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Challenging the Beliefs of Pre-Service Teachers in an Online Community of Inquiry

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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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Abstract

This report focuses on preliminary findings resulting from the study of a group of nineteen preservice teachers, seventeen females and two males, who participated in the Teaching as Intentional Learning (TIL) program for sixteen weeks. All participants actively engaged in the TIL community using the communication and information resource options to collaborate and to pursue individual learning. Participants documented their learning in the form of a bi-weekly progress report that they filed online. Over the course of the 16 weeks, they filed 8 separate reports and 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)? The bi-weekly progress reports were analyzed using a constant comparative technique with categories emerging naturally. Themes that emerged were recorded and adjusted by renaming and classifying the data. An analysis of the progress reports indicated that the preservice teachers gained new perspectives while demonstrating increased cognitive sophistication.
Not all changes are created equal, and cosmetic change is really no change at all. Lewis Carroll’s *Alice in Wonderland* reminds us of this fact as Alice ventures into the Queen of Heart’s rose garden. There, Alice spies a group of playing cards feverishly covering white rose blossoms with red paint to meet the Queen’s demand for a garden of red roses. But the Queen quickly recognizes the difference between red roses and painted roses. Angered by the cards’ trickery and their failure to plant bushes that produce red roses, she dispatches them to their doom crying “Off with their heads!” Today we understand the metaphor of “painting the roses red”: masking appearances instead of making the fundamental changes that will produce the outcomes we desire.

Technology is the new “red paint” and many teacher education programs are applying it for cosmetic change. Experience with technology teaches us that once technology makes something possible, it gets applied, whether for good or bad (Norman, 1992). While technology can enable change in educational activity, technology alone cannot change educational outcomes. Simply put, it is not the presence of technology in teacher education that will make the difference, but it is the kinds of learning opportunities that technology supports that will matter.

Teacher education is faced with a growing consensus that what we have done in the past can no longer adequately prepare education majors to meet the demands of today’s classrooms, let alone the challenges of the future (Edwards, 2000; National Commission on Teaching and America’s Future, 1996; Richardson, 1997). That is the issue before us and the issue that we should not mask. The question is not “How can we apply technology to teacher education?” but rather “How can we fundamentally reinvent teacher education?” This is the question that will take us to the root of the problem and will allow us to put down our paint brushes.

This article does not presume to address the many issues surrounding the reinvention of teacher education. Rather the article focuses on one of those issues: the role that pre-service teachers’ beliefs play in their thinking and learning. The article explores an online learning program known as Teaching as Intentional Learning (TIL; Moss, 1998). In particular, it examines the influence of TIL on the educational beliefs and assumptions of a group of pre-service teachers. In order to provide a theoretical framework for the study, the article begins by examining the reciprocal roles that cognitive development and beliefs play in teacher preparation programs. Next, the article discusses present efforts to influence pre-service teachers’ beliefs, important lessons learned from those efforts, and the connections to online programs. Following that discussion, the article describes the TIL program and the ways that technology supports and advances the program’s learning goals. Then, the article presents preliminary conclusions emerging from TIL’s ongoing research program into the influence of preservice teachers’ beliefs on their learning and thinking. Specifically the article discusses the ways that preservice teachers’ viewed the process of examining and revealing their own beliefs and assumptions while engaged in and supported by the TIL program. The article concludes with implications for further research.

**The Pentimento Effect: Layering Teacher Education over Pre-Existing Beliefs and Assumptions**

Teacher educators often assume that once students hear the truth, their prior beliefs (if they have any) will be irrelevant. Yet, even after receiving carefully designed instruction, many students merely restate answers to the instructor’s questions while their original beliefs about the topic remain virtually untouched (Erhmann, 1995). Some prior beliefs may cause students to become confused by the teaching because they use their hidden perceptions to interpret (and sometimes misinterpret) what the teacher was saying. Without recognizing the influence of prior beliefs on learning and meaning...
making, education can become a futile matter of layering new information over deeply entrenched beliefs. This process can be compared to what artists term “pentimento”—painting over an existing work of art. The new paint does not bond to the canvas and eventually flakes off permitting the original painting to emerge untouched. The same holds true for teacher education. Many well-intentioned efforts simply mask prior beliefs for a short time while never addressing what preservice teachers think and what they believe.

The “pentimento effect” seems to rest on two commingled constructs: preservice teachers’ cognitive development and its relationship and influence on their beliefs. A number of studies have considered the utility of Perry’s Taxonomy of Adult Intellectual Development (1970) to gauge college students’ learning and thinking (Kloss, 1994; Woods, 1990; Wright, 1992). Using the four major stages of Perry’s hierarchy—dualism, multiplicity, relativism, and commitment—one begins to understand the cognitive forces that are at work. Students in dualism presume the instructor knows the truth and will reveal it to them. Dualistic thinkers view learning as a process of taking notes, memorizing, and restating. Students in multiplicity presume that knowledge is a matter of opinion. They do not view the professor as infallible or all knowing, but just as a person with opinions. These students presume all opinions are equal and often balk at dissenting feedback since they assume that their opinion is just as good. Students in relativism can weigh evidence and distinguish arguments. To them knowledge is contextual and is shaped by one’s perspective, assumptions, and methods. They view the instructor as a resource in the discovery process. Finally, students in commitment realize that they must make choices. These students understand learning as an ever-changing process of creating a personal world view that integrates information and rational assumptions within their own personal experiences.

In addition to cognitive development, the process of learning to teach is intimately related to an individual’s personal beliefs and experiences (Ashton, 1990; Ashton & Webb, 1986; Brookhart & Freeman, 1992; Buchmann, 1984; Richardson, 1996; Wideen, Mayer-Smith, & Moon, 1998; Wilson, 1990; Wubbels & Korthagen, 1990). “Early experiences strongly influence final judgments, which become theories (beliefs) highly resistant to change” (Pajares, 1992, p. 317). Beliefs are the best gauges of the decisions that people make in their lives (Bandura, 1986; Dewey, 1933; Nisbett & Ross, 1980; Pajares, 1992; Rokeach, 1968). Personal theories are so deeply engrained that whether they are right or wrong individuals continue to cling to them even when the beliefs no longer accurately represent reality or logic (Nisbett & Ross, 1980).

While all individuals approach new situations armed with deeply etched belief structures, preservice teachers enter their education programs with beliefs that are particularly unyielding (Buchmann, 1987; Florio-Ruane & Lensmire, 1990; Wilson, 1990). Arriving at the university, preservice teachers enter a world that is essentially the same as the one that they experienced during their K-12 schooling. Unlike students who enter medical or law schools to find unfamiliar contexts and practices, preservice teachers find little that is puzzling or that requires them to challenge their existing perceptions. Drenched in the familiar surroundings of teacher education programs, preservice teachers maintain a belief in status quo rather than state-of-the-art practice in spite of exposure to new educational theories and innovative strategies (Florio-Ruane & Lensmire, 1990). Their belief structures, originating in their early childhood education experiences and building throughout their high school years, far outweigh new information and perspectives provided by teacher education programs.
Clearly, students in different cognitive stages approach the construct of beliefs in different manners. Thus, the process of influencing preservice teachers’ beliefs becomes one of recognizing the beliefs that they hold, the cognitive processes that produce them, and ways that teacher education can influence both.

**Bonding with the Canvass: Influencing Preservice Teachers’ Beliefs**

Over the last decade, teacher education programs have begun to address preservice teachers’ beliefs with differing degrees of success. When teacher educators merely infuse traditional teacher education programs with strategies that focus on preservice teachers’ prior beliefs, their efforts produce little evidence of significant or long-term effects. This disappointing outcome can be attributed to the fact that the innovations are often situated within structurally fragmented, traditional teacher education programs (Zeichner & Gore, 1990). The confounding nature of the resulting teacher preparation experiences sends a mixed message to preservice teachers by advocating that they adopt progressive practices that are rarely a part of their own teacher education programs. It is a classic case of what Wideen et al. (1998) term “Do what I say, not what I do” (p. 160). Confused by the disparity of their experiences, pre-service teachers struggle to integrate and understand the need for progressive practices while often becoming more skillful at defending the perspectives that they already possess (Stofflett & Stoddart, 1992).

Conversely, some innovations aimed at preservice teachers’ beliefs are producing promising results. The most successful efforts reveal three important factors: the existing beliefs that preservice teachers hold can provide a foundation for learning (Wideen et al., 1998); preservice teachers must recognize their own beliefs (Bullough, 1992; Graber, 1996; Gunstone, Slattery, Baird, & Northfield, 1993; Hollingsworth, 1992); and, preservice teachers can use the process of uncovering their own beliefs to construct new understandings of teachers and teaching (Driver, Asoko, Leach, Mortimer, & Scott, 1994; Fosnot, 1996; von Glaserfeld, 1987).

The essential lessons from these successful programs can enhance what we already know about online learning and preservice teachers. Online learning communities currently support collaborative discourse among educators and provide a powerful context for new forms of learning, teacher education, and professional development (Foa, Schwab, & Johnson., 1996; Means, 1994; Schrum, 1991; Selinger & Parker, 1996; U.S. Office of Technology Assessment, 1995). Research into online communities that connect preservice teachers (Harrington & Hathaway, 1994) and communities that connect preservice and inservice teachers (Leach, 1996) reveals that electronic networks promote critical reflection among preservice teachers by allowing them to think, compose, and edit their responses before making them public. They caution, however, that these outcomes are dependent on the individual preservice teacher’s developmental level and how the online discussions are framed.

**Teaching as Intentional Learning: In Service of the Scholarship of Practice**

Teaching as Intentional Learning (TIL) (Moss, 1998), a learning program of the Center for Advancing the Study of Teaching and Learning (CASTL) at the Duquesne University School of Education, assumes that there is value in teachers examining and challenging long held beliefs and assumptions both individually (Schon, 1987; Cochran-Smith & Lytle, 1993) and collectively (Bandura, 1997). Central to TIL is a belief that both the process and outcomes of teaching inquiry should be made public in ways that elevate educational discourse beyond the sharing of opinions, anecdotes, and experiences (Lampert, 1999). TIL intentionally cultivates discussions that require
supported arguments for the conclusions that educators reach and the assertions that they make to raise both their learning and their practice to a level of scholarship (Moss, 2000; Moss, McCown and Driscoll, 1999).

To promote and support its learning goals, the TIL program fuses three harmonious elements: a community of inquiry and practice, an organic online learning environment, and a systematic process of reflexive inquiry. TIL’s elements are functionally bonded. For example, the design of the TIL online learning environment is shaped by the TIL Process and the critical conversations that occur within the TIL community. Communication among the members of the TIL community is supported and influenced by the TIL online learning environment and the TIL Process. For ease of discussion each element is described separately while noting its contribution to TIL as a synergetic whole and to efforts to influence the beliefs of preservice teachers. It is important to note that although the descriptions of TIL presented here are geared toward the preservice teacher, all educators in the TIL community are supported and connected by the same processes, contexts, environments, and goals.

**The TIL Process:** The TIL Process (Moss, 1998; 1999b) guides preservice teachers (and all members of the TIL community of teacher scholars) to identify an area of concern that arises from their learning and practice and to use that concern to design a professional learning agenda. By viewing their concern as “an invitation to learn, rather than as a problem to be fixed” (Moss, 1999) preservice teachers grapple with the complex dynamics underlying the concern to uncover contributing factors and form a causal explanation. They do this by examining “relevant educational theory and research operating in effective educational practice” (Moss, 2000, p. 46). At the same time, they are prompted to reveal and challenge the beliefs and assumptions that they hold relative to their concern and to their developing learning agenda. The dual nature of the TIL Process encourages preservice teachers to build a continuously changing and increasingly thick understanding of the reciprocal relationships among theory, research, effective classroom practices, learning contexts, and personally held beliefs and assumptions while becoming skeptical of those who claim to possess the ultimate truth.

**The TIL Community of Teacher Scholars:** TIL currently connects over 400 educators from across the nation and around the world in a community of scholarly practice and reflexive inquiry. TIL’s community of teacher scholars comprise preservice teachers, teacher educators, practicing and retired teachers and administrators representing schools, districts, universities, and professional organizations. Some members of TIL’s community serve as TIL resource specialists who facilitate knowledge building and sharing while providing feedback to those who are engaged in TIL for university credit.

Preservice teachers benefit from the experiences, perspectives, and challenges of TIL’s diverse community as they engage in critical discussions of relevant theory and research situated in the real contexts of educational practice. The TIL process provides a systematic, consistent, and long-term message for all members of the community that both guides and directs their professional learning and growth. The program immerses preservice teachers in a culture of reflexive inquiry that challenges their notions of what effective teachers are and do, while inviting them to regard their professional careers as continuous journeys of learning.

**The TIL Online Learning Environment:** The TIL online learning environment is purposefully organized to facilitate meaningful connections between and among members of the TIL community. It is designed to encourage reflection, discussion, and the creation of knowledge by the community
itself. The environment consistently promotes and supports the TIL Process. As an open knowledge environment for collective understanding, the TIL online environment facilitates productive inquiry and interaction among its community members (Scardamalia & Bereiter, 1994).

The TIL online learning environment is available on demand 24 hours a day, seven days a week. While pursuing individual learning agendas, preservice teachers can engage in synchronous and asynchronous conversations with other members of the TIL community. Common chat rooms and participant created private chat rooms support real time conversations over distance. In addition, preservice teachers and other educators communicate via bulletin boards dedicated to discussions of five domains of the teaching-learning process: development, learning and cognition, motivation and classroom leadership, instructional organization and delivery, and assessment and evaluation. In this way collaborative conversations can focus on the same educational theory, research, and issues even though individuals approach those conversations driven by unique concerns and learning agendas. The bulletin boards are intimately tied to and supported by TIL’s key theoretical principles (McCown & Moss, 1999; McCown, 2000) that provide executive summaries of theory and research organized by the domains of the teaching-learning process. Moreover, educators have access to TIL standing conferences, deep pockets of information and human resources that address common educational issues such as Effective Middle Schools, Students At-Risk, and Urban Learning, and work hand in hand with the key theoretical principles.

A significant resource embedded in the TIL environment is an online information and resource library. Because preservice teachers can pursue an infinite range of concerns, beliefs, and learning agendas, they must access relevant resources on demand rather than in a prescribed sequence or at a designated time. The searchable online library houses an annotated collection of print, audio, video, and web resources coded around the domains of the teaching learning process, the key theoretical principles, and the issues of the TIL standing conferences. 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 a preservice teacher enters the term “cooperative learning” in the library search engine, she will receive relevant resources on the effective practice of cooperative learning along with the key theoretical principles 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 she enters the term “social constructivism” she will receive resources that discuss the theory 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).

Preservice Teacher Participants: Who They Were and What They Did

A group of nineteen preservice teachers, seventeen females and two males, participated in the TIL program for sixteen weeks. All of the preservice teachers had completed a two semester course in Educational Psychology that employed the same key theoretical principles that were part of the resources in the TIL program. Eighteen participants were elementary and secondary education majors in their third year of a four year program and some of the eighteen were dual majors in special
education. One participant was a senior music education major. All of the preservice teachers engaged in the TIL program were also engaged in a professional field site experience and were in K-12 classrooms each week.

All participants actively engaged in the TIL community using the communication and information resource options to collaborate and to pursue individual learning. Participants were not told that they had to post to the bulletin boards or read all the posts. Their learning, not assigned by a professor, drove what they did online and how they did it. Participants documented their learning in the form of a bi-weekly progress report that they filed online. Over the course of the 16 weeks, they filed 8 separate reports. In each report, preservice teachers 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 preservice teachers 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 might seem difficult or unnatural at first.

Data Collection and Analysis

Preservice teachers’ bi-weekly progress reports provided the data for the analysis. A constant comparative technique was employed to analyze the data with categories emerging naturally. Themes that emerged were recorded and adjusted by renaming and classifying the data. Based on prior research on the roles of cognitive development (Perry, 1970) and beliefs and assumptions in preservice teacher learning and thinking (Buchmann, 1987; Carter, 1990; Cole & Knowles, 2000; Florio-Ruane & Lensmire, 1990; Wilson, 1990), the following questions were asked: 1. How did preservice teachers view the construct of personal belief or assumption? 2. How did preservice teachers conceptualize the process of revealing and challenging their beliefs and assumptions? 3. How did their view of personal beliefs and assumptions change while engaged in the TIL program? 4. How did their personal beliefs and assumptions change while engaged in the TIL program?

Influences of the TIL Program

An analysis of the progress reports indicated that the preservice teachers gained new perspectives while demonstrating increased cognitive sophistication. The following categories reflect influences that appeared to accrue. While discussed separately, it is important to note that some of the categories overlap.

Beginning with the Confident and Simplistic Language from the first two reports shows preservice teachers viewing beliefs and assumptions in several simplistic ways. Table 1 contains some examples of comments coded as confident and simplistic. In some instances the preservice teachers viewed beliefs and assumptions as the valid opinions that they held and were in the process of proving to
others or to themselves. In other instances, they viewed the process of challenging beliefs as a quest to enlighten or convince others. Most of the preservice teachers saw beliefs as something that a book or a professor, or a practicing teacher gives you. Armed with a simplistic and confident perspective, they supported their statements with either personal anecdotes or mechanical applications of theory—the words without the music—that lacked personal connections that would have revealed deeper understanding.

Table 1. Sample Comments from Progress Reports Coded “Confident and Simplistic”

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<thead>
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<th>Overly confident</th>
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<tr>
<td>• That fits perfectly with my explanation of what I would specifically do in my classroom as a result of my assumption. I said I would tailor my instruction to meet the individual needs of my students.</td>
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<tr>
<td>• Another assumption I have is that teachers create some of the discipline problems that they have-if they give students &quot;free time&quot;. If they make course content dry and boring for students, these things will cause students to become distracted and allow their minds to wander, thereby causing students to get into &quot;mischief&quot;.</td>
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<th>Fix Others / Change Beliefs of Others</th>
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<td>• I am interested in challenging practicing teachers' views with my own. I am hoping to be in contact with a teacher who is set in the &quot;Old Teaching Ways.&quot; If this is the case, then I hope to debate and propose new ideas to them.</td>
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<tr>
<td>• This week, I posted a message challenging the assumption that some teachers have concerning parents' lack of involvement in schools. I find it interesting that some teachers are quick to judge parents as unwilling.</td>
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<th>Beliefs Come From Others or Sources Outside of Them</th>
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<td>• Another area I am planning on revealing is to find out more about Erikson's theory of psychosocial development especially focusing on stage 4, which will encompass the grades that I will be teaching.</td>
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<tr>
<td>• The assumption being made is that if an authentic lesson is done successfully and proper feedback is given, students' learning and development will increase. Although I did not post this assumption, I am highly interested in evidence that supports or refutes the idea.</td>
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<th>Supporting an Opinion with a Bit of Theory—the Words without the Music</th>
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<tr>
<td>• I am assuming that all my learning activities will be appealing to my students and that all my students will want to participate in class. Glasser focuses solely on internal motivation and states that motivation takes place when students needs of fun, freedom, belonging and power are fulfilled.</td>
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<tr>
<td>• I am assuming that teachers who use stimulus response theory threaten their students to learn or extrinsically motivate them constantly; therefore, the teachers have constant discipline problems because the students do not see the relevance or the satisfaction to what they are learning.</td>
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<th>Supporting an Assertion with a Personal Anecdote</th>
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<td>• After watching the class participate in a fun math activity, I developed these assumptions: new and different activities spark children's interest and fun lessons motivate students.</td>
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<tr>
<td>• I also am assuming that parent involvement is important for motivation. However, I bet there are students that are motivated and their parents are not involved. I work at a daycare and I have found that parent involvement is not as common as it use to be.</td>
</tr>
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A Move to Personal Puzzlement  Beginning in the third report, five weeks into the program, the
preservice teachers began to express their puzzlement. They spent a great deal of time discussing
changes in their views and the changes in their thinking. They used language that was personal and
intimate to question their previous and present beliefs. Table 2 presents some examples of comments
coded as personal puzzlement.

Table 2. Sample Comments from Progress Reports Coded “Personal Puzzlement”

- As I began my studies about constructivism, I believed somehow that although it is most appropriate to use
a combination of teaching and learning techniques that constructivism in the form of hands-on activities [is]
the best technique most of the time. My thinking has come a long way from these thoughts and I know that
direct teaching can be used within a constructivist environment and that direct teaching itself is sometimes
most appropriate. More constructivist approaches are generally more student centered and take more time
since the students are needing to construct their own knowledge. Direct teaching allows the teacher to
provide the students with more guidance. Because of the prior knowledge that the teacher has, he or she can
guide the students more quickly towards the objectives of the lesson. Directed teaching, therefore, can be
used within constructivist approaches as varying forms of guidance. These are the thoughts that have
developed within the last few weeks of my research. As I realized that it is not practical to decide that one
approach to teaching and learning is more appropriate [than] another, I began to realize that I did not fully
understand the benefits of vicarious forms of learning. Somehow, I still was making some assumptions
about vicarious learning that needed to be clarified. I was still unable to make the connection between
the theory and practice.

- 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 the past-tense. I now realize that emphasis should be placed on the process. For it is in the process
that concepts are learned or misunderstood. I must look at learning as a process instead of a win or
lose possibility.

Adopting Multiple Perspectives  Beginning in the fifth week and documented in their third
and fourth reports, the preservice teachers began to express a more relational view of their beliefs.
Specifically they saw their beliefs as dependent on a variety of factors, bound by context, and infused
with other beliefs and assumptions. Some examples of multiple perspective comments are presented
in Table 3.

Table 3. Sample Comments from Progress Reports Coded “Multiple Perspectives”

- After careful observation, I was able to see how Bandura's ideas operate in the classroom. Self-efficacy is a
crucial motivational element. I was able to look over a problem-solving activity the class had been working
on. I noticed, when reading over a worksheet, that problems were presented in order of difficulty. Problem
one was a first grade problem. This assured success for these third graders and created excitement in
approaching the second problem. As they moved on to other problems, they were presented with more
challenges. It is important for students to construct purpose and meaning from activities. Self-efficacy and
confidence are vital to motivation. Students make decisions based on their beliefs. If they feel they will be
unsuccessful they will avoid work altogether. Similar to Glasser's "Choice Theory", a student must find
satisfaction from work. I could see these connections as the students worked.
I consistently keep referring students to myself and thus have a difficult time gaining a concept of why and how children behave in the manner they choose. I assume that the way I was raised and behave is correct. I never consider how the change in culture and the effects of technology and growth in education have changed the expectations of children's behavior. I need to focus on that through my educational growth. I have not gained the concept that I am no longer the student, but rather the teacher. I have to understand that students have different influences in their lives than I did.

Healthy Skepticism and Questioning  Examples of preservice teachers’ comments presented in Table 4 show that by the sixth report, 12 weeks into the program, the preservice teachers began to evidence a more complex view of teachers and teaching. At the same time, they began to use their beliefs and assumptions to drive new learning. Once an assumption was revealed it was challenged, and whether supported or refuted, the process led to new questions. Not only were the preservice teachers reporting changed beliefs, but it appears that they were becoming more sophisticated in the ways that they viewed their beliefs and in the processes they used to reveal and challenge them.

| Table 4. Sample Comments from Progress Reports Coded “Healthy Skepticism and Questioning” |

- I have realized that the self-efficacy of students then will influence future performances and motivation. The students’ low self efficacy will then come into play when engaging in scaffolded activities. But, how does a teacher distinguish if the student is struggling because of self-esteem or because of self-efficacy issues or because of a specific learning problem? Things are not as simple as I once believed.

- I realize that I have made many assumptions about motivation. One major assumption that I made was that there was one correct way to motivate students. I am now assuming that there is no one correct way and that it depends on the students, teacher, and classroom setting. I also assumed that extrinsic rewards were not as effective as internal rewards. I now realize that it depends on the students themselves. What may motivate one class may not motivate another. I am working on revealing and refuting new assumptions. As I continue to research and observe motivation I realize that assumptions will continue to exist. Therefore, I realize that I must address these assumptions and identify them so that I can learn meaningful information and gain knowledge about motivation

Considerations and Future Directions

The preservice teachers began the program overly confident in their understandings and completely baffled by the construct of personal beliefs. They faltered in their initial efforts to reveal their own beliefs viewing the process of challenging beliefs as the task of confronting and convincing others. Understanding this factor is an important part of the research that will continue within the TIL program. While it is important to address the beliefs that preservice teachers hold, it is more important to understand the ways that they deal with their beliefs and the simplistic approaches that they take when asked to reveal and challenge them.

It appears that online environments can provide contexts that not only support preservice teachers’ personal inquiry but pull their cognitive development as well. The TIL process, the specifically designed TIL online learning environment, and the TIL community of teacher scholars provided
a critical scaffold and a constant, consistent message as they struggled and grew from their struggles. They began to challenge beliefs and issues rather than people. They began to see that good teachers and good preservice teachers can harbor beliefs based on invalid assumptions that can undermine their classroom effectiveness. In one of the final reports, a preservice teacher summed up the experience this way:

“As I began my first week of scholarly practice through the TIL environment, I remember thinking about [the] educational concerns that I felt most strongly. I also remember wondering how I would be able to not only find the relevant theory, but also examine the critical assumptions that I held and connect [them] to effective practice each week. I remember being excited, yet a little bit apprehensive at the prospects of becoming a "scholar of my practice". As I began the Teaching as Intentional Learning process, it became immediately clear to me why it is essential for practicing professionals to continue to stay current. This process of developing concerns that are critical to practice, examining the assumptions that I hold, and researching critical theory that will relate to effective practice is a process in which every teacher should partake. Because I care deeply about the ideas that I am researching and discussing, it became rewarding to refine my thinking about each of the concerns that I have been studying. My experience through TIL has created in me a never ending curiosity and hunger for the knowledge that can lead me to become a better teacher and a better learner.”

Within the social architecture of the TIL program, the preservice teachers began to take their learning and pose it back to themselves in the form of questions and personal learning agendas. They began to slow down their thinking and to carefully consider options and perspectives. They began to see learning not as the acquisition of facts or opinions but as a process that is deeply embedded in meaningful context.

It will be important to analyze the comments of other groups of preservice teachers to see if TIL has similar influences on their beliefs and thinking. Moreover, future studies will follow preservice teachers into their first years of teaching to see if they continue to engage in reflexive inquiry as a result of their TIL experiences. This effort will inform and shape both the design of the program and the continued research into preservice teachers thinking, learning, and beliefs.

Final Thoughts

Technology is not positive, negative, or neutral. Technology applied to ineffective practice will not make it more effective. Technology is neither the question nor the answer. If we place what we know about technology in service of what we know about how preservice teachers think, learn, and develop, we can begin to create a culture of learning and inquiry in an increasingly wired world. We can put down our paint brushes and begin to fundamentally reinvent what we do and how we do it.
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