilization and educational improvement have been closely linked since Havelock's (1969) classic literature review. This connection is also apparent in practice. On the one hand, school improvement depends on the implementation of new ideas about school organization and instruction; on the other, the refinement of theories about how schools use knowledge depends on having schools that serve as natural loci of experimentation and change. In recent years, however, explicit attention to dissemination and knowledge utilization have dropped from the agenda of most scholars interested in school reform. The purpose of this paper is to review emerging theories that may help to reconnect research on knowledge utilization with research on educational improvement. The analysis presented below assumes that the reader is familiar with the broad outlines of both school improvement and school effectiveness research (for example, Creemers, forthcoming; Fullan & Stiegelbauer, 1991), but less familiar with research traditions related to knowledge utilization.

In the first section of this paper I briefly review the current "state of the art" in knowledge utilization theory, and discuss how it is connected both to school effectiveness and improvement research streams. I then go on to look at some of the challenges to traditional theories of knowledge use that have been posed by postmodernists. Finally, I will briefly discuss why both the dominant and the challenging paradigms are not adequate to explain observed phenomena relating to dissemination and knowledge utilization in education.

In the second section of the paper I examine some new perspectives that have the potential for altering the way in which we analyze and interpret the observed phenomena discussed in the first section. In reviewing new ideas that can contribute to our understanding of knowledge utilization, it is critical that we maintain the

thoroughly interdisciplinary base of this field. Various writers approach the problem of putting knowledge to work with different lenses, and major reviews of the field (Rogers, 1982; Glaser, 1976) demonstrate that high quality research and ideas come from many disciplines. This paper cannot, of course, range as broadly as these book-length synthetic reviews, and since my objective is primarily to stimulate thinking about theory, I will confine myself to a few viewpoints from political, historical, organizational, and cognitive learning theory. In each case, I will briefly illustrate how the knowledge utilization perspective is reflected in current school improvement or school reform issues. I then turn to some elements of an intersection between knowledge utilization theories and school improvement theories that may drive us forward to a synthetic model of D&U that represents a paradigm shift rather than a paradigm revolution (Kuhn, 1970). Some suggestions about practical implications will also be made.

STATE OF THE ART

A recent issue of *Knowledge and Policy*, which emerged from a 1993 conference in Haifa on the topic of dissemination and utilization (D&U) in education, contains very timely reviews of both the “state of the art” in more traditional theory (Huberman, 1994), and a postmodernist critique of that perspective (Watkins, 1994). Because these are both thoughtful essays, I will review some of the main features of their arguments rather than to reinvent them. In addition, I will suggest some of the implications of traditional and postmodernist theories for school effectiveness and school improvement research.

Traditional D&U Theory Renewed

Huberman’s review of the ‘state of the art’ begins with the common assumption that there is a “gap” between research knowledge and practitioner knowledge that cannot be bridged without calculated interventions. Early efforts to do so have long been viewed as hyper-rational due to their assumptions that (1) the flow of knowledge should be largely one-way, from the research community to the practice community; and (2) that more sophisticated forms of knowledge packaging and communication strategies would reduce, if not eliminate, the “gap” between what was known and what people did.

However, this body of research was never as simplistic as latter-day critics contend. As Havelock (1969) notes, scholarly work led to the conclusion that there was no simple, direct line between knowledge production and utilization. Early on, for example, there was attention to systemic and organizational barriers to and facilitators of knowledge utilization (as, for example, in the long line of work that started in the 1940s at Teachers College, which emphasized organizational and community factors in the spread of educational innovations, or the network analysis used to study the spread of medical and educational innovations (Mort,

1963; Coleman, Katz, & Menzel, 1966; Carlson, 1965)). While these and other studies operated within a positivist frame, in that they studied the spread of identifiable, research-based innovations within a defined population of practitioners, they foreshadow many of the more recent themes that look at situated or contextually specific reasons for learning and knowing.

Huberman (op cit.) notes the many challenges to a rational model of knowledge use but chooses to review the subtleties of the existing paradigm as it has emerged in the 1980s and early 1990s. He argues that five factors, at least in education, have demonstrated strong empirical relationships with knowledge utilization. These include: (1) the context of research, including characteristics of the knowledge base and the motivation of the researcher to disseminate to practitioners; (2) the user's context, including factors ranging from perceived needs to the perception of the value of the research information; (3) linkage mechanisms – a major focus of Huberman's own research – such as the 'sustained interactivity' between researchers and practitioners during the production and utilization phases; (4) the impacts of context and linkages on the resources, including attention, time, and acceptability of the research; and (5) the amount of effort expended creating an appropriate environment for use, which includes both the amount and quality of dissemination effort, the "useability" of the knowledge, and the quality of planning and execution in the "using site."

Huberman focuses on the role of reciprocally influential relationships in the process of knowledge utilization, but his perspective is consistent with the main lines of D&U research which emphasize the dispersion of knowledge to multiple sites of practice. This perspective can be seen in D&U efforts in a number of contexts, particularly those that emerge from the school effectiveness research tradition. For example, beginning in the late 1970s in the U.S., there were a number of efforts by regional educational laboratories and individual entrepreneurs to develop research-to-practice models that translated the results of the "effective schools" and "effective teaching" research into training and support programs for local schools. Similar experiments involving collaboration between schools, trainers and researchers, have been conducted in the Netherlands. Recent policy analyses in the U.S. and the Netherlands also point to the possibility of taking solid research findings related to effective schools and "translating" them into programs that can be adopted/adapted by schools (Datta, 1994; Overlegscmissie Verkennings, 1996). Policy makers in most countries believe that, with proper sticks and carrots, schools can be encouraged (or required) to become better consumers of "good research results." Popular documents, funded by a variety of agencies and teacher associations, (U.S. Department of Education, 1990; Fullan & Hargreaves, 1991) are intended to pave the way toward a better understanding of the connection between research knowledge and good school practice. Individual researchers who believe that they have found a key to improved student performance may also "package" their ideas with materials, models and training/support, as in Slavin's "Success for All" or Levin's "Accelerated Schools."

While Huberman's review is centered in this tradition, he makes a bridge to alternative perspectives in an important regard: he ties his own research findings

regarding the importance of mutual influence to the notion of *social constructivism*. Huberman notes that researchers and practitioners may have a reciprocal influence on each other, and suggests that the need for sustained interactivity to promote research/knowledge utilization is consistent with some elements of the contemporary constructivist approach to teaching. The latter asserts that teachers' practitioner knowledge is constructed, largely by individuals, through both reflective practice (Schön, 1983) and through more disciplined inquiry, such as action research (Carr & Kemmis, 1986).² This perspective is more consistent with emerging ideas about D&U that are associated with school improvement research: an emphasis on the uniqueness of schools, on the importance of local development activity, and on the centrality of school culture and leadership to improvement (and even effectiveness) (Lagerweij & Haak, 1994; Newmann & Wehlege, 1995).

Challenges from Postmodernist Thinking³

Postmodern theory provides a sharp critique of the renewed conceptual framework presented in Huberman's review. Watkins (1994) succinctly summarizes a variety of different perspectives within the broad postmodernist frame. He begins where Huberman leaves off, with the observation that teachers construct knowledge as they go about their work, particularly when they engage in professional discussions around their own practice. Like many postmodernists, he then goes on to equate daily efforts to solve classroom problems with research – research that is highly contextualized because it is grounded in many years of “experience, training, problem solving, reflection and the struggle to make sense . . .” (p. 56). The school's process may appear nonlinear and random to outsiders, but a constructivist perspective accepts that (1) all knowledge is “local” (Geertz, 1983); (2) all knowledge is contested and partial, and there is no clear way to differentiate whether one knowledge claim is better than another; and (3) all knowledge is political, and influenced by the interests of those who develop and/or use it.

Watkins' discussion is grounded in philosophical debates about the nature of knowledge, which range at one extreme from a positivist argument for the objectivity of some forms of knowledge (e.g., scientific knowledge) to interpretivism, which argues that all knowledge is socially or individually constructed, and that the dominance of some ideas (ideologies) is largely a result of the power that groups may exert in promoting their perspectives. While Watkins distinguishes his own view, “critical realism” from extreme interpretivism (he acknowledges objective realities, but argues that we cannot perceive them directly or fully), but argues that:

If [knowledge] meets scientific criteria, if it is generalizable, objective and theoretical, it is necessarily disembodied from its cognitive and social matrix, and no longer constitutes valid knowledge . . . it is intrinsically meaningless in other contexts. (p. 65)

Since it is obvious that people communicate with others every day, and that these communications have a clear impact on behavior (e.g., utilization), the apparent dilemma of observations of use and the theoretical impossibility of use can be resolved in two ways. The critical perspective espoused by Watkins, on the one hand, emphasizes the hegemony of particular groups who are able to make their interpretations of facts and information prevail. To avoid being a knowledge oppressor, the research community must, at minimum, give up control over the production of knowledge by creating learning communities with others, and at maximum eliminate any distinction between researcher and user (p. 69).

On the other hand, a “non critical theory” approach might differentiate between *knowledge* and *information*: Information can be easily transferred, but until it is interpreted, either by the individual or the group, it does not become useable knowledge (Louis, 1994). This position is consistent with a long line of mainstream sociological research that emphasizes the importance of socially constructed frames of reference that make learning at both the individual and group level possible – a position that predates the current wave of postmodernist thinking by several decades (Berger & Luckmann, 1966). It does not, however, demand adherence to Watkins’ assumption that “knowledge is . . . not disseminateable per se . . . [but] will need to be reconstructed in any use setting” (p. 72).

Just as traditional views of knowledge utilization are alive and well in public policy arenas, so are modified postmodernist perspectives. A paper recently commissioned by the U.S. Office of Education (Campbell, 1995) suggests that teachers and other educational practitioners will only “buy” our scholarly research if they contribute to it in meaningful ways. The paper goes on to propose a variety of techniques that could be used to involve practitioners in the process of research, and of testing and developing practices based on scholarly knowledge. Permeating the paper is the assumption that knowledge produced “outside” the practitioner’s own system is legitimately viewed as invalid, or “non-knowledge.” Some forms of action research also adopt a similar position, arguing that teacher creation of knowledge within their own classrooms is the preferred strategy for creating renewed educational settings. The notion that local invention is the most effective response to variable local conditions is part of the policy thrust toward deconcentration and decentralization occurring in several countries. The “charter schools movement” in the U.S., for example, is promoted as an antidote to centrally managed effectiveness programs that “don’t work.” Proponents of charter schools, which are typically new schools founded by groups of teachers and parents, assume that improving educational performance requires invention at the lowest level, not the diffusion of centrally developed and approved ideas.⁴ This assumption has been adopted as a public policy option in Sweden, where the National Board of Education was disbanded, the national curriculum simplified, and funding for education decentralized to municipalities (most of whom pass it through to individual schools).

A Critique

The so-called debate between “objectivist modernists” and “constructivist postmodernists” is, in my view, useful but limited. The debates are based in competing assumptions about science and the nature of knowledge, in which both modernists and postmodernists fail to fully reflect the conditions of inquiry or practice that are related to the development and utilization of knowledge in schools. In fact, there are also some similarities between the two. Both focus on the nature of knowledge and the relationship between knowledge production and knowledge utilization. Both assume, for the most part – even though the postmodernist perspective is critical of this situation – that formal knowledge is currently produced by researchers, and knowledge utilization, whether formal or informal, takes place in the work of practice. In other words, as Huberman posits, there is “a gap.” In fact, as both acknowledge, the picture is more complex. However, neither has built a theoretical base that incorporates the complexity that they acknowledge.

Postmodernism appears to be more flawed than the revisionist versions of traditional theory. Most basic scientists have long ago given up the straw man of radical empiricism, which claims that “research knowledge” is entirely objective and capable of “trust tests” in a cross-cultural, value-free context (Duening, 1991). Similarly, it is hard to imagine even the most anti-research practitioners accepting the contention that the only knowledge that exists to guide what they do in their classroom is their own interpreted experience. Furthermore, some observational empirical evidence suggests that, although there is a gap between what researchers think they know and how users and practitioners of various sorts behave, there is also considerable activity around knowledge utilization that does not obviously involve dark efforts to impose ideas on a passive audience.

One thing is clear: even if postmodern philosophy is correct, it has not damaged “science” at all.⁵ In a number of disciplines, for example, scholars are eagerly sought out for the potential commercial value of their ideas (Blumenthal, Causino, Campbell, & Louis, 1995). Rather than bemoaning lack of utilization, the research community debates where to draw the line between science and development of valuable ideas. The value of a scholar’s “sticky knowledge” – Von Hippel’s (1994) term for the insights from research that are not published, but can be communicated – is also apparent in education, where the work of some researchers leads them to be in high demand among the practitioner community (for example, U.S. researchers who have developed cooperative learning, or the university-based scholars who have new strategies for reading instruction). There is also clear evidence that people in normal positions and regularized circumstances seek and use knowledge that they believe to be, if not “objective” in the philosophical sense, at least useful, comprehensible and applicable. This knowledge is not always purveyed by social scientists and educational developers, but the fact that some of “our knowledge” is not viewed as “useable” (Lindblom & Cohen, 1979) does not obviate observations of knowledge use in educational practice.

If we see many examples of educators looking for or using externally generated knowledge as if it had real meaning, then postmodernism’s argument that all

knowledge that is local must be flawed. Similarly, if we see that most knowledge from the outside is viewed as suspect – or at least imperfect – until other additions have been made to it, then the modernist/positivist view is also problematic. Although the revisions to traditional theory suggested by Huberman attempt to address the problematic and contingent nature of knowledge, and to suggest ways in which dissemination activities may take account of this, his discussion does not address the other issues raised by postmodernists, namely that all knowledge is local, contested, and political.

In addition, there is an emerging body of theory and research that suggests a middle ground for dissemination scholars between the modernist extremes articulated by Popper (1972), on the one hand, and Geertz's (1983) more recent postmodernist work on the other. Furthermore, these middle ground positions are helpful in thinking about the problem of D&U and efforts to reform education than either of the more extreme positions. Some of these will be reviewed below.

NEW PERSPECTIVES

The new perspectives on dissemination and knowledge utilization that will be described briefly below can be viewed like layers on an onion of the problem of knowledge and practice. While it is clear that philosophers and most Western individuals – accept Descartes's dictum of "I think, therefore I am," which encapsulates the individual and psychological perspective on knowledge use, there has been a long recognition that thinking and subsequent knowing is constrained by context. Scholars have recently begun to examine these layers at a number of different levels: societal, organizational, and cognitive. Each of these will be briefly examined below, and the relationship of theoretical ideas to the problem of school improvement will be suggested.

Societal

At the societal level, two problems emerge from the current theoretical debates. The first has to do with the notion of research inquiry as hegemonic, while the second poses a fundamental problem of how knowledge becomes socially constructed/institutionalized if it is, by definition, local. Both of these issues are clearly related to current debates about how to reform schools, although they do not intersect neatly with the theoretical and practical perspectives of school effectiveness and school improvement scholars.

Political Perspectives

The notion that knowledge use is constrained by political contexts is not new. In the late 1980s, when evaluation research was well established on the policy

scene, observers began to notice that publicly funded research was often used primarily because it “fits” a set of partisan purposes that were formed prior to the availability of the results. Legislative staff members did not read research to find out how their elected bosses should vote; instead they often combed research to find results that would fit the Congressperson’s preferred stance. Thus, for example, even the most rigorous multimillion dollar educational evaluations relating to supplementary educational services for less advantaged children in the U.S. were ignored or embraced depending on personal perspectives.

Weiss and Bucuvalas (1980) were among the first to propose that knowledge produced through more-or-less rigorous inquiry needs to pass two types of tests before it is used: there is a *truth test*, which helps the individual or group looking at the information to decide whether it is a reasonable approximation of “reality,” but there is also a *utility test*, by which the same groups determine whether or not it can be applied given a set of constraints, which could range from financial to potential negative consequences not considered in the research. Thus, for example, educational researchers in the U.S. wonder why policy makers continue to advocate for large schools and large districts when cumulative research evidence suggests strongly that size is negatively related to student achievement (Wahlberg, 1991; Lee & Smith, 1994). Yet, local school boards and superintendents can present compelling evidence to support bigger institutions that range from obvious (cost savings) to symbolic (large schools are more likely to have comprehensive programs, which increases public support for education).⁶ The research may be true, but does not yet pass the utility test.

Weiss views knowledge as value laden, but, unlike the critical theorists, her perspective does not emphasize hegemony and explicit power interests, but the chaotic nature of knowledge and social cognition that make both dissemination and knowledge utilization uncertain activities. Research ideas can pop up and rejuvenate public discourse long after their initial proponents have forgotten them (Weiss & Bucuvalas, 1980). Knowledge that at least partially passes a truth test may creep into the public consciousness through the accretion of small decisions, producing a slow but nonlinear movement towards consistency. Thus, for example, the “small school” research is now beginning to shape U.S. public debates in a different form, through current efforts to create “charter schools” and alternative learning environments for special populations.

A recent analysis by Vickers (1994) compares Weiss’s theory of semi-ordered chaos and the hegemonic, critical perspective in two cases where “outside” knowledge was incorporated into Australian educational policy. In one instance, she shows that in the school-to-work transition policies used knowledge produced by the Organization for Economic Cooperation and Development (OECD) in ways that are consistent with the “knowledge creep” process, gradually producing a new social consensus. In a second, a single policy maker used OECD knowledge to justify a decision already reached rather than to engender a public discussion. In both cases there was a “paradigm shift” in policy, but in one the process of utilization was decentralized and focused on changing meanings among a broad set of actors, while in the other it represented legitimation for a policy arrived at among

a small group. As Vickers points out, both of these cases support Weiss's basic assumptions that the meaning of knowledge use is not simple, and that, while "knowledge is power," that power can take on different forms, not all of which involve imposing one world-view upon another.

These contrasting political perspectives on knowledge utilization are clearly related to problems of school improvement today. On the one hand, in many countries we observe devolution or decentralization policies that place the responsibility for knowledge utilization and change more clearly in the hands of schools, where teachers and school leaders struggle together to create better learning conditions for students. The assumption that localized processes of knowledge utilization can contribute to educational improvement is a distinct "paradigm shift" that has occurred on an international basis, propounded by an increasing consensus among teacher associations, politicians and parents in countries as diverse in educational tradition as Sweden, the Netherlands and the U.S. On the other hand, political actors continue, even in these settings, to make decisions that involve centralized, hegemonic decisions that are intended to shock parts of the system into change – for example, efforts to introduce new standards-based reforms in both the U.S. and the Netherlands, and to argue for more central control over some "high stakes" examination system in Sweden. The fact that these are international trends, often involving the borrowing of language and ideas between countries, suggests a strong currency for an international flow of political perspective about educational reform. Ideas about effective schools and effective teaching have also been widely diffused through international research networks, and later, within countries, have been influential in affecting policy discourse.

Historical Perspectives

The problem of determining how, under the constructivists/local knowledge assumptions, technologies become used over a wide area is addressed in a creative study by Turnbull (1994). Turnbull begins with a basic assumption of constructivism and postmodernism, namely that all knowledge is local. However, he points out that the localness of knowledge refers to its *production*, and not to its *distribution and/or use* by others. Turnbull points out that modern science is not the only example of knowledge produced at one site being broadly shared. He goes on to explore the processes by which this occurred in historical situations: The Anasazi Indians of the American Southwest, the Incas of Central and South America, the Micronesian navigators, and the stonemasons who were responsible for the building of the medieval cathedrals.⁷ His analysis of the strategies that were used by earlier cultures to transmit theories and "useable knowledge" across groups that were loosely connected and, in some cases, did not even share a base of common language, is instructive for our current understanding of how knowledge becomes widely shared and acted on.

For example, the European cathedrals were built over many years by illiterate craftsmen who shared no measurement systems, geometries or other tools that we

would normally think of as essential to the creation of a complex, coherent building. Coherence was also achieved in spite of many major design changes. This was done through the use of transferable templates, which permitted a single design to be reproduced as often as necessary. This illustrates a basic principal of knowledge dissemination and utilization: theory, to become widely shared, demands "templates of practice." His analysis of historical systems also suggests that the boundaries of the movement of knowledge are affected by power: at some boundary, the "owners" of the knowledge, whether they are stonemasons or priests, lose their communication or network influence, and the knowledge system that they represent becomes culture bound. However, it is not only formal power but the utility of the knowledge across sites that accounts for its spread.

Turnbull's analysis focuses on the implications of communications technology for the hegemony of ideas in modern science. I interpret his data from another perspective: *although all knowledge may be local, local knowledge can be shared under conditions where there are both limited and elaborate infrastructures and communication vehicles.* Furthermore, the analysis demonstrates rather compellingly that human beings can exercise limited control over difficult environments only when they share such knowledge beyond the localized groups.

Although Turnbull's historical analysis may seem remote from the issues of educational improvement, I would argue that it is pertinent to adjudicating the traditional and postmodernist perspectives on the role of practitioner in the development of educational knowledge. A romantic view of school practice argues that teachers, as artists, must invent, reflect and study in their own settings. Unlike artists, however, many constructivist perspectives on practice do not carry the artistic analogy further: the teacher, unlike the artist, does not have a concrete artifact of their developmental work. However, we increasingly see ideas about practice spreading through networks of teachers with a communication infrastructure (journals, professional meetings and books) that is very limited. This is particularly evident in the networks of innovative schools that have been initiated in both the U.S. and other countries, where there is an explicit effort to ensure that the development and flow of knowledge is controlled by teachers and not scholars.⁸ The flow of ideas across organizational and even cultural boundaries suggests that even when teachers create their own knowledge, there is a strong desire to share and spread under largely non-hegemonic conditions.

Organizational

Two recent developments in organizational studies seem to have profound implications for D&U and school reform. Each also contributes to the debate between the modernists and postmodernists. The first builds on the work of institutional sociologists of the 1950s and early 60s, but takes a more radical stance in terms of the degree to which external influences condition internal stabilities in organizations, and thus affect the knowledge that will or will not be used. This school of

thought, which emerged in the early 80s, is referred to as the “new institutionalism” (Powell & DiMaggio, 1991). A second line of work, which is more recent, examines organizations as systems that learn. This perspective is consistent with traditional open-systems theory as it applies to organizations (Scott, 1981; Katz & Kahn, 1966), but pays more attention to the mechanisms that foster or inhibit the ability of organizations to take advantage of knowledge that is generated locally or from outside.

The “New Institutionalism”

The new institutionalism in organizational theory begins with the assumption that the patterned regularity of organizational behavior, which is particularly noticeable within sectors or industries, is a major social phenomenon that requires explanation. The assumption that repetitive social relations are “facts” that cannot be reduced to individual explanations is as old as the field of sociology itself. What is “new” about the current perspectives, however, is the emphasis placed on explaining lack of variation in organizational patterns – for example, why do all modernized countries have a higher education system that is increasingly similar both in terms of types of institutions, length of study, and the names of courses of study? Why are school classrooms remarkably similar whether one is in California or Illinois?

The answer, according to institutional theory, is that the emergence of an organizational field, or a collection of organizations in the same line of business, becomes both an opportunity to influence the environment and also a normative environment. This has tremendous implications for dissemination and utilization of knowledge, because:

. . . in the long run, organization’s actors making rational decisions construct around themselves an environment that constrains their ability to change in later years. *Early adopters of organizational innovations are commonly driven by a desire to improve performance. But . . . as an innovation spreads [within the field] a threshold is reached beyond which adoption provides legitimacy rather than improves performance . . .* Thus organizations may try to change constantly; but after a certain point in the structuration of an organizational field, the aggregate effective of individual [organizational] change is to lessen the extent of diversity within the field. (DiMaggio & Powell, 1991, p. 65) (Italics added).

The spread of the community college system throughout the United States after its initial “invention” in California is an example of this. Particularly striking is its institutionalization as a system that contains both academic and vocational programs and the similarity of programs between units that avowedly respond to local needs (Brint & Karabel, 1989).

The similar nature of individual organizations within an institutionalized field is maintained not by rational choices, but by the dominance of the norms and

symbols that come to exemplify “the best of what we do.” Through their participation in symbolic rituals, organizational action reinforces the order of the institution and its relationship to society (Friedland & Alford, 1991, p. 250). To give just a small example, the use of bells in U.S. high schools to signify the end of classes has little practical significance. Yet, in many schools, efforts to eliminate the use of bells raised intense passion among constituents: bells are an important symbol of the orderliness of schooling, as contrasted with the chaos of adolescence. But resistance to change is not a consequence of individual concerns, but of environmental pressures from the organizational field, and, especially in the case of public sector organizations, from other constituencies who reinforce the norms and symbols. These may range from the general public (who expect bells) to the government and accrediting associations/inspectors.

In spite of the rigidities introduced into an institutionalized organizational field, change and knowledge utilization do, of course, occur. However, reforms often occur in a mimetic fashion, and become quickly institutionalized (DiMaggio & Powell, 1991). The “middle school movement” in the U.S. is an example of the diffusion of institutional change based on a mixture of scholarly research, information about practices in other schools, and “local knowledge” of what will work given district customs and constraints. What the institutional perspective points to, however, is the increasing similarity in features of schools that are deemed necessary in order to qualify as “a real middle school.” The initial period of reform was more localized and chaotic, with many efforts to invent new solutions to the problem of creating more academic engagement among early adolescents. In the past few years, on the other hand, key structural elements, such as teacher teams, interdisciplinary curriculum, and co-operative pedagogical styles, have become widely shared and legitimated, *although the research base supporting their value is still rather slim*. Having these changed structures and practice becomes prima facie evidence that the school has reformed, even in the absence of data about student academic success.

To summarize, the institutional perspective picks up the postmodernist themes of hegemony of particular ideas and forms of knowledge, but argues that these are largely created within the organizational field (often in response to external pressure) and are self-sustaining. Rather than emphasizing the “localness” of knowledge construction and use, they point to empirical evidence suggesting the impossibility of local change in the absence of similar pressures and needs to change throughout the field. Furthermore, they point to the mimetic nature of organizations within an institutionalized field as a determinant of what knowledge will be used. Traditional D&U concerns with communication, packaging of knowledge, etc., are relatively unimportant in this perspective, as are postmodernist concerns about “whose knowledge is it?” Educational reform within the broad organizational field is not dependent on the availability of specific externally developed models complete with training and support, although these may support change in individual schools. More important to determining whether there will be broadly based reform is the intersection between pressures for change from

outside, local development activities, and the rapid spread of workable ideas between adopting units.

Organizational Learning

If the new institutionalism examines the environment for dissemination and knowledge utilization activities that affect whether information will spread within an organizational field, the organizational learning model moves into the interior of the school, looking at features that affect the adaptability of individual units.

Organizational learning begins with a social constructivist perspective: knowledge is not useable at the local site until it has been “socially processed” through some collective discussion and agreement on its validity and applicability (Louis, 1994). Organizations that are more effective in using knowledge have certain characteristics – for example, they have denser internal communication networks, and more individuals serve in boundary spanning roles where they legitimately bring in new ideas from the outside (Senge, 1990; Daft & Huber, 1987). Conversely, organizations that don’t learn – even from information that they request – are characterized by internal boundaries, competition, excessive individual entrepreneurship and lack of continuity in personnel (Corwin & Louis, 1984).

Three features of school culture and practice – memory, knowledge base and development, and information distribution and interpretation – can also have a big impact on teachers’ ability to sustain an openness to learning (Kruse & Louis, 1994):

Shared memory consists of collective understandings that are developed in an organization over time. The shared memories held within a school will influence its capacity to learn (Louis & Miles, 1990). Positive shared memories from previous learning situations create an openness to future learning; conversely, memories based on bad experiences act as barriers to new learning efforts. Without an adequate base of common understandings from which to draw, teachers can be reticent to begin new learning activities (Louis, 1994).

Individual learning is usually defined by the notions of acquisition, storage and retrieval. Organizational learning adds an additional step because *collective knowledge* must be created through discussion so that all (or most) members of the school share it. Schools cannot learn until there is explicit or implicit agreement about what they know – about their students, about teaching and learning, and about how to change. As schools work to create a shared knowledge base, they draw from three sources:

- *Individual knowledge*: Teachers possess knowledge about the curriculum and their own instructional methods, but do not always have a common language or the skills to engage in serious conversations about their practice. Structures such as teaching teams or peer coaching relationships have often fallen short of their promise to increase conversation (Hargreaves, 1994; Kruse & Louis,

1996). Thus, to create a dynamic learning environment in school, we usually need more than individual knowledge.

- *Knowledge they create:* Teachers generate knowledge when they systematically examine their practice (Carr & Kemmis, 1986), and practitioner-driven research and other means of self-appraisal can be more effective stimuli for change than external mandates (Fullan, 1993). Self-appraisal is not easy, however, and requires support for mutual learning, such as shared planning periods, regular faculty meetings devoted to discussion, and informal communication (Louis, Marks & Kruse, 1994).
- *Knowledge sought from others:* When schools embark on reform they may be given or seek solutions to problems from other schools or “experts.” If this externally provided information is discussed sufficiently, it can become shared knowledge. But as with self-appraisal, the ability to seek and to absorb information varies between schools (Louis, 1994).

An information base is not enough. Teachers must also *interpret and distribute* information before it becomes knowledge that is applicable across classrooms. Joint efforts to interpret information must provide a foundation for challenging existing beliefs about the school, or previous views of teaching and learning remain unchanged (Louis, Kruse & Raywid, 1996). Genuinely understanding an innovation or the basis on which it rests is necessary if teachers are to make the new information applicable in the classroom.

The organizational learning perspective is critical when we consider the relationship of D&U and improvement theories in education. It suggests that the possibility for reaching a school with new knowledge is not dependent on where the knowledge comes from or the linkage mechanism, but on characteristics of the school and its ability to process information. While “sustained interaction” with a researcher might enhance utilization, it cannot produce it in the absence of the structures and culture that encourage the development of a shared knowledge base that will guide collective action. In this respect, Huberman’s (1994) focus on school characteristics as a factor mediating knowledge use intersects clearly with emerging ideas about school development and improvement.

Cognitive Learning Theory

At the most micro-level, new advances in cognitive theory suggest many directions for theories about dissemination and knowledge utilization. Many of these are consistent with postmodernist perspectives, but they assume that individuals not only create their own knowledge, but also incorporate knowledge from outside. Since few postmodernists attend to cognitive psychology, assumptions about individual learning are not well reflected in their work. The new traditionalists, such as Huberman, however, have made considerable progress in thinking about ways that emergent findings related to how both children and adults learn, should

affect how we think about dissemination and knowledge utilization (Huberman & Broderick, 1995).

Huberman and Broderick argue that "the most hopeful new avenue of inquiry in the D&U literature emerges when dissemination takes place . . . through . . . sustained interactions between researchers and practitioners" (pp. 3–4), a point that is central to the renewed traditional theory. They go on, however, to explore the cognitive and structural conditions under which sustained interaction may result in increased meaning on the part of both. Central to their argument is the idea of socially shared cognition that has begun to dominate the field of cognitive development (Brown, 1994). This perspective assumes that individuals learn best when they interact with peers and relate new ideas to an existing core of shared knowledge, and when peers challenge individually held assumptions and provide incentives to rethink their previous ideas. However, this learning-through-interaction works best when the learners have reached a minimal level of understanding of the content, and the challenges are not too great.⁹ This perspective differs from organizational learning theory discussed above in that it draws on Vygotsky (1986), who argues that interpersonal processes must be translated into intra personal processes before learning can be said to have occurred. Thus, their emphasis is largely on the way in which individual researchers and practitioners enter into relationships that cause them, as individuals, to change their assumptions and even their behaviors.

The notion that thinking is "irreducibly a social practice" implies that dissemination and utilization are best thought of as a process of reflection, in which people with different, but overlapping, knowledge and culture meet to consider their common concerns (Huberman & Broderick, 1995, p. 21). Researchers (or others who operate at the edge of applicable knowledge) point to dissemination as a factor in obtaining greater clarity about their own work, just as young students obtain greater mastery of concepts when they are obliged to teach them to others.

Because researchers and practitioners in education share some assumptions, but have divergent experiences on most dimensions, "opportunities for cognitive discrepancy are good; they are fed by attempts to reconcile the conflicting versions of what those issues now mean" (Huberman & Broderick, 1995, p. 30). In other words, if there were no sustained interaction, both would be likely to be startled by the response of the other, but fail to give it serious consideration as they moved on to other pressing issues and social partners. By creating some shared meanings and language through discussion of cognitively dissonant ideas, a new reality is created that did not previously exist:

Thus, cognitive shifts are not activated 'within the person' or 'within the setting' but rather within the mediating activity itself, dynamically and dialectically – a bit like Leontiev's concept of a continuously shifting 'construction zone' or Schön's notion of 'reflecting in practice' and Dewey's idea of 'knowing in action.' (p. 31)

While retaining the notion of the valid-yet-different perspectives of research knowledge and practice knowledge, Huberman and Broderick argue that it is at

the intersection between the two (or between any two sets of “local knowledge” for that matter) that cognitive progress is made at the individual level.

PARADIGM SHIFT OR PARADIGM REVOLUTION?

The purpose of the above review of recent research in a number of disciplines is to point to two issues: first, there is a proliferation of research and theory bearing on the intersection of knowledge dissemination and utilization and school improvement, and second, much of this research already incorporates elements of a postmodernist position, although none of the new approaches discussed, with the exception of Turnbull, is consciously postmodernist. The convergence taking place around the key elements of postmodernist views of knowledge will be considered first, and then the implications for school improvement practice:

- *All knowledge is local.* The above discussions assume that local knowledge is a key feature of the landscape of change, but most would agree that there is important knowledge that is not local. Knowledge created elsewhere must, according to all theories, be compatible with existing belief structures, diffuse rapidly throughout the organization field so that it becomes legitimized, have utility in local sites, and be “processed” in ways that make it fit with local preferences. The “new institutionalism” adds another wrinkle to this: knowledge that is widely diffused is itself institutionalized so that it can be easily legitimated and shared within the “field” of organizations, sites or other members of the culture. Although a great deal of important knowledge may come from outside the organization, the above theories also suggest that this information is always combined with local knowledge.
- *All knowledge is contested and partial.* This feature of postmodernism is supported by most of the new theoretical advances. At the cognitive learning level, for example, the contesting of knowledge is central to the learning process. The “new institutionalism” (at a very different level) argues that it is the incontestability of many features of an organizational field that make it difficult to change: only where there are chaotic events that cause either insiders or outsiders to question the knowledge will change/knowledge utilization occur. The contested nature of knowledge is a key element of political theory, and the primary element that lead both Weiss and Vickers to conclude that there are many ways of using knowledge, depending on the degree to which it is “solid” – e.g., meets truth and utility tests. In the organizational learning model, it is the debate and discussion around contested or partial knowledge that leads to a new consensus about how to solve problems or *modus operandi*, a perspective that is consistent with emergent cognitive learning theory.
- *All knowledge is political.* Insofar as the newer theories address power, there is a tendency to follow Macauley’s assumption that “knowledge is power” and that the creation of knowledge creates powerful settings (including constraints).

None of the perspectives reviewed here adopt, however, the critical postmodernist perspective, in which the power associated with knowledge is viewed as an instrument of oppression. Cognitive learning psychologists, for example, do not find that children who temporarily have knowledge that others lack use this power to dominate. Turnbull, who applies a postmodernist frame, assumes that knowledge becomes less powerful as one moves from the center to the edges of the social group. Nevertheless, political contexts are critical to understanding knowledge use, as is demonstrated by the analysis of knowledge utilization among policy makers, and the “new institutionalists” observations that knowledge use is constrained as the organizational field becomes defined both by internal norms/patterns and external expectations/regulation.

While all of the perspectives reviewed are consistent with some of the basic tenets of postmodernist views of knowledge, they also assume that knowledge has some realist qualities, and that it can be used by individuals who have not created it. The use process is complex and difficult to predict: there will be no production function D&U models emerging from this set of scholars. But messy cannot be equated with impossible. In fact, we may draw some lessons from Bordieu and Waquant (1992) in this regard:

Awareness of the limits of objectivist objectivation made me discover that there exists, within the social world, and particularly within the academic world, a whole nexus of institutions whose effect is to render acceptable the gap between the objective truth of the world and the lived truth of what we are and what we do in it. . . . It is this double truth, objective and subjective, which constitutes the whole truth of the social world. (pp. 254–5)

Postmodernist theory has taken us two steps forward, demanding that we examine a wide variety of assumptions that we make about the nature of knowledge and its effects on ourselves and our settings. However, we must also take one step back and realize that the most profound of these insights are compatible with revised versions of existing theories, particularly if we broaden where we look for research to inform dissemination practice. In addition, as I have argued throughout this paper, the modifications to theories about knowledge and knowledge utilization are compatible with what we know about educational improvement and the directions of educational reform policies in a variety of settings.

SOME IMPLICATIONS FOR PRACTICE

“But is there any there, there” – the bitter query of the disillusioned postmodernist? If we think of “there” as D&U applications in pursuit of educational change, there are many implications of the layered approach to D&U theory proposed in this paper. In particular, I would argue that there is a self-conscious need to reintegrate our understanding of the nature of three arenas of knowledge: research results related to educational goal achievement (school effectiveness, broadly conceived), educational

change processes (school improvement, broadly conceived), and the knowledge use strategies that can be pursued both inside and outside schools to improve student learning and development. None of these are inconsistent with Huberman's reformulation of traditional dissemination theory, but suggest an expanded context for thinking about D&U. In particular, we need to draw upon the research about political, historical and organizational contexts affecting knowledge use to enrich the micro-level perspectives that are emphasized in Huberman's formulation. While it is beyond the scope of this paper to suggest a model for D&U and school development that fully incorporates these theories, a few examples can demonstrate the practical connections:

- *Research knowledge generated in universities or research institutes is only one source of knowing, and its use must be negotiated during a dissemination process. This fluid relationship-and even co-dependence – between research and practice must be acknowledged, and researchers must be prepared to be open to involvement in the development process at the user level.* If this is true for “gold standard” science (Datta, 1994), it is particularly true for social science and educational research, which is less likely to be “gold standard.” Much of the best practice in education is not generated by scholars in laboratories, but by teachers and school leaders in actual settings. On the other hand, the spread of new ideas in education is frequently aided by research, which may codify and extend practice-based knowledge as well as making independent contributions to it. In many cases, researchers may not be as well equipped to engage in field-based development over long periods of time (they have students and new research projects to carry out), but the others may fulfill this function *if* they have a deep understanding of the emerging nature of the negotiated knowledge.
- There has been a trend in many countries to involve practitioners in setting some educational research agendas (for example, serving on peer review panels), and even as co-participants in carrying out research. This is thought to make research more grounded and, hence, useable. However, *involving “users” in research will not necessarily make the research more useable – except at a particular site or among those who have been directly involved.* While it may be good for researchers to become more connected to practice settings and vice-versa, the power of site or place when it comes to change is infinite. Thus, extensive involvement of practitioners as researchers should occur for its own direct benefits, and not because it improves the possibility of dissemination and utilization.
- The main barriers to knowledge use in education are not at the level of individual resistance, but lie in the *rigidities induced in institutionalized organizational fields, organizational designs that do not foster learning, and political agendas that are not consistent with the information.* Changing these inter-organizational rigidities in the short run may be extremely difficult. The motto under these circumstances is not to engage in Sisyphean efforts, but to “try again another day” because contextual circumstances change for reasons that have nothing to do with research or educational policy.¹⁰
- The barriers to knowledge utilization are often to be found in organizational

design. This suggests that *redesigning the school should be part of any effort to engage in "sustained interactivity"* around research utilization. The emphasis on developing school capacities for self management that is emerging in many countries should be shaped around those capacities that augment not only the ability to manage budgets and personnel policies, but also that attends to the creating of schools that can learn from knowledge that is generated inside and outside the school.¹¹ This objective will require policies, and direct training and support to schools that have previously not engaged in these efforts.

- *Some forms of useful educational knowledge will spread with minimal dissemination effort* – due to organizational field compatibility or because the field develops an infrastructure to assess and legitimate the type of knowledge. We do not always need elaborate infrastructures or sustained interactivity to ensure the incorporation of new ideas in practice. On the other hand, *other knowledge that is equally important may require systematic policy interventions and organizational support before it becomes integrated into practical thinking.* Assessing what will catch on naturally, and what will not is, at least at this point, not easily predictable, which makes the job of D&U practitioners difficult.
- *Utilization and impact can only be assessed over the long haul.* Short run efforts to foster major utilization are likely to appear shallow and hegemonic to practitioners, and to fail to disrupt the interorganizational rigidities of the field. Policy makers and disappointed researchers are likely to view these efforts as “failures” and to pronounce schools as impossible to change. Thus, research-based efforts to create school reform must be based on an extended time-line.
- Creating sustained interactivity is not a solution to the D&U problem but, if it becomes a norm, it may well increase the scholarly impact because it *enlarges the organizational field.* We should not limit the idea of sustained interactivity to the relationship between a “knowledge producer/researcher” and “knowledge consumers/practitioners” but focus also on formal and informal networks for transmitting knowledge between units. These networks, to be successful, must involve “practice templates” that combine research knowledge and practice knowledge.

These are only a few suggestions. The main point of this paper has been to argue that we do not need to throw away our theories about school reform processes and D&U, but to merge and enlarge them. The fact that enlarged perspectives have reasonable practical implications is only one of many criteria that need to be applied to determine whether the analysis presented above is valid.

ENDNOTES

¹ The preparation of this paper was supported in part by the University of Oslo, and the Center for the Organization and Restructuring of Schools at the University of Wisconsin. None of the sponsoring agencies is responsible for the ideas presented herein.

² Huberman also correctly notes that the constructivist teaching models, which emphasize the need

for knowledge from “the outside,” whether it is generated by research or through teacher inquiry, to be filtered through an interpretive individual lens, do not meet the tests of contemporary post-modernist theory, which fundamentally contests the empiricist assumptions underlying both Huberman and constructivist teaching stances.

- ³ Andy Hargreaves recently noted that one may whole-heartedly agree that we live in a postmodern era, defined by a radical shift in the nature of economies, employment and social relations, and disagree with many of the propositions put forward by self-style postmodern thinkers (personal communication). This point should be borne in mind in reading this entire essay.
- ⁴ It is important to distinguish between the U.S. “charter schools movement” which emphasizes the creation of new, alternative educational settings that have specific, measurable learning objectives, and the “voucher movement,” which advocates a market model of parental choice. Although both give increased flexibility to parents, the underlying assumptions about how educational will improve (quasi-regulated market versus professional knowledge creation and accountability within new schools) are entirely different.
- ⁵ Datta (1994) argues that educational research knowledge has certain “fuzzy” properties that make it more disputable, but shows that reaching consensus in harder disciplines, such as medical research, is also extremely difficult.
- ⁶ The tendency of policy makers to ignore research on the negative effects of large schools is not confined to the U.S. National policy in the Netherlands has supported mergers between smaller schools, creating some of the largest – and administratively incoherent – secondary schools in Europe.
- ⁷ In doing so, Turnbull confronts two assumptions: first, that “prescientific” societies did not have authoritative knowledge or shared paradigms; and second, that modern scientific knowledge is “different” and more disseminatable because it is more universal and value free.
- ⁸ Similar results could have been located in the strong Teacher Center movement in England, which has now been largely de-funded.
- ⁹ While Huberman and Broderick do not note this, it also assumes that the group has certain characteristics: that there is a shared ‘culture’ at some level, and that there is a level of familiarity that permits communication of challenges in ways that are not excessively threatening.
- ¹⁰ A particularly interesting example is the Netherlands, where 70% of the schools operate under public funding but private auspices. Only a few years ago it would have been politically impossible for the government to make strong recommendations related to curriculum or teaching methods within the quasi-private sector. Today, the Inspectorate and the government are increasingly putting pressure on schools to, for example, adopt research validated reading instruction rather than older models that are commonly used.
- ¹¹ Bryk, Camburn and Louis (1996) have shown a strong relationship between the development of professional communities in Chicago elementary schools and knowledge utilization or organizational learning. Marks and Louis (1996) also show strong relationships between school structure (increasing teacher influence over school policy) and learning capacities.

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