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The Role of Educational Psychology in Teacher Inquiry

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About CASTL

The Center for Advancing the Study of Teaching and Learning (CASTL) was established in 1998 in the Department of Foundations and Leadership at Duquesne University School of Education. CASTL engages in research programs dedicated to understanding, advancing and disseminating evidence-based study of the teaching-learning process.

Mission and Goals

The Center for Advancing the Study of Teaching and Learning promotes systematic and intentional inquiry into the teaching-learning process and, through careful and collegial study of learning-centered environments, seeks to advance the understanding and dissemination of evidence-based study of the teaching-learning process in service of all learners.

To promote its mission, CASTL intentionally pursues the following goals:

- Promote socially just, learning-centered environments that bring excellence and equity to all learners;
- Foster systematic and intentional inquiry into the beliefs that educators hold about educational theory and research and effective practice;
- Honor research, theory, and practice as legitimate and complementary sources of knowledge regarding the teaching-learning process;
- Elevate professional learning and educational practice to the level of scholarship;
- Advance the conceptual framework of leadership as learning;
- Develop a knowledge network fueled by researchers, theorists and practitioners who contribute to advancing the study of the teaching-learning process;
- Establish and perpetuate an international community of teacher-scholars representing a variety of teaching and learning environments;
- Promote and coordinate communication within a network of educational institutions and organizations that collaborate in the recruitment and education of teacher-scholars;
- Create a culture of professional learning based on research situated in schools and in other learning environments;
- Examine and develop methodologies by which the teaching-learning process is studied;
- Advocate for the enhancement of the teaching-learning process in service of all learners; and
- Share what is learned about the teaching-learning process.
This report is one of a series from our ongoing research effort to advance the study of teaching and learning. If you have any questions or comments on this report, or if you would like to find out more about the activities of CASTL, contact:

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"We do not describe the world we see; we see the world we can describe" (Senge, 1995). What worlds do teachers see as they engage in the daily realities of the classroom? How do they describe those worlds? How much of what they believe about those complex worlds remains hidden—not conscious but tacit? How do the descriptions of their worlds change as they engage in systematic and intentional inquiry into their practice, and in the process, bring to the surface the beliefs that they hold about teaching and learning? Do they begin to see their world differently and more clearly? And as a result, do they have both a greater ability to describe their world, and therefore a greater ability to see it?

These are some of the questions and issues that drive a research effort into teacher beliefs and cognition and that shape the design commitments of an online professional learning community known as Teaching as Intentional Learning (TIL) (Moss, 1998), a learning program of the Center for Advancing the Study of Teaching and Learning (CASTL) at Duquesne University in Pittsburgh, Pennsylvania. It is important, at this point, to distinguish our design emphasis from anthropological research. In designing and sustaining the TIL program and its community of practice, our goal was not simply to develop an ethnographic account of participants in online communities of practice without any intention of influencing them. Instead, and from the onset, we intended to continually cycle our research findings back into our design and research efforts. In this way, our larger research program into the nature of teaching and learning in effective learning environments and specific investigations into elements of professional learning (e.g., teacher cognitions, teacher beliefs, semiotics and genuine doubt) were constantly informed and advanced.

This paper presents some of those interim findings, and in so doing, explores two interrelated dynamics: (1) the role that educational psychology plays in engendering the excavation and examination of teachers’ beliefs in an online community of practice; and, (2) the influence that being a participant observer in this community has had on my own assumptions about teaching educational psychology.

The paper begins with a conceptual framework gleaned from theory and research on teacher beliefs and assumptions. It includes a discussion of how “best practice” models of professional development impair teacher thinking and problem solving, and how teacher beliefs shape their inquiry and learning. Then the paper describes the Teaching as Intentional Learning (TIL) (Moss, 1998) program, a professional program built on a process of systematic and intentional inquiry and supported by an online learning environment. This section includes a discussion of how the design elements of the environment are driven by philosophical commitments and the goal of placing principles of educational psychology in service of the learning agendas created by members of the online community of practice. Next, the paper describes an investigation into the changing beliefs and perceptions of a group of 58 practicing educators engaged in the TIL program for university credit. The investigation analyzes their statements overtime captured in a series of weekly progress reports. Findings of the investigation are summarized into four themes presented as phases of inquiry. The paper concludes with a discussion of the role that principles of educational psychology played in those phases and how the findings have influenced my own assumptions about teaching educational psychology at the undergraduate level in a face-to-face environment.
DESIGNING AN ONLINE ENVIRONMENT FOR TEACHER INQUIRY

More of the Same: The Influence of “Best Practice” Models of Professional Development on Teacher Beliefs and Assumptions

Too often, educators experience traditional programs of professional development that can best be described as deficit models. In these traditional programs, professional development is cast as an “event that educators attend”. After attending, educators are expected to enact, adapt, or implement other people’s constructs about educational practice. These traditional models of professional development tend to tell teachers what is “good, right, and true,” presenting best practices of teaching as clearly defined and logically ordered. In reducing “best practices” to such general and sanitized packages, traditional professional development models minimize the situated complexities of everyday practice (Clark & Lampert, 1986; Greeno & Goldman, 1998). They seem to offer a “one size fits all” approach to classroom practice, and reduce teacher involvement to selecting among programs designed around specific best practices—best practices that often haunt educational reform and reinvention efforts as dogmas from the past that impede progress and innovation.

These restrictive views of professional development, prevalent among those who design and deliver it, do little to advance the concept of the teacher as learner. Moreover, these views have generated a culture, complete with its own language, that continues to propagatethe notion of professional development as an “event” that one “attends”. The term “training” is a big part of the language. Perhaps “…nothing has been so destructive as the label training—it is an inappropriate metaphor for working with practicing professionals” (Strong, et al., 1990, p.27). In fact, the assumption of “training” teachers perpetuates professional development models and practices that are unconnected to classroom life (Darling-Hammond, 1996; Guskey & Huberman, 1995; Hargreaves & Fullan, 1992), and preserve the pattern of “in-service training” delivered by “…outside experts…[who] often [view] teaching as technical, learning as packaged, and teachers as passive recipients of the findings of ‘objective research’” (Lieberman, 1995, p. 592). The assumption that we must train teachers is diametrically opposed to the metaphor of teachers as learners who continuously reflect to examine their practice, learn from their reflections, and use their insights to refine their thinking, understanding, and practice (Brubacher, Case, & Reagan, 1994).

Clearly professional development bent on transferring packaged “best practices” for teachers to enact, renders teachers particularly susceptible to an insidious process of enculturation. Teachers and schools tend to describe themselves according to “best practices” and even in changing times, teachers strive to become better and better at doing “more of the same” with diminishing returns (Drucker, 1995). Indeed what is “best practice” today may be “worst” tomorrow (ie. student tracking) depending on the shift in the training culture that validates and supports its “best-ness”.

Because of this tendency to do more of the same, a “best practice” approach can create a climate similar to the plight of the frog placed in a pot of cool water over a burning flame. As the temperature shifts, the frog who is unable to sense the gradual change, ultimately boils to death. In other words, striving to become better at doing more of the same tends to promote locked-in behavior patterns resulting in a death spiral of decisions that are driven by a priori assumptions.
Seeing What We Look For: How beliefs shape inquiry

What we see, and therefore what we learn, depends a great deal on what we look for. In fact, Popper (1962/1981) argues that all observations are inherently selective since they are interpreted from a particular frame of reference. If what we observe then, is determined by the subjective nature of our selective observations, it follows then that what we learn ultimately depends on the situations that we investigate. That fact makes our underlying beliefs and assumptions critical to our learning since the situations and kinds of situations that we investigate are determined by our \textit{a priori} assumptions that we will find something significant if we look there (Nickerson, 1993).

Clearly, understanding the relationship between inquiry and beliefs is critical to examinations of professional learning as inquiry. The process of professional learning is intimately related to personal beliefs and experiences (Ashton, 1990; Ashton & Webb, 1986; Bandura, 1997; Richardson, 1996; Wideen, Mayer-Smith, & Moon, 1998; Wilson, 1990). Our experiences “strongly influence [our] final judgements, which become theories (beliefs) highly resistant to change” (Pajares, 1992, p. 317). In fact, our personal beliefs and assumptions are so deeply engrained that whether they are right or wrong we continue to cling to them even when they no longer accurately represent reality or logic (Nisbett & Ross, 1980). Kagan (1992) noted that this unreasonable tendency to hold on to beliefs exists because teacher beliefs form a particularly provocative form of personal knowledge that rarely changes even after extensive teacher education. In fact the beliefs that teachers hold once they graduate from the university are most likely the same beliefs that they held before they entered their undergraduate program and are rarely influenced by reading and applying the findings of educational research (Hall & Loucks, 1982).

Because of the tenacity of beliefs, even in the face of counter arguments and evidence, researchers argue that beliefs and assumptions are the best gauges of the decisions that people make in their lives (Bandura, 1986; Dewey, 1933; Nisbett & Ross, 1980; Pajares, 1992; Rokeach, 1968). In other words, teachers do what they believe to be true, correct and valid. It follows then that what teachers assume to be true about how learning takes place and how instructional processes enhance, encourage, and support that learning determines the investigations that they design during intentional inquiry. And, as their inquiry proceeds, their beliefs and assumptions determine the nature of the arguments they make for or against certain decisions of practice. Namely, beliefs and assumptions determine not only what teachers count as evidence that something works but also determines how they interpret the validity and relevance of theoretical perspectives and the findings of research.

Teaching as Intentional Learning (TIL): Seeing Professional Learning as Systematic and Intentional Inquiry

Yet, the realities of today’s classrooms demand teachers who can challenge both their own thinking and practice and the thinking and practices of others. To bring about that caliber of teacher, we must design programs that foster and support their ability to reveal, challenge, and if need be alter the beliefs that they hold. In other words, we must find ways to help teachers see that beliefs are personal and that each person has within herself the power to alter those beliefs (Moss, 2000a).

In fact, research tells us that the most effective professional learning processes involve teachers in the active identification of what they need to learn ((Borko & Putnam, 1995; Burch, 1996; CPRE, 1995; Little, 1993; Miller, Lord, & Dorney, 1994; NFIE, 1996; Tillema & Imants, 1995; U.S. Department of Education, 1995). When teachers take charge of their own learning, they experience a type of professional engagement that not only increases their motivation and commitment to learn (Hodges,
This type of professional learning empowers them to take instructional risks and to assume new roles and responsibilities (Pink, 1992; Barr, Anderson, & Slaybaugh, 1992); increases the likelihood that what is learned will be meaningful and relevant to particular contexts and problems (Pink & Hyde, 1992); improves instruction (Hodges, 1996); and makes the school culture more collaborative and improvement-oriented (Pink, 1992).

The design of the TIL program is based on this research and other relevant studies (e.g., Bandura, 1997; Berliner, 1987; Cochran-Smith & Lytle, 1998; Darling-Hammond, 1996; Darling-Hammond & McLaughlin, 1996; Guskey & Huberman, 1995; Heaton & Lampert, 1993; Lieberman, 1995; Little, 1993; Moss, 2000a; National Commission on Teaching and America’s Future, 1996; National Foundation for the Improvement of Education, 1996; Richardson, 1990; 1996). In addition, TIL constantly folds the insights gained from its four year history as a learning program placed “in service of the scholarship of practice” (Moss, 1998). Because of the lessons learned, the design

“Intimately connects to teachers’ work with their students; enables educators to investigate and actively apply research and new knowledge; flows from problem-solving and collaborative inquiry; enhances collegial communication and collective problem solving; builds effective, long-lasting, vital relationships among educators; sustains crucial conversations overtime that foster shared beliefs, shared norms, and shared skills; extends to educators the same kind of support and care that they are expected to extend to students; provides a framework and support for systematic and intentional inquiry; encourages educators to reveal and challenge their existing beliefs and assumptions” (Moss, 2001).

Clearly, TIL’s design is deeply rooted in the belief that inquiry is at the heart of all learning and connects theorizing and practicing in the person of the teacher within the teacher's own workplace context while aiming to create context-specific and relevant knowledge (rather than general). That is because inquiry, in direct opposition to the absolute answer mindset perpetrated by best practice forms of professional development, encourages educators to become informed skeptics. Moreover, inquiry encourages them to collaboratively construct knowledge that is organic, always unfinished, deriving from judgment and belief and revealed through action—through doing and making (Brown & Duguid, 1998; Orr, 1990; Brown, Collins, & Duguid, 1989; Dewey, 1929; Duffy & Cunningham, 1996; Lave & Wenger, 1991; Nonaka & Takeuchi, 1995; Maturana & Varela, 1992).

In TIL, professional learning can be summed up in one word—"connections". In its most basic form, systematic and intentional inquiry is driven by an educator's curiosity, interest or passion to understand and address an area of concern. Inquiry begins as an educator notices something that intrigues, surprises, or stimulates a question. What the educator experiences or observes, often does not make sense in relationship to the educator's previous experience or current understanding (Cochran-Smith, 1995; Cochran-Smith & Lytle, 1993; Lytle et al., 1994; Zeichner, 1994).

Because this kind of learning originates with a unique area of concern (Moss, 1999), each educator must take his or her own idiosyncratic pathway through systematic and intentional inquiry. It is hardly ever a linear progression, but rather more of a spiraling process. As the inquiry process unfolds more observations and questions emerge, giving occasion for deeper interaction and integration of contributing factors while increasing the potential for further development of understanding. Along the way, the teacher scholar is collecting and recording data, making representations of results and explanations, and drawing upon other resources such as research, theories, effective practices, web resources, books, videos,
and colleagues. Making meaning from the experience requires intermittent reflection; conversations and comparison of findings with others; interpretation of data and observations, and applying new conceptions to other contexts as one attempts to construct new mental frameworks of teaching and learning.

Yet, for inquiry to result in meaningful learning, the questions asked must matter to those asking the questions—that is to say, the questions must be very real ones. To examine real and difficult questions in an open-minded way, however, requires that educators be able to ask each other honest and tough questions that focus on the educational issues rather than on personalities and opinions. It helps to be part of an ongoing group of educators who have made a clear commitment to thinking hard together. In such a context, trust and honesty develop, educators become passionately engaged and motivated, and the questions raised resonate with other teacher scholars. That is why, in a very real sense, systematic and intentional inquiry is the intellectual and emotional lifeblood of the TIL program.

TIL’s Design: Shaped by Philosophical Commitments

The design of the TIL program is driven by philosophical commitments to the role that beliefs play in the evolution of a teaching career; the power of teacher inquiry to influence both learning and teaching; the mutual relationships of professional learning, professional identity and situated cognition; and the value of sustained and sustaining discourse in a community scholarly practice. Each philosophical commitment provides an important lens for design decisions, since what is at issue is a new intellectual culture for teacher learning—a culture that legitimates and supports curiosity. In this way, TIL promotes a culture of professional learning that challenges as the engines of learning, continuous exploration of personal beliefs and assumptions, an orientation of reflection toward one's teaching and children's learning, and intellectual collaboration among educators and university faculty.

Pivotal to the influence of systematic and intentional inquiry on the design of significant professional learning agendas is the role that situated cognition plays in meaning making. The assumptions of mutual relations of content and context, individual and environment, and knowing and doing are central to the many interpretations of situated cognition. Also central is the assumption that learning is always situated and progressively developed through activity (Brown, Collins, & Duguid, 1989; Lave, 1988; Lave & Wenger, 1991; Young, 1993). In fact, theorists argue that concepts and practices can only be fully understood through an appreciation of their contexts—the contexts in which they are used and applied. Therefore, TIL’s design is shaped by the assumption that the practice of teaching involves building an increasingly rich, implicit understanding of the practices as well as the context in which teachers engage in those practices.

The belief in the reciprocal relations of individuals, content and context, and the situatedness of meaning as socially and culturally constructed (Lave, 1988, 1993) underlie and provide a final important framing context for the TIL Program. Interactions with the world are viewed as not only producing interpretive frameworks for the social world, but also as producing identities—that is, individuals are fundamentally comprised through their relations with the world (Lave, 1993; Lemke, 1997; Walkerdine, 1997; Wenger, 1998). Thus, to function as a member of a community, an individual develops an identity as a member of a community and becomes knowledgeable skillful as part of the same process, “with the former motivating, shaping, and giving meaning to the latter, which it subsumes” (Lave, 1993, p. 65). Because of this interrelated dynamic, Lave and Wenger (1991) used the term “communities of practice” to capture the importance of activity in binding
individuals to communities and of communities to legitimizing individual practices. While communities come in many shapes and sizes, in brief, a community of practice involves a collection of individuals sharing mutually defined practices, beliefs and understandings over an extended time frame in the pursuit of a shared enterprise (Wenger, 1998).

In effective professional learning, the process of building knowledge includes the moral obligation to sharing that knowledge through knowledge legacies. TIL’s learning environment design, therefore, provides both the tools and open architecture for participants to customize and create the learning agendas arise from their individual areas of concern and to collaboratively discuss their insights and problems. In this way, the knowledge-building activities encourage educators to focus on conceptualizing an in-depth understanding of a situation; promote an open knowledge environment for collective understanding; and facilitate a productive interaction among its community members (Scardamalia & Bereiter, 1994).

Moreover, TIL’s design, is buttressed by Lave’s (1988) argument that:

[A]rrangements of knowledge in the head correspond in a complicated way to the world outside the head, [and] are socially organized in such a fashion as to be indivisible. “Cognition” observed in everyday practice is distributed—stretched over, not divided among—mind, body, activity and culturally organized settings (which include other actors). (p.1).

This idea of knowledge being stretched over a community of practice is essential to any serious effort to support teachers as competent learners. This characteristic clearly points to the inherent flaws of efforts that promote outcomes of producing teachers who simply own domain specific knowledge (Brown, et.al., 1993). As competent learners, teachers are “acquirers, users, and extenders of knowledge in the sustained, ongoing process of knowing”. In this way their expertise becomes “distributed”, shared, and renewing.

Yet it is important to note here, that although TIL is committed to the idea of distributed cognition, it is equally committed to the idea that individual cognitive process play an integral role in significant learning and the excavation of underlying beliefs and assumptions. As Moll, Tapia, and Whitmore (1993) emphasize, human activity understood through the “mediational role of social relations” should not require that the role of the individual—through individual activities and interests—be ignored. Instead, they argue with Salomon (1993), that acknowledgement of the individual is critical to thinking and learning, since the individual is inseparable from his or her social world. Namely, there is merit in viewing individual and distributed cognitions as “interacting and mutually supportive aspects of cognitive performance and learning…neither aspect can be understood without consideration of how it relates to the other.” (Nickerson, 1993, p. 260).

By placing educational psychology in service of learning—both individual learning and the learning that arises from a community of practice—TIL encourages teachers to constitute identities of themselves as scholars of their practice both as individuals and as contributing members of learning communities.

The next section describes the three functionally bonded elements of the TIL program and notes the ways that the principles of educational psychology both engender and support systematic and intentional inquiry.
TIL: The fusion of three functionally bonded elements

TIL fuses the following three harmonious elements to encourage systematic and intentional inquiry in a community of practice: the TIL process, the TIL community of practice, and the TIL online learning environment.

It is vital to understand that the elements have a reciprocal relationship and cannot operate in isolation. To illustrate, TIL’s online learning environment is shaped by the TIL Process and the learning agendas pursued by generations of teacher scholars within TIL’s community of practice. Educators who are members of TIL’s community of practice communicate more effectively with the support and influence of the TIL online learning environment and the TIL process. Together, the elements guide educators through a systematic and intentional, yet personal and flexible approach to professional learning and effective classroom practice.

However, for ease of discussion each element will be described separately while noting its contribution to the TIL program as a synergetic whole.

**Element 1: The TIL Process (Moss, 1998; 1999)**. The TIL process is key to the goals of the TIL program. The process uses an initial curiosity or concern that arises from actual classroom practice to support systematic and intentional inquiry. The process not only provides a conceptual framework for inquiry but also promotes a culture where that inquiry is collegial in terms of progressive discourse and problem understanding.

**Figure 1**: TIL Process main screen showing the principles of educational psychology to the left organized by the five domains of the teaching learning process.

As represented in Figure 1, the online environment houses the TIL Process on a page that places it in context with key theoretical principles—principles of educational psychology. These principles
distill related theory and research into executive summaries. As the figure depicts, the key principles are organized by five domains of the teaching-learning process (these domains and the key principles are described later in this paper in detail). So, by design, the TIL online learning environment situates its process of systematic and intentional inquiry in the context of relevant theory and research.

The TIL Process has four connected and overlapping facets that promote professional learning that is spiral and reciprocal rather than linear. Each facet is described below.

First Facet: Seeing Concerns as Invitations to Learn. The first facet guides an educator to beginning with a concern that arises from his or her educational practice and use that concern to drive a unique professional learning agenda. Part of that learning agenda is directed at revealing and challenging the assumptions about teaching and learning that underlie that concern. In the process, the educator examines underlying factors that contribute to the concern; formulates a tentative explanation for the concern, reasons to the underlying problem(s), and actively applies relevant theory and research to focus the inquiry.

Figure 2: The TIL Process concept map guides systematic and intentional inquiry that begins with an area of concern and ends with framing a reasoned problem.

The top half of the diamond in Figure 2 represents the expansive learning agenda that characterizes concern driven learning—the beginning of the TIL process. Once that concern driven learning results in a reasoned hypothesis, the educator uses that hypothesis to concentrate the learning that then becomes and hypothesis driven and increasingly focused on the underlying factors that enable the educator to reason to and frame the underlying problem(s).
One of the most important influences on the individual’s learning agenda, is the guidance that Facet one provides for each educator to examine the assumptions that underlie his or her particular area of concern. While providing guidance, the process clearly communicates that there is no one correct and immutable approach to revealing and challenging beliefs and assumptions through an assumptions guide that educators reach through Facet One (via a concept map design). The assumptions guide contains guiding questions to that encourage educators to focus the learning agenda and bring outside evidence from relevant theory and research to bear on decisions of practice.

Figure 3: The pair of images show the assumptions guide that can be accessed from the TIL process guide.
The assumptions guide provides a place to start—a way for educators to develop the disposition for questioning assumptions in service of their scholarship. The assumption guide highlights examples of learning agendas that might grow from a particular point of inquiry. Following is excerpt from that online guide:

When you are concerned about something in your classroom, challenge yourself to reveal the beliefs that you hold that contribute to the concern.

For example: If you are concerned that cooperative learning will impede student learning because it robs you of the time you need to cover the content, challenge yourself to reveal the beliefs and assumptions that underlie your argument.

(You might design a learning agenda for yourself that includes the examination of the conditions of learning and instruction that support and encourage meaning making, critical thinking and active learning. You could do this by exploring the TIL key principles on instruction, researching active learning in the CASTL Information/Resource Library, and/or interviewing a colleague who effectively uses cooperative learning, or chatting with a member of the TIL community online.) (Moss, 1998).

Notice how the excerpt from the assumptions guide helps to cast the key theoretical principles—the principles of educational psychology—as useful lenses for revealing and challenging beliefs about the teaching-learning process and how those beliefs contribute to decisions of practice.

At the end of the first facet of the TIL process, educators have described the underlying issues that contribute to the concern, and reasoned to the underlying problem(s). With the problem(s) clearly framed, the inquiry moves to the second, third, and fourth facets. Each is described briefly in turn.

Second facet: Relate Goals to Reasoned Problem. Using their reasoned problem, educators can now set a goal(s) that is directly related to the problem(s). The goal(s) serve as indicators of success for an effective course of action(s).

Third facet: Design an Effective Course of Actions. With goals formed and prioritized, educators design a course of action(s) that includes a detailed description of the means and processes to monitor progress through the collection of observable and measurable data, thereby promoting data driven decision making supported by “relevant theory and research operating in effective practice” (Moss, 1998).

Fourth facet: Monitor and Evaluate for Continuous Learning. Educators monitor and adjust their progress toward their identified goal(s) using planned data collection and continuous professional learning that includes continuous and systematic inquiry through the lenses of educational psychology.

The TIL Process is continuous and dynamic. Monitoring and implementing an effective course of action(s) becomes another opportunity to grow professionally. By intentionally using the data to reveal, challenge, support and/or refute assumptions about the teaching learning process, the teacher scholar continues to identify additional concerns and set additional professional learning agendas that are supported by the TIL process, the TIL online learning environment and the TIL community of teacher scholars.
Promoting Collaborative Inquiry through the TIL Process

The TIL Process supports both individual and collaborative learning agendas. Members of a learning group, teachers from the same elementary school for example, can begin with the same area of concern—increasing school safety in their building or district—and by examining that concern through the lenses of the principles of educational psychology develop individual areas of expertise driven by individual learning agendas concerning one of the dynamics that underlies the concern.

Educators often work in the same building or the same district and spend little time discussing educational issues. The mechanics of taking attendance, organizing graduation, or implementing IEP’s often become the topics of conversations during lunch and other meeting times. Educators often ask whether collegial study and stimulating collaborative learning are possible given the traditional arrangement of schools. While in many schools, the idea of learning teams is winning out over the traditional norm of teachers working and learning alone, there are still countless educators who find themselves working and learning in relative isolation. TIL can support and engage educators from any point along that continuum—from those who traditionally work in isolation to those who are already part of stimulating and supportive professional learning teams.

What distinguishes the TIL program and the TIL process is that they work together to support team goals while building upon individual expertise and interests. As a team engages in collaborative inquiry to discover factors that contribute to a common area of concern, frame the problem, set goals, design effective courses of actions and monitor progress toward those goals, they develop together as a team of experts—a team of leading teachers and teacher scholars—whose expertise is distributed and shared.

The following set of illustrations show how a team of educators could start with a single concern, branch out to follow individual learning agendas, and investigate both collective and individual assumptions. Together, they work to uncover contributing factors that represent the dynamics and complexities of the concern along with their diverse:

Figure 4: The series of images shows how the TIL Process guides teams of educators to begin with a common area of concern to form a dynamic learning agenda that allows for individual interests and expertise to contribute to collaborative inquiry.
Element 2: The TIL Community of Practice. TIL is based on the belief that meaningful professional learning and knowledge construction happens within a community of practice. Put simply and based on cognitive research, TIL advances the belief that cognition is distributed, but has a reciprocal relationship with individual cognitions (Duffy & Cunningham, 1996; Salomon, 1993). The TIL community of practice provides a fertile network for both individual and group learning to occur. Because of a firm belief that unique qualities, expertise, and perspectives are the strength of a community of practice, TIL purposefully cultivates a diverse community of teacher scholars including but not limited to: practicing K-12 teachers and administrators; teacher educators; aspiring teachers; psychologists, guidance counselors, school nurses, librarians, and other education faculty; retired educators from basic and higher education; members of professional organizations and associations; and, technology, communication, and multimedia specialists.

Element 3: The TIL Online Learning Environment. (The TIL online learning environment is confidential and password protected and resides on a secure and private server. Within the environment educators from across a variety of contexts are discussing and learning from real concerns of practice. In order to preserve the integrity of the conversation, we are unable to grant guest access. A detailed description of the environment, and illustrations of its various elements can be found on CASTL’s website at http://www.castl.duq.edu)

The TIL online learning environment is organized to facilitate connections--connections to other teacher scholars, connections to a process of systematic and intentional inquiry, and connections to information and human resources representing relevant theory and research operating in effective educational practice. The entire environment is organized by the TIL main menu.

Using the TIL main menu, educators can quickly navigate the environment to support their own professional learning agenda. Each professional learning agenda is supported by TIL's network of information, human, and communication resources.
Figure 5: TIL Main Menu showing the navigational choices. Participants access human, conversational, and information resources driven by the context of their unique professional learning agenda.

Each area of the environment is described below noting the role of educational psychology and how the design of the environment makes theoretical principles and the TIL process explicit. It is important to note that each initial screen in the environment bears the words “Area of Concern—Reasoned Hypothesis—Reasoned Problem. This design element makes public and explicit the need to see an area of concern as an invitation to learn and to continually engage in systematic and intentional inquiry.

- **TIL Process (Moss, 1998; 1999)** The TIL Process is quickly accessed via the TIL Main Menu and is located on CASTL’s password protected space on the World Wide Web. A graphic depiction of the process also functions as a concept map. By clicking on any part of the concept map educators find guiding questions and information resources. The process graphic also quickly connects educators to the key theoretical principles that will aid their professional learning agendas.

- **Key Theoretical Principles (McCown & Moss, 1996; McCown, 2001).** TIL’s key theoretical principles are built on the foundation of educational psychology. Placing theory and research in service of systematic and intentional inquiry, the key principles are not presented as content to be taught, but rather as useful lenses for examining beliefs, assumptions, and decisions of practice. Each key principle is an executive summary of a big idea that synthesizes related theory and research.
Figure 6: Text of an executive summary of a key theoretical principle showing both the search terms for the CASTL library, access to the TIL Process, and access to other key principles organized by the domains of the teaching learning process.

In addition, each key principle summary includes search terms that can lead a member of the TIL community of practice to information resources housed in CASTL’s online Library.

In addition, the online learning environment contains five bulletin boards—one for each domain of the teaching-learning process—and a common chat room dedicated to conversations that examine relevant theory and research operating in effective practice. For instance, educators might engage in a
discussion of self-efficacy driven by very different areas of concern (i.e., a high school student with an absentee problem, a middle school whose faculty clings to traditional teacher-centered instructional methods; and a third grade student who acts out on the bus).

**Figure 7:** Key principle bulletin boards and common chat room where members of the TIL community discuss common educational issues driven by unique areas of concern. Teachers can easily reach executive summaries of the key theoretical principles by linking to the web from this screen.

The five domains and their sub-divisions are: (1) Human Development (cognitive development, personal and interpersonal development, and developmental diversity); (2) Learning and Cognition (observable behavior, thinking, memory, and information processing, and construction of knowledge); (3) Motivation and Classroom Leadership (extrinsic motivation, intrinsic motivation, and classroom leadership), (4) Instructional Organization and Delivery (planning for learning, leading learning opportunities, engaging learners; (5) Assessment and Evaluation (assessment, evaluation, and communication).

- **CASTL Information/Resource Library** Because members of the TIL community of practice can pursue an infinite variety of professional learning agendas driven by an infinite range of concerns and beliefs, they must access relevant resources on demand rather than in a prescribed sequence or at a designated time. Built on the conceptual framework of educational psychology and five domains of the teaching-learning process, CASTL’s searchable online library houses an annotated collection of print, audio, video, and web resources cross articulated by the domains of the teaching learning process, the key theoretical principles, and the issues of the TIL Standing Conferences.
**Figure 8:** CASTL online library search window. Educators can limit their search to certain types of records.

**Figure 9:** CASTL search results window showing both relevant web resources and relevant key theoretical principles that support the effective practice of cooperative learning.
All resources in the online information/resource library are cross-coded so that search results embody the TIL’s philosophy of “relevant theory and research operating in effective practice” (Moss, 2000, p. 46). For instance, if an educator enters the term “cooperative learning” in the library search engine, s/he will receive relevant resources on the effective practice of cooperative learning along with the key theoretical principles—principles that distill the knowledge base of educational psychology—that operate to support that practice (e.g., key principles dealing with active learning, language as a cognitive tool, and social constructivism). On the other hand, if an educator enters the term “social constructivism” s/he will receive resources that discuss this theoretical perspective along with resources discussing effective practices in which that theory operates (e.g., cooperative learning, discovery learning, analytical performance rubrics). Rounding out the library’s contents are cross-coded artifacts of practice that are continuously contributed by members of the TIL community (e.g., report cards, schedules, curriculum guides, assessment rubrics).

- **TIL Guide/Timelines** The TIL guides and timelines provide a flexible framework for those members of the community of practice who are earning credits for their participation in TIL. Educators may earn 1, 3, or 6 graduate credits per semester, and if they choose, apply those credits to a master’s degree. The guides and timelines direct both the breadth and intensity of the learning agenda. For instance, a teacher engaged in TIL for six graduate credits is asked to examine an area of concern through the lenses of all five domains of the teaching learning process. Each educator who is engaged in professional learning for university credit, submits a progress report that is guided by the following four prompts:

- **TIL Standing Conferences** TIL Standing Conferences operate 24 hours a day, seven days a week. In each standing conference educators reach targeted resources and focused discussions facilitated by TIL Resource Specialists on specific educational issues.

**Figure 10:** Standing conference main page showing the three standing conferences operating during the 2001-2002 academic year.
Each standing conferences contain deep pockets of theoretical, practical, informational, and human resources located on the world wide web and supported by the CASTL Information and Resource Library. Within each standing conference are dedicated communication areas-- bulletin boards and common chat rooms—to facilitate synchronous and asynchronous discussions.

Figure 11: Main screen of the TIL standing conference on urban learning illustrating how the text makes explicit the idea of systematic and intentional inquiry into beliefs and practices explicit.

TIL’s current standing conferences include: Urban Learning: Building Capacity (Moss, 2000b); Effective Middle Schools (Furman, 1998); Students At-Risk of School Failure (Vanucci, 1999)

In each standing conference, resources are organized to promote revealing and examining assumptions through the lens of relevant theory and research operating in effective educational practice.

The following excerpt is taken from one of the resource pages of the Urban Learning standing conference. The information deals with the concept of student resilience. Note that the text not only provides an overview of the concept, but also leads educators to resources in the CASTL Library—resources that are articulated to the key theoretical principles—in order to place educational psychology in service of the learning:

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Assumptions that Support Resilience (adapted from Bernard, 1996)

Representing a synthesis of the latest research, the following four assumptions support comprehensive descriptions of resilient individuals.

Resilient individuals possess social competence.

Social competence is synonymous with relationship skills. Resilient individuals are able to evoke positive responses in others and are able to move flexibly and competently between cultures….

***Relevant theories operating in this effective practice: You can learn more about the underlying theories that support resilient individuals by investigating the following theories and theorists in the CASTL Information Resource Library: Albert Bandura, Self-Efficacy, Erik Erikson, Social Learning, Lev Vygotsky, Scaffolding, Goal Orientation Theory, Attribution Theory. (Moss, 2000b)

- TIL Updates Since TIL views learning as connective rather than collective, the environment’s design promotes the idea that each educator should engage in conversations that inform or advance his or her unique professional learning agenda. Therefore, it is not necessary for an educator to examine every online resource or read each threaded discussion on every bulletin board. Guided by that philosophy, the TIL Updates provide a summary of bulletin board discussions to direct educators to the learning that is occurring in each area of the TIL online learning environment. In this way, an educator can tap into only those discussions relevant to his or her own professional learning agenda. The TIL Update appears on the desktop of each teacher scholar each week.

CHANGING VIEWS: BEHOLDING WITH NEW “EYES”

The TIL program and the TIL online learning environment houses an extensive archive of teacher discourse that emanates from the real concerns of practice. Since the learning agendas created by TIL participants are intimately tied to their daily practice and their personal beliefs. It follows then, that their learning agendas have an organic nature and unfold in messy and unpredictable ways. Therefore, the online environment is specifically designed to foster collaborative inquiry via asynchronous and synchronous conversations, not to dictate schedules or the order that educators access resources. TIL’s bulletin boards afford members the opportunity to discuss a myriad of issues unhampered by time limits, distance, or conflicting schedules. Threaded discussions become knowledge legacies that educators may visit when and if the conversation becomes a relevant resource for their particular learning agenda at any point in time.

As educators engage in systematic and intentional inquiry focused on exploring real concerns of practice through the lenses of relevant theory and research operating in effective educational practice, their learning agendas, evolving perspectives, frustrations, challenges, and insights are captured in electronically in monologues, dialogues and multilogues (Shank, 1993).

Because of it’s the philosophical commitments that shape its design, TIL represents a unique online environment for examining the ways that systematic and intentional inquiry influences the very identities of those within the learning community. One reason for the presence of these sorts of dynamics is that members of the TIL community of practice share the assumption that each learning
agenda will contribute to a knowledge network dedicated to advancing the “scholarship of practice” (Moss, 1998).

Interactions in the TIL community not only produce meanings about the communal world but also form identities (Barab & Duffy, 2000; Lave, 1993; Lemke, 1997; Moss & Shank, in press; Walkerdine, 1997; Wenger, 1998). As Lave (1993) puts it “developing an identity as a member of a community and becoming knowledgeably skillful, are part of the same process, with the former motivating, shaping, and giving meaning to the latter, which it subsumes” (p. 65).

The developing norms of the TIL community help to shape (while also being reciprocally shaped by) the identities of the participants who share a commitment to becoming a scholar of practice. The notion of “becoming” carries with it the expectation that scholarship is formative and continuous. Each member, regardless of experience or position, enters the community as an intentional learner. Explicit references to this intention: anchor the explanations of the online environment in the TIL resource guide (Moss, 2001); are built into the name of the community itself; and, are contained in the initial login requirements (participants use the password “scholar” during their first login). In addition, the shared commitment to scholarship carries with it the expectation that members will challenge each others’ assertions by demanding that unsupported opinions are examined through the lens of relevant theory, research, and effective practice (Moss, 2000). Because of this expectation, members find themselves engaged in vigorous discussions of the teaching-learning process focused on collaborative problem-solving, systematic and intentional inquiry, and data driven decision making.

**Modes of Inquiry**

I am convinced that a qualitative approach is absolutely necessary to understand the real changes and dynamics that are embedded in the complex archives of TIL’s online learning environment. There are several good reasons for holding this position. First of all, the discourse captured in monologues, dialogues, and multilogues are deeply and inexorably rooted in issues of meaning, and qualitative research can be thought of as a systematic empirical inquiry into meaning (Shank, 1994; Shank, 2002).

My orientation to the research effort was that of a participant observer. My research goals were to explore multiple realities to provide descriptive data about the context, beliefs and activities of practicing educators involved in the online learning community. The participant observer perspective afforded opportunities to learn from the meanings that individual educators and groups of educators gave to objects and events and the uniqueness of the contexts within which the events took place. As one who was intimately tied to the community over time, and who watched learning agendas grow and morph, I was able to bring a unique and perspective to the data.

Saussure (1959) presents the extremely valuable notion that many patterns of intelligibility within social settings and culture can be "read" as if they were languages. In a sense, I have been looking for the "language" of teacher belief, and will be able to demonstrate examples of that "language" in action through the evolving patterns of beliefs and orientation captured in the discourse within the TIL online learning community.
Sample

The sample consists of 58 practicing teachers engaged in the TIL community of practice for either 3 or 6 graduate credits per semester. It is important to note, that not all members of the community seek university credits for their participation. The entire TIL community comprises an average of 400+ practicing and retired educators during each academic year. All participants are engaged in professional learning fostered and supported by principles of educational psychology, a community of practice, and a process of systematic inquiry known as the TIL Process (Moss, 1998; 1999) supported by the TIL online learning environment. The educators represent K-12 private and public schools and university schools of education.

Software

The on-line learning environment uses FirstClass software, a tool that facilitates the design and support of sophisticated web-based educational environments. The choice of FirstClass afforded two major advantages for the design, use and study of the learning environment. First, FirstClass required minimal technical expertise on the part of participants while providing the ability to secure the learning environment and guarantee confidentiality to educators discussing real issues of practice. Second, FirstClass afforded the ability to track and capture online communication in both asynchronous and synchronous formats and to store all conversations in context by each academic year.

Data Sources

All participants actively engaged in the TIL community using the communication and information resource options to collaborate and to pursue individual learning. During the course of their inquiry, participants were never directed or mandated to post to the bulletin boards or read all of the posts. Their uniquely designed learning agenda, not activities assigned by a professor, drove what they did online and how they did it.

Participants in the study, documented their learning in the form of weekly progress reports that they filed online. Over the course of a 16 week semester, participants filed 10 separate reports. In each report, participants responded to the same four prompts:  

- What was your initial area of concern?
- What learning agenda(s) are you pursuing and why (what relevant theory and research are you exploring and what effective practices are you examining)?
- What assumptions are you working on (revealing, challenging, supporting, refuting)?
- How is your learning connecting to your practice (e.g., are you making observations, are you trying new ideas, are you challenging previously held assumptions, are you viewing your practice in new or unique ways)?

(Moss, 1998).

Several resources aided the participants in their learning and development. An analytical performance rubric provided descriptive anchors for each element of their report. The same rubric guided the personal feedback given to each participant following each progress report. In addition, the participants had constant access to an online guide that described the construct of assumptions, the process of revealing and challenging them, and the reasons that the process of revealing and challenging personal beliefs and assumptions might seem difficult or unnatural at first.

Data Analyses. A constant comparative technique was employed to analyze the data with themes emerging naturally. Themes were recorded and adjusted by renaming and classifying the data.
The data were asked the following questions: (1) In what ways does educational psychology influence systematic and intentional inquiry? (2) What role did educational psychology play in the excavation and examination of personal belief and assumptions? (3) How did educators’ views of the construct of personal beliefs and assumptions change while engaged in the TIL program? (4) How did educators’ personal beliefs and assumptions change while engaged in the TIL program?

DISCUSSION OF FINDINGS

An analysis of the progress reports indicated that as educators were able to use increasingly sophisticated language to describe nuances of educational practice—language from educational psychology—they not only gained new perspectives but demonstrated increased cognitive sophistication relative to education practice and the role that beliefs and assumptions play in that practice. In other words as they developed increased ability to describe nuanced understandings of practice and the role that beliefs play in that practice, they were able to “see” their world with gradations and understood those gradations in a relational way.

Their growth is characterized by four phases reflecting influences that appeared to accrue overtime. Although discussed separately, it is important to note that the phases overlap and interact with each having many subdivisions, degrees of intensity, and variations. It is also vital to note that not all educators begin in the same phase for each belief or issue of practice and that they cycle back through phases as learning agendas cause them to discover new areas of inquiry or revisit or re-examine others. As such, the phases are not meant to represent lock-step stages but rather to present a continuum of a professional journey of inquiry and change.

Each phase is described briefly and is accompanied by contextual anchors. The goal of these anchors is not to supply exhaustive examples of each phase, but to illustrate the phase with one or two extended examples that illuminate growth in action.

Phases of Inquiry and Excavation

**Automatism.** Many educators begin here as they express an initial concern and set out to examine the factors that may underlie it. At the heart of this phase is a lack of self-awareness—awareness of the beliefs and assumptions that an educator holds and the influence of those beliefs and assumptions on decisions of practice.

In this phase educators respond automatically, in a knee-jerk fashion, offering emotional reactions that appear to be based on deeply imprinted conclusions—both valid and invalid. They speak in general terms, and it is as if those general terms only permit them to see things in a general way. They dance on the surface of research and theories seemingly unwilling, unready, or unable to go deeper or to notice factors that lie beneath the surface.

One might say that their language “blinds” them to other forms of understanding. Their language contains attempts to explain their blind reactions as if to convince themselves—to rationalize—that those reactions are based on freedom of choice and reason, rather than on compulsion and emotionalism.

Even if educators do not begin in this phase most visit it during their inquiry, since all educators have areas in their consciousness that are blurred. When they enter these hazy areas of understanding they seem unaware of why they act, react, think, feel, and hold opinions the way that they do.
This phase is characterized by few examples of explicit language concerning theory, research and practice. Most practices are discussed in terms of “best practices” or educational techniques and trends. Beliefs are rarely discussed cementing the idea that educators in this phase are unaware of the ways that they own beliefs determine their actions and their interpretations of the actions of others.

Table 1: Contextual Anchors Illustrating the Automatism Phase

“I feel that my major area of concern is with my special education students. The reason I have such concern for my special education students is because of their attitudes. They are very well behaved but they have no real ambition to learn, participate or even complete work. I am also concerned because the work and or tests that I give them are all adapted. I adapt all the homework and tests to suit their special needs. When given the adapted curriculum the students just give up or mark down any answer. I think that many of these students were just passed on over the years with minimal expectations from their teachers. The way I see part of the problem is that the students have probably become accustomed to not doing much in the past and still being passed on to the next grade level. During the past summer I attended the summer inclusion institute at ___. I basically learned how to adapt curriculum but not really how to have students want to try their best.”

“I believe in my soul that reading is the key to all knowledge. Even mathematics relies on reading skills. I fear that we are not effectively instructing students to be critical readers and writers. In light of this belief, I have great concerns after spending time in schools. I do not see many teachers who actually care to learn the background research which would provide the instruction that students need. I find resistance in teachers for trying something research based. I think I understand why they are like this, but I do not understand blatant defiance in complying with school district expectations. This is insubordination, we are accountable to the public after all. I do not understand how we ever got to be so important that teachers’ concerns outweigh the concerns of the kids. This bothers me the most about the teaching profession. We, for the most part, do not behave as professionals. We do not ask for help, we do not collaborate, nor do we ever admit that we do not know anything. That is almost a crime to the children. I question why certain people became teachers in the first place. I do realize that parents and kids are tougher and more difficult to deal with these days, but if you are that jaded and unmotivated, you should leave.”

“I am still trying to become acclimated with my new students and to their abilities. At the moment, it seems that I have seven or eight students which are extremely bright, focused, and well-mannered. Four or five which are average and four which are below average. The lowest child I have was passed to the second grade only because the mother promised to have her tutored. Unfortunately for her, her mother thought that she needed the summer off to and did not give her the help she so desperately needed to retain the knowledge and understanding she received in first grade. How, it appears that she has slipped back to mid-first grade level if not lower. (However, at this time I am awaiting further testing to be completed.) It was in thinking of this student that I created my area of concern. Once testing is completed, we will make the decision on whether or not she should remain in the second grade or return to the first grade. (She did receive mostly D’s in the fourth quarter of last year which is the lowest possible grade for grades K-2.) If she remains in my classroom this year I will have even more adaptations to make. I want her to know that she can be successful while challenging the students which are more advanced.”
**Awareness.** In this phase of inquiry, educators begin to notice areas of blind reflex and become concerned with uncovering them. They begin tentatively at first, and as they gain comfort with the feelings associated with this type of excavation, they begin to ruthlessly peel back layers of rationalization, explanation, justification, and self-deception until they come face to face with it. This urgency for uncovering buried assumptions accompanies an increase in the explicit language needed to describe what they are doing and what they are feeling. They now have the language to acknowledge invalid conclusions and gaps and errors in thinking.

For some educators, this phase brought with it times of doubt and “retroactive embarrassment”. They commented on being confounded and uncomfortable with what they had believed to be true before their inquiry reached its present point.

Needless to say, the educators moved to the awareness phase first in specific areas, retaining blind automatism in others. No individual passed with one step from automatism to awareness in every respect.

In many ways, the transition from automatism to awareness was one of the most difficult passages to make. It was difficult for the educators to admit that their decisions of practice were driven by unreasonable explanations, invalid assumptions, generalizations, and obsolete understandings. Each educator wanted to see him or herself as a more evolved and sophisticated practitioner.

Yet, coming to grips with awareness was also the most liberating phase. The moment educators recognized that their judgments and actions were driven by false assumptions they no longer operated with blind automatism.

Table 2: Contextual Anchors Illustrating the Awareness Phase

“Digging below the surface is a very difficult thing to do. As I am sitting here in my classroom, I look around for clues of where to begin. It occurs to me, as it previously had, that I need to look at motivation. I can not expect my students to be driven to learn until I show them that they already have that hidden desire, that self motivation… In my research I searched for articles discussing motivation. More specifically intrinsic motivation and positive effects compared to the negative ramifications of extrinsic motivation. ...A few weeks ago I thought that rearranging my room into cooperative learning groups would assist in the motivating process… learned this week, that that is just a piece of the puzzle. It seems like every one else noticed my largest assumption before I did. As I read and reread my last report I realized that I have made a significant mistake. I assumed that by rearranging my desks that I was solving my problems. As I discovered, though, that is just the tip of the iceberg. In order to help my students achieve and concentrate on academics as opposed to behavior, I need to show the children they can achieve their goals. I have learned that all children can achieve goals no matter the size. If they believe in themselves they can do it.

I also assumed that motivation was motivation. I did not, and still do not fully understand the differences between intrinsic motivation and extrinsic motivation. I also know that it is ok that I do not know… as long as I continue to research my questions I will be able to reach my own goals.”

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“My learning agenda has been to find out all I can about reading. I am finding this to be a monumental task, but I think I am drawing some conclusions about the topic and building my own understanding of how reading is accomplished…This week, I tried to accomplish too much. I printed out articles about Prior Knowledge from the Urban Networks site, but was only able to read one of them. I also printed some articles about writing, which I was not able to get to… I think I am trying to do 15 hours of reading, without including time for searching, posting queries on BB's, or responding to e-mails. I still think I am superwoman…Anyway, I am babbling…In the article ______ by ____, I learned much. I was a bit surprised by the approach he took to presenting his ideas and thought about the effect prior knowledge has on learning. I have always been told, and I guess so has everyone else, that it was important to build a knowledge base in our urban children about the stories they were reading because they would not understand the ideas because of their lack of experiences with the subjects. Now I wonder if this has been a huge mistake. I am not sure yet, but will try to learn more about this topic later. I need to know exactly how prior knowledge helps to build learning… I think I am coming to understand more about reading. Or it at least is helping me to wrap together all I have previously read about my concern. I will continue to read…because I think it will help to understand what to do to help children who are struggling readers. I feel like I have a better understanding of how we read, but I do not yet know exactly how our knowledge of oral language helps us to learn to read, but I do know that two are related. As I consider this, I am reminded of all the students I have tried to instruct. I wonder if I was able to help them make connections between their spoken language and the print of a text. I do not think every child was able to get the proper support from me. I do not think many had the knowledge of language to build upon to increase their reading ability. I think I am moving into a new course of my concern, how to assist poor readers to become better readers. In this search I think I need to find more information about language and how oral language abilities affect reading acquisition. I am going to continue reading the book, but I am hoping to find some other sources too. I need to check my posting to the bulletin board, there may be some suggestions there. I want to find out how to best help the kids who have little oral language skill.”

Discernment. At first blush it might be difficult to distinguish the phase of awareness from the phase of discernment. But, awareness of something, does not mean the same as being able to discern, to understand it—to understand why the belief exists, what brought you to it, or how it operates in your practice, and what conditions allow an invalid belief or disposition to “flare up”.

In this phase educators develop the ability to see nuance—how things differ slightly from others. They develop the ability to see gradation, shading, variation, and subtlety as they refine their understanding. Their language moves beyond an intellectual exercise—the “words without the music”—to a deeply experienced reality and authenticity. They could no longer examine an issue solely through the lens of a larger theoretical perspective like intrinsic motivation. A concept like intrinsic motivation was too big of an interpretive lens for their inquiry and they could now see that within it were layers of efficacy, attributions, and goal orientation.

Their language demonstrated the dynamic complexity that was becoming a reality in their thinking and problem understanding.
Table 3: Contextual Anchors Illustrating the Discernment Phase

“I began to research goal orientation this week and how it applies to my concern. I used several web sites and found a number of relevant concepts and ideas…Essentially, there are two different types of goal orientation: performance goal orientation, and; mastery goal orientation. Performance goal orientation is simply a desire to do better than others and to publicly demonstrate competence. Mastery orientation is a desire to increase knowledge and to understand a topic better regardless of performance outcomes. I believe this understanding is critical to evaluating both my students' performances as well as my own ability to motivate them intellectually and academically. How often do all of us simply "go through the motions" and never really strive for any broader meaning, learning, or understanding? I think there are several reasons why students choose to use goal orientation. Some of those reasons include boredom, fear, lack of ability, and/ or misperceptions. Several of the studies I examined discussed the idea that when students employ superficial cognitive engagement it inclines them to study in a restricted area dictated by teachers and they will not move on toward performance goal orientation. Rather, they will demonstrate a very passive learning style that will eventually smother any type of interest in learning throughout the rest of their lives. Therefore, if the teacher utilizes ineffective and boring instructional methods, students will not be motivated to do anything more than the minimum requirements. Taking this idea one step further, only those students who view learning with a true interest and desire to learn will choose to utilize higher thinking skills and problem solving methods. Only the other hand, those who only care about "doing better than others" or performance goal orientation, will simply select the easiest possible method or strategy in order to reach the correct answer or output. Although I feel this is only the beginning of my research into goal orientation, I feel that these concepts are critical to my learning process. I now have a better understanding of my students' motivational ideas. Moreover, I now see why those lessons that involve direct participation represent some of my best teaching. If I provide a boring lecture without tying my concepts to something that does interest the students, I am in essence encouraging them to use performance goal orientation. But if I continue to build those learning bridges by varying my techniques and assessment methods, I am encouraging mastery goal orientation. Based on these concepts, I realize that I have much more research and learning to do. Some of those agendas include the following questions: How else can I motivate my students to use mastery goal orientation? …Can my expectations be "too high?"

“The benefits that have resulted from the shift in my perception of teacher as "manager" to teacher as "coach" have made significant differences not only in the degree of satisfaction I experience in my career, but more importantly in my students' performance. Having examined the strategies I employed as an ineffective classroom manager, it is apparent that in "managing" my classroom I created an environment that was work-oriented. In retrospect, I recall my students having no sense of "why" they were expected to complete certain tasks. With little motivation and a poor work ethic, they perceived me as the "dictator" I did not want to be…As difficult as it was to admit, I realized that by not creating a positive environment, I created a negative one…Although we cannot change the experiences that students bring to the classroom, it is imperative that we realize that our leadership style and our own values influence the culture and learning of our classroom. As a result of providing little or no opportunities for social learning, my students were work-oriented rather than learning-oriented…After carefully considering Control Theory with regard to "sharing the authority for how learning is pursued," I observed that sharing the authority did not mean that I would be perceived as "having no authority." …I had a choice in creating my own unique classroom learning environment…My attitude and actions ultimately influence the interactions I have with my students as well as their perception of me as their teacher…Most importantly, I view the relationships that I build with students as opportunities for both of us to learn.”
**Critical Questioning/Healthy Skepticism** In the fourth phase, the educators manifested a disposition toward critical interpretation. Here, the educator makes personal meaning—meaning that is intimately connected to them as the knower and seems to resonate throughout their language.

The key to entering this stage seems to be finally “knowing” that continuous inquiry into one’s beliefs, assumptions, and practice is a way to grow as a professional. Once they find that key in some aspect of the journey, the educators began to demonstrate balance. Contradictions became envisioned as a complementary whole. They became comfortable with less than perfect explanations of some things as they saw seeming opposites as interconnected and interdependent.

They seemed to adopt a position of critical questioning and healthy skepticism, and no longer were prepared to swallow anything whole. They expressed the idea that constant learning effects constant growth. Because of that they took delight in bringing outside evidence to bear on their ideas, developing ever increasing sophisticated and relational views of educational issues, decisions, and practices.

### Table 4: Contextual Anchors Illustrating the Critical Questioning/Healthy Skepticism Phase

“I felt I had a strong grasp on my educational beliefs and I soon learned that my definition of learning was not thorough. After challenging assumptions pertaining to how students learn as well as why they may not internalize new concepts, my blurred opaque vision changed…The answers lay not only in the results of my adventure, but also in the process. Each week, I slowly develop my definition of learning…how and why students learn the way they do as well as justify how technology supports learning. I originally looked at learning as something that occurred from a past-tense vantage point. For example, while students are in class, until something was one hundred percent internalized, that concept would not be “learned.” Thus I never saw the possibility that learning was a process as well as a conjugated verb in a past-tense fashion. I now realize that emphasis should be placed on the process. For it is in the process that concepts are learned or misunderstood. If teachers were to look at learning as a process instead of a win or lose possibility, holes in educational materials can be filled with answers. For example, the environment may have been poor and not conducive to learning. In conjunction with technology, if computer programs can scaffold the learning process, music’s cascading patterns will connect and the end result will be a positive step forward for technology as well as education…adding the aspect of distributed cognition to my research, I am faced with a choice of choosing between cognitivism and situationism since “Distributive Cognition” is based on the premise that cognition is distributed over the person and the person’s environment. Cognitivism occurs in a mind whereas situationism occurs in the person’s environment. Although both subdivisions of distributive cognition place valid arguments against each other, I see merit in both as the common ground for cognitive thought…One of my earliest assumptions was that learning occurs inside a single mind and not between minds. Then, I took a more situationalist approach because I was unable to assume otherwise. My own quote from an early report was, “As much as I would like to believe learning occurs between two minds, it is to no avail. For example, what happens when there is a teacher and a student and the student does not learn? Is it the fault of the teacher or the mind of the student? Aside from placing blame, maybe the teacher cannot teach, or maybe the student cannot learn. It could be both, maybe neither.” As you can see, I was confused and needed direction. After realizing that learning was a process and not an outcome, I switched my situationalist assumption to that of a cognitivist vantage point… I am currently assuming that learning is a journey “}
“My key interest is in motivating students to learn (if such a thing is possible). I started out believing I could motivate everyone to learn. Then after reading the attribution theory and self-efficacy theories I began to see that learning (like all things) is not something that you can make a person do. I am now accepting the fact that I probably will lose some souls along the way, even though I want everyone in my charge to learn…I think it is my job to make the experience a good one…I think at times I am being very simplistic, but Piaget also seems rather simplistic in his approach…Initially I had difficulty accepting his "age brackets", but then realized he admitted that some people advance more than others in the process and some do not hit a stage. I agree with his observation that "children learn from reading and trying out new ideas", a theory he discussed as part of the Formal Operational stage. …If what Piaget says is true, the student will learn from the peer group discussion and interaction. An easy example might be using the novel "Gone with the wind" to encourage class discussion on how the normal day to day lives might be impacted by the Civil War. I could see students talking about Rhett Butler and perhaps getting more about the personal lives…Along with Piaget, I looked in to the "Zone of Proximal Development"…Looking at Vygotsky and Piaget, I think I understand that learning within a peer group can be helpful to all students. As a teacher, a key role for me is observing who is getting it and who is not, as well as who wants to learn the material and who may have no interest at all. Over the last several weeks, the concept of intrinsic learning, self efficacy, and cognitive learning have all played a role in my thoughts on motivating others to learn. I need to read much more to tie it all together…”

**Implications for Teaching Educational Psychology**

Being a participant observer and the social architect of the TIL program has changed my identity as a teacher and a researcher. I now view learning in a way that is extremely personal. I have constructed an understanding that is deeper and more relational than I held before my involvement in TIL—even though I have studied and observed the phenomenon my entire life. I am now beholding it with my new “eyes”.

I have come to the conclusion that the point of teaching educational psychology is “translating” theory into practice—even with my “old” eyes I sometimes thought of it that way. I decided to look at that assumption, and to challenge it by bringing outside evidence to bear upon it. I began by searching for a precise meaning of the notion of translation. I found one in the work, *The Craft of Translation*, by Burton Raffel. Raffel (1989) suggests that translation involves “mining out” and “reconstructing” “passionately held…inner convictions”. In other words, a translator helps others find the essence of a work created in one culture or worldview so they can reconstructs the work and appreciate it in another culture or worldview. Maybe the most effective way to serve my undergraduate students was to find a way to help them mine out their implicit and personal theories, examine them through the lenses of relevant educational research and theory so that these theories could influence the direction or approach that they took in their teaching.

Often, in the teaching of educational psychology, we tend to privilege clarity and explicitness. While these attributes certainly play their part, our emphasis on them may blind us to other, deeply situated qualities of human experience. I have come to realize that educational psychology can play an important part in propelling both aspiring and practicing teachers into a state of ambiguity—of not knowing exactly where one is, of not being sure exactly what one means, of not knowing where one is going, of being confused, of experiencing shifts in significance, and feelings of incompleteness.
Promoting this state of “self-consciousness” has enormous potential for reshaping how we think about the role of educational psychology in the evolution of teaching careers—both our own and the careers of the teachers that we serve.

I have changed the structure and the goal in my course. Now students examine a project that they design at the outset of the course through the lenses of key theoretical principles—and bring those principles to bear on the validity of the assumptions demonstrated in their decisions of practice, as documented in their projects. With each new concept, I work to facilitate translation, helping them to dig deeper, to excavate their assumptions, bring them up to the light of relevant research and theory, to judge their worth. I watch them struggle as they go through this process, at first acting in an automatic and knee jerk way to the notion of inquiry into their practice. I take delight in seeing them become aware of the role of beliefs in their life and feel a sense of accomplishment when I read their statements of embarrassed self-consciousness over the beliefs that they once held. I am glad that they are becoming self-conscious, because I now assume that this state of “self-awareness” is a critical key for unlocking the healthy skepticism that lurks within each and every one of them.
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