ABSTRACT
                A qualitative longitudinal study, intended to encourage
graduate programs to reflect on how their programs are making a difference in
their students' adult teaching practice, explored how practicing adult
educators' beliefs about teaching were impacted by participating in a
graduate program in adult education. Sixteen practicing adult educators were
interviewed twice over a period of 2 years. Findings indicated graduate
school had little impact on the teaching beliefs of participants. The
majority of participants maintained a teacher-centered view of teaching,
continued to view knowledge as separate from the knower, maintained a belief
about learning as an increase in knowledge and the result of doing, and
continued to reflect an instrumental view of teaching. A change in belief
that began to emerge was a growing recognition of the significance of
engaging student experience in practice. (Contains 35 references.)
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Teaching Beliefs of Graduate Students in Adult Education: A Longitudinal Perspective

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This qualitative longitudinal study explores how practicing adult educators' beliefs about teaching were impacted by participating in a graduate program in adult education. Sixteen practicing adult educators were interviewed twice over a period of two years. Findings reveal that graduate school had little impact on the teaching beliefs of participants. The majority of participants maintained a teacher-centered view of teaching, continued to view knowledge as separate from the knower, maintained a belief about learning as an increase in knowledge and the result of doing, and continued to reflect an instrumental view of teaching. A change in belief that began to emerge was a growing recognition of the significance of engaging student experience in practice. Implications for graduate schools are identified and discussed.

The Issue/Problem

Every year, Master's programs in adult education across North America graduate students with an expectation and hope that their students have a greater understanding of the field, a better conceptualization about how adults learn, an appreciation for theory and how it informs their teaching, and a deeper awareness of their own teaching practice. Despite this intent, little is known about whether these students' graduate educational experience significantly influences their practice. Are these students better teachers of adults as a result of their graduate school education? Are they looking at their practice in a more informed and critical manner? Do they have a better understanding of their adult students? An area of research that could begin to offer insight into these questions is how graduate students' teaching beliefs have been impacted by their graduate school experience.

Belief is a mental construction of experience, and in the case of teaching, it acts as a representation of reality and serves as a basis for action in the classroom (Pajares, 1992; Schommer, 1990). Dewey (1933) recognizes the importance of a belief as significant, for "it covers all the matters of which we have no sure knowledge and yet which we are sufficiently confident of to act upon and also the matters that we now accept as true, as knowledge, but which nevertheless may be questioned in the future" (p. 6). Researchers in the field of teacher education have come to the conclusion that how and what teachers believe has a tremendous impact on their behavior in the classroom. Focusing on teacher beliefs is assumed by many to "be the clearest measure of a teacher's professional growth" (Kagan, 1992, p. 85). Other research suggests that beliefs are "the best indicators of the decisions individuals make throughout their lives [and may].... ultimately prove the most valuable psychological construct to teacher education" (Pajares, 1992, pp. 307-308). Similar findings in the field of adult education where research is just beginning to emerge, suggest teaching beliefs among adult educators to be significant in shaping practice (Dirkx & Spurgin, 1992; Pratt, 1992; Pratt & Associates, 1998; Taylor, 1999; Taylor, Dirkx & Pratt, 2001). What this research has shown is that adult teaching "beliefs and values are not minor, and they are fundamental. They provide the submerged 'bulk of the iceberg' upon which any particular [teaching] technique rest" (Pratt, 1998, p. 16).

Therefore, belief offers a construct to explore the impact of graduate programs in adult education. This connection would be consistent with the work of those who see challenging beliefs systems as fundamental in formal adult graduate education (Brookfield, 1996; Mezirow, 1991). And even though there has been research on the process of belief change from the lens of transformative learning theory, very little addresses teaching beliefs (Taylor, 1999). Furthermore, there has been no research on what adult educator preparation programs, such as graduate schools, are doing to address the importance of or impact of shaping teaching beliefs in the development of teachers of adult students.

Theoretical Framework and Purpose of the Study

For the purposes of this study, teaching beliefs are conceptualized within two frameworks. First is Pratt's (1998) research on different teaching perspectives. He sees beliefs as the defining attribute of teaching perspectives. They "represent the most stable and least flexible aspect of a person's perspective on teaching" (p. 21). He identifies three types of beliefs fundamental to a perspective on teaching. First, epistemic beliefs (views of knowledge) are concerned with the "why?" behind what teachers choose and how they teach. Exploring these beliefs, means asking teachers about what they want students to learn? Moreover, how do students go about learning the course material? Second, normative beliefs focus on the social norms of a teacher's roles, responsibilities, and relationships with students and others. Understanding these beliefs means asking questions about what they see as their primary role as a teacher and what are the responsibilities associated with that role. Lastly, procedural beliefs focus on tactical skill and strategic beliefs; i.e., managing the how and when of actions in the classroom and the justification of those actions. Exploring these beliefs means asking teachers how they introduce a new concept in class and what is their justification for a particular approach. These three structures form a comprehensive framework for understanding the beliefs of adult educators.

Along with Pratt's framework for understanding belief structures is Mezirow and Associates' (2000) work on transformative learning, which provides insight into the transformation of belief structures. Mezirow, consistent with Pratt, sees meaning making shaped by an established belief system or frame of reference. In particular, beliefs are part of meaning schemes which "are sets of immediate specific expectations, beliefs, feelings, attitudes and judgments that tacitly direct and shape a specific interpretation and determine how we judge, typify objects and attribute causality" (Mezirow & Associates, 2000, p. 5). A collection of meaning schemes forms a frame of reference, a worldview, and a lens through which an individual interprets and makes meaning of his or her world. Transformation or learning occurs in four ways, that of building on existing meaning schemes, learning new meaning schemes, changing existing meaning schemes, or transforming a frame of reference-worldview (Mezirow, 1995). For the purpose of this study, the impact of graduate school will be interpreted from the change in meaning schemes as explained by Mezirow's model of transformative learning.

Literature Review

For this study the relevant literature on teaching beliefs involves reviewing research in both the K-12 and adult education fields. More specifically, the review focuses on what is known about change in teaching beliefs and factors that influence belief change. When it comes to change in beliefs, there is much debate among researchers in the K-12 field as to the difficulty and the possibility of change (Nettle, 1998). Belief change in adulthood is seen as "a relatively rare phenomenon, the most common cause being a conversion from one authority to another, or gestalt shift" (Pajares, 1992, p. 325). For example, studies have shown that preservice teachers do not necessarily develop new perspectives about teaching while in a teacher education program, they simply become more knowledgeable at defending the beliefs they already possess. In addition, changing instructional practices was found by several studies to rest on a factor of congruency between the teacher's beliefs matching the underlying assumptions of the new teaching method (Rich, 1990). Further research has found that belief change is complex and varies on an individual basis. Some teachers change beliefs and others do not, or possibly they change in different ways (Nettle, 1998). Much of the change or lack of change has to do with how reflective or dogmatic students are about their teaching beliefs (Richardson, 1996). In addition, studies showed that some students displayed resistance towards developing a reflective orientation and others revealed that certain experiences had to be in place (e.g., student-teaching) before development of a more reflective orientation could begin (Bolin, 1990).

Two areas identified by research to have an influence on belief change are schooling and classroom experience. Short-term interventions (e.g., a course on reflective inquiry, field experience) seem to have little impact on teaching beliefs and based on present research it is hard to separate the impact from the overall teacher education program. On the other hand, long-term preservice education of a year or more, with an emphasis on personal examination of beliefs, appears to initiate some change. A question remains about the degree or significance of the change, particularly in relationship to the impact on practice (Wideen, Mayer-Smith, & Moon, 1998). In the area of staff development, Richardson and Hamilton (1994) have identified

several factors in successfully engaging teachers in examining and changing their beliefs and practices. These include: (a) a constructivist approach to learning to teach; (b) an emphasis on exploring participant's beliefs as a major component of the training program; (c) a goal to encourage experimentation in different beliefs and practices; (d) a discussion of teaching beliefs in relationship to their moral and social dimensions; (e) a student-centered teaching approach led by an experienced staff developer; and (f) a recognition that change in beliefs is a long-term process.

From this brief review, teaching beliefs seem deeply rooted in prior personal and school lives, are well developed before prospective teachers begin work in the classroom, and have the potential to have a significant influence on practice. However, within the field of adult education the research focuses predominantly on how beliefs influence the teaching of adults, with nothing that explores the change in teaching beliefs among adult educators (Creeson & Dean 2000; Dirkx, Amey, & Haston 1999; Dirkx & Spurgin 1992; Pratt 1992; Taylor et al., 2001). More specifically, a brief review of the relevant literature brings several significant findings to light about the teaching beliefs of adult educators. First, beliefs involving the student's psychosocial (e.g., low self-esteem, lacking self-confidence, need encouragement) and academic needs (e.g., unrealistic expectations, test anxieties) and less so about ability/capacity, seem to have the most influence on shaping a teacher's classroom practices. Furthermore, age, ethnicity, gender, and other characteristics represented only a small portion of the teacher's description of student attributes (Dirkx & Spurgin, 1992). Second, in a cross-cultural investigation of different conceptions of teaching, Pratt (1992) found that beliefs are culturally bounded, framed by political perspectives, social values, and different ways of knowing. Third, teaching beliefs seem to be strongly reflective of and bounded by the discipline from which an educator instructs. Dirkx et al. (1999) found that teachers "approach curriculum integration largely through the lens of their respective disciplines, a position which both reinforces and is reinforced by the organizational structures within which they practice"(p. 99). Fourth, acting on beliefs by teachers can at times be difficult. Creeson and Dean (2000) recently surveyed adult educators in Pennsylvania, and identified reasons for being unable to act on their beliefs. Four themes were identified: "limitations based on program practices, limitations stemming from institutional policy, limitations of the adult learners, and limitations of the adult education" (p. 97). Fifth, as other studies have shown, recent research in the field of adult education has found a high degree of consistency between espoused beliefs about teaching and how beliefs manifest in practice. This strong internal consistency seems to provide the participants a sense of logic and control over their teaching (Taylor et al., 2001). It is apparent that adult educators, like K-12 teachers, gradually develop a "personal cohesive pedagogical system that they support without reservation"(Kagan, 1992, p. 85). At this point, what is needed is research that looks at how this pedagogical system of beliefs is influenced and shaped within the context of graduate school in adult education. The purpose of this study is to explore the nature of adult educators' beliefs about teaching, the practices that contribute to change in beliefs, and the impact these changes have on practice while attending a graduate program in adult education.

Specific Questions the Study is Designed to Address

This study was guided by the following research questions:
1. What is the nature of adult educators' teacher beliefs?
2. What are the relationships between adult education teacher beliefs and their practice?
3. How does the graduate school experience impact teaching beliefs?

Data Collection and Analysis

This qualitative study entailed an interpretive and longitudinal orientation. The qualitative method allowed for an in-depth understanding of the participants' beliefs about teaching adults and how those beliefs were influenced by their graduate school experience over a two-year period. The longitudinal approach allowed for the exploration of "what kind(s) of participant change(s) [that] occurred (if any), when they occurred, and to what degree they occurred through an extended period of time" (Saldana, 2001, p. 5). A two-year period for the length of the study was selected for several reasons. One, it allowed for the average time necessary for graduation of most Master's level adult education graduate programs. Two, it provided a "relatively prolonged

period" of time for change (if any) to occur (Schwandt, 1997, p. 110). Three, it allowed enough time for participants to engage what they learned in graduate school with their practice.

A purposeful sample of 16 adult educators was selected based on the following criteria: (a) each participant was currently teaching adults on a regular basis in some capacity in a group setting and (b) each participant had enrolled in a Master's of adult education graduate program within the last six months. The first criteria was most significant, because it ensured that the participants would be engaged in an ongoing teaching practice involving adult students and would provide a context in which to explore their present beliefs about teaching adults. The second criteria involved several Master's in Adult Education programs. All of these programs were traditional graduate school adult education programs in that they were predominantly course driven and offered weekly classes generally taught in a formal learning setting. Using these criteria, participants were identified and interviewed through the cooperation of several graduate programs in adult education in the Northeastern United States. The sample included both men and women who teach in a variety of adult education settings, such as computer instruction, bank employee training, adult literacy, continuing professional development for nurses, adult basic education in corrections, quality management training, and community college instruction. All participants in the study were white with eleven females and five males. Pseudonyms were used to ensure the confidentiality of each participant in the study.

The primary method of data collection involved two in-depth semi-structured interviews of 60-90 minutes in length. The first interview involved the use of two interview prompts to help participants elicit teaching beliefs that at times operate outside the conscious awareness of the individual and to setup a more relevant context for the interview experience. One prompt was a "photo-elicitation" technique where photographs are put to use as an additional means for expressing beliefs about teaching adults. This technique is used with "the express aim of exploring participants values, beliefs, attitudes, and meanings and in order to trigger memories, or to explore group dynamics or systems" (Prosser, 1998, p. 124). To initiate the photo-elicitation technique each individual was given a disposable camera prior to the first interview with an assignment to photograph three visual images, that of a teacher, a student, and learning. Participants were encouraged to make notes of their thoughts about the pictures soon after they were taken. Once the pictures were completed, the participants mailed the film along with any notes to the researcher to be developed prior to the interview. During the interview, the participants described the photographs. The researcher did not interpret the photographs.

The second interview prompt involved the participants' lesson plans, course material, and any other information that they used to organize and guide their teaching practice. These materials were explored and described by the participants in their discussion about how they planned and organized their teaching practice. These two prompts helped set a more realistic context for exploring their beliefs about teaching and provided an opportunity to delve into greater depth through the use of additional questions about participants' beliefs of teaching adults. The second interview followed roughly two years later with 10 of the 16 participants. There was some attrition from the original sample because a few of the participants withdrew from their program of study during the two-year period. This interview was very similar to the first, involving photographs of visual images taken of the same topics by each participant prior to the interview.

The transcription of each interview was analyzed using a constant comparative method. Each interview was read and coded with a specific focus on connections and repetitions between the two (Patton, 1990). The data was bracketed and removed from the original transcript, in order to view the data in its unique form, separating and identifying its essential elements. It was then organized into categories and themes using a graphic organizer to display dominant themes that emerged from the interviews. For example, descriptions of teaching from the first interviews and description of themselves as a teacher in the present were placed along side each other to see if there were similarities or differences. Finally, these connections from the past to the present were expanded and refined into categories; thus illuminating any change that occurred while a student in a graduate program in adult education.

To enhance the trustworthiness of the findings, several steps were taken in the process of data collection and analysis. One involved triangulation in the use of multiple data sources such as photographs and multiple interviews. A second was the involvement of several individuals, not just the main researcher, in the coding of the data. Two graduate students in adult education along with the lead researcher spent over 30 hours reviewing the transcripts and developing the various categories reported in the findings. In addition, member checks were used with some of the participants to confirm the interpretation of the data.

Limitations

Before discussing the findings, it is important to recognize the limitations of this study. First, this study was not designed to evaluate specific graduate programs in adult education. The programs that students were drawn from were not represented equally in the sample of participants. In addition, the interview questions focused predominantly on their beliefs about teaching, the role of the student and learning, and only a few general questions were asked directly about their graduate school experience during each interview. Most of the responses to the graduate school questions, particularly at the end of the study lacked specifics and the participants found it difficult to respond with any depth. Second, it is important to recognize that over the two year period that the participants were teaching adults and this experience had the potential as well to influence their belief system about teaching. Most likely, the context in which they taught helped to maintain and affirm their belief system. Therefore, we can only speculate what could have contributed to the change in beliefs, if any, during their graduate school experience.

Findings

Overall, there was very little change in teaching beliefs as the result of graduate school. This lack of change was reflected in several ways. First, the majority of the participants maintained a teacher-centered view of teaching. Second, epistemologically, they continued to view knowledge as separate from the learner, often residing in the text, out there to be discovered, and to be imparted to the students by the teacher. Third, the participants maintained a belief about learning, viewing it as an increase in knowledge and the result of doing. Fourth, participants' continued to emphasize an instrumental view of teaching, such that teachers that are more effective were those who had a greater repertoire of teaching techniques. However, the study did suggest that participants were beginning to recognize the significance of engaging student experience in practice. Each category is discussed in depth below along with data from the interviews and the photographs.

Teacher-Centered Belief of Teaching

Most of the participants in this study maintained a teacher-centered view of teaching throughout the two years of the study. This view reflects a traditional image of teaching, where the teacher is located most often in the front of the room, standing, and directing classroom activity. This finding was demonstrated by two subcategories: that of the physical location and action of the teacher and by a belief in the teacher as the authority in the classroom experience.

Teacher in front and walking

The majority of the participants visualized the teacher as walking in the classroom orchestrating the classroom activities. Interview statements and photographs illustrating the teacher pointing, directing, and leading classroom activities demonstrated this. In addition, what was important from the participant's perspective is that the teacher continually moves and walks around, helping the students if needed. However, a teacher's proximal location to the student was consistently maintained. Iris, an adult literacy instructor, for example, describes herself physically in relationship to the student. She states "it's more of me walking around saying, you know, here's what you should be doing next and, you know, here's the piece of knowledge that we're looking at, what questions do you have." Alice, a training specialist at a financial institution, provides another example. When asked what does she think of when she thinks of teacher, she stated "someone that is walking around...doing a presentation or something. I do this with my classes, just up in front of the room, then walking around." Figure 1 is a picture taken by Alice of her visual image of adult educator.

Teacher as authority

A second subcategory indicative of the teacher-centered view of teaching is how the participants viewed the teacher as the authority in the classroom. Alice, for example, describes her students: "as participating, hopefully, sitting there listening to the information and their behavior is to be quiet when I'm

Figure 1: Alice's visual image as an adult educator

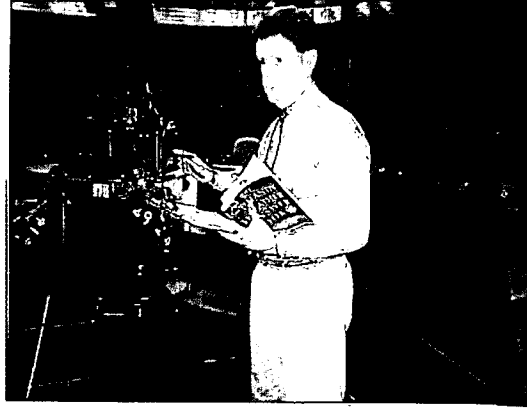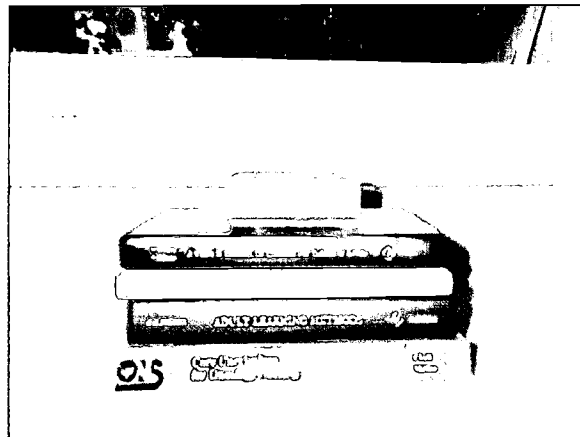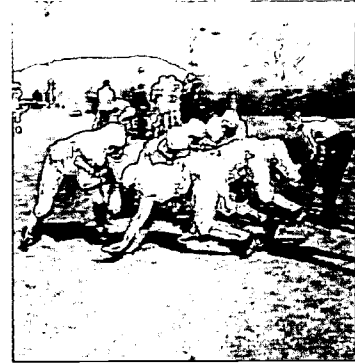Figure 2: Kevin's visual image as a teacher

Figure 3: Nancy's view of teaching

Figures 4-6: Lessley's view of learning as something applied

speaking. Just little things like that would annoy me if they kept talking and talking. I just hope that they do what I say." Iris softens this perspective somewhat, but the importance of teacher as the authority is still essential to her perspective about teaching. She states "I'm usually striving to be sure that I'm not talking down to them, I'm not treating them as I would treat a child, especially because . . . there's that balance between respecting your elder and being that teacher authority." Kevin, an adjunct community college instructor, describes, his approach as teacher: "I'm not a controlling person in the sense that I want to dominate things, but I want the class to go the way I want it to go."

Teacher providing comfort

This third category of the teacher-centered image is that of providing comfort to the students. This entails not only about providing a comfortable classroom environment, but also assisting students to become comfortable with what they are learning. It is consistent with the teacher-centered image, because the responsibility of ensuring comfort resides with the teacher and not the students. For example, Avery, a training specialist for a large financial institution describes her primary goal of teaching at the initial interview. She states:

> To make people feel relatively comfortable with the subject material. I can only relate because I do training. I mean, I'm not changing their lives. I'm teaching them how to do specific things for work. Hopefully, I want them to feel comfortable with what they have to do and if in fact they do run into trouble, that they can't do it, I want them to feel that they can use me as any, you know, anytime as a reference.

Two years later Avery is asked the same question and she responds:

> To make the students feel comfortable . . .with the learning material. To make the students feel comfortable enough with me to ask any questions if there is any things that aren't clear with them. I want them to feel comfortable. I want it to be a positive learning experience no matter what it is we're talking about.

Bill, who is a part-time computer instructor, provides another example. He sees his role as a teacher helping students become comfortable with the computer software. Below he describes what he hopes to accomplish when teaching a group how to use to e-mail:

> It's a matter of sending it back and forth and feeling comfortable with it and knowing what's going to go and make an attachment and send it back and forward it to somebody else. So those types of things, and that particular part of that class, I spend a little more time on that and that's something that they have to feel comfortable with. And most of – I mean, after you've done it six or seven times, then you do feel comfortable with it.

In summation, most of these participants throughout their graduate school experience held to a teacher-centered perspective of teaching, demonstrated by their physical positionality in the classroom, emphasis on teacher authority, and their concern for ensuring comfort in the classroom.

Belief of Knowledge as Separate from the Learner

This second finding was indicative of the epistemological beliefs held by the participants. It revolves around the question, what constitutes knowledge in the teaching experience? For most participants, knowledge was external from the learner and something often held by the teacher or the text and imparted to the student. For example, Nancy, a nurse specialist in oncology, explained her views of teaching in her final interview. She stated that most "teaching occurs out of books." Similar in response was Kevin who stated:

> Obviously, teachers teach from a book.... Maybe a lot of teachers don't, but it's got to be 90% of teachers, unless you wrote the book or something...you rely on the book as well for your instruction, so the book was kind of a symbol to me that, that there is a teacher, he's using the book, he's imparting the wisdom of the book to the students.

In support of this description Kevin's visual image of a teacher is shown in Figure 2. Another example of this view of knowledge is found in Bill, a part-time computer instructor. When describing teaching he states: "I'd say it is the transfer of knowledge...you have certain a bit of information that you are going to take from one person to another." In a similar example, Nancy a nurse, describes her view of teaching at the end of two years of graduate school. She states

Teaching occurs out of books. I'm sure that's the goal of the author, the writers, um, and also learning occurs out of books as the concept of the sponge on top... Hopefully, the sponge is going to be the brain [student's] that soaks up all the information in the books.

Her picture from the second interview is shown in Figure 3.

In summary, to a large degree most of these participants epistemologically conceptualized knowledge as objective, quantifiable, and bounded. Knowledge and truth was found mostly in the text and in the expertise of the educator. The role of the teacher was to pass on that knowledge to the student.

Belief of Learning as Doing

This category was reflective of the participants continued view of learning as something applied. The best kind of learning involved the direct application and practice of knowledge. When students were doing something, an activity, or a task, learning was taking place. For example, when Lessley, a computer instructor with a university library describes her beliefs about learning there is an emphasis on "doing." She explains: "I came to my current job here as a trainer. All of the time that I worked for the library, I was involved in teaching people how to do things." Learning for Lessley seems rooted in the application of what she is attempting to teach to her students. Lessley's photographs shown in Figures 4-6 taken two years later in graduate school, continues in this same vein. Lessley uses one picture to show her visual representation of a teacher, student, and learning. She begins to describe her conceptualization of the student's role in the classroom and how it informs her understanding of learning. Lessley states:

The students are trying things and that's really key to what I think learning is, [which] is doing. So they're trying things with a guide. There's a teacher with them, or a coach or someone, where they could be in small groups, just attempting to make this thing happen. So that's their active role in the learning process. They have a responsibility, not just to sit there but to go out and try something.

When asked to defined learning, Lessley responds consistently with her previous thoughts: "Learning, learning means putting knowledge into action."

Bill and Kevin express this same understanding of learning. When each was asked to discuss learning Bill responded by sharing "Learning is when you get back into doing it with the software. You know, I'll explain it, but then we have an exercise to make sure the other people can do it." Similarly, Kevin stated: "The goal of any student is to learn, and the best concept of learning is doing."

Belief of Teaching as Instrumental

This category reflects the participants' emphasis on the instrumental or technical nature of teaching. This finding emerged from one of the few questions that asked the participants directly about their graduate school experience. As they began their program of study in graduate school, many hoped to acquire more effective methods and techniques for teaching adults. This overarching goal seemed to persist throughout their program of study. When asked what they had gained most from their graduate school experience, they replied that they had learned new methods or skills to more effectively work with and teach adult students. For example, Robin stated at the beginning of the study that she hoped to learn "better ways to teach adults, give me more insight on what adult learners expect ...[and] being able to find ways to motivate them to want to learn and to keep them interested." At the completion of the two years of study when asked how her graduate school experience had impacted her practice, she replied:

It's just given me more ideas, more resources to draw from. One class we had was called Group [Dynamics]. Uh, just different things to do as a group, and to get to know the class or to do things as a group, instead of individualized instruction. Just different things like maybe different teaching methods or different teaching ideas, things like that.

In another example, Alice states that by the end of the study she learned

how to do a lesson plan, how to do a survey.... Organization 450 was very helpful because it gave me the different methods. Also, I took group facilitation skills that taught me how to put people in groups a lot.

In a third example, Nancy discusses what has changed about her practice as a result of graduate school. She states

> I'm going to know how to prioritize information that I'm going to provide, I'm going to know how to make the decisions about what to include in the handout and what just to talk about or... maybe less information in the handout and more talk that they have to write down more information if they want to take notes. Which kind of groups might do better from which direction of that.

It is important to note that the participants spoke of other things that they gained from their graduate school experience, but they seemed to emphasize the importance and the significance of acquiring new methods and techniques for teaching adults.

Greater recognition of student experience

This final category is indicative of an emerging perspective that was seen in a number of the participants. There was a growing recognition and appreciation of the importance of engaging student experiences in the classroom. The student's life experiences were seen as a way to make the learning experience more interesting and relevant. For example, Avery stated in her second interview

> What I appreciate is the life experience they bring...Like if we're talking about a, a subject, they [trainees] can say, "I know what you're talking about, in my position I have to do this," and they can relate so it makes it easier for them to relate some specific things.

Robin, who describes an understanding she gained from her graduate school experience, provides another example. She explained the need "to remember that adults bring in more baggage with them, and that they do have the life experience." In response to the same question, Nancy states: "probably the importance of flexibility and the need to draw from the experiences...see the students as resources in their own right." When asked for greater clarification, she responds

> We have people from such varied backgrounds in this program that probably 40 to 50% of what I learned was from sharing information within that group, in addition to what came from the teachers. I mean, if you know what resources you have there, you can get an awful lot of information.

Greater recognition of student experience was the only significant change in beliefs about teaching that emerged over the two years. Furthermore, this change did not seem to have an impact on their views of how knowledge was constructed or learning took place among students.

Impact

The findings of this longitudinal study begin to offer insight into the nature of the teaching beliefs of adult educators and the influence they experience while in graduate school education. A number of discussion points can be drawn from this study to help clarify the findings and significance. First, the teaching beliefs of these participants reflected a traditional perspective of teaching, which was held to deeply throughout the two-year period. The participant saw the teacher at the center of the teaching experience both in physical proximity to the students and someone who held the most authority in the classroom. The majority of these participants taught in traditional settings and even when they did not, they still perceived the role of the teacher in a similar fashion. This classical view of teaching is consistent with the literature on teaching beliefs of entering students. Entering teachers generally believe teaching to be a fairly straightforward and mechanical process, and place an emphasis on memorization and passing on knowledge to students. In addition, most are found to be optimistic and motivated by their participation in a form of public service. Most are confident about their abilities as teachers and believe that the best way to become a teacher is through direct experience (Richardson, 1996). Even though they varied in years of teaching experience, many participants expressed similar views about teaching. However, entering K-12 teachers place a much greater emphasis on classroom management and control, while for these participants, the issue of classroom management rarely was discussed. It was assumed that since they were working with adults, they would act like "adults" and their authority would not come into question. What was of greater concern for these participants was being perceived as competent and knowledgeable about the topic they were teaching.

In addition, the visual images portrayed by many of the participants in this study also support their teacher-centered conception of education. The teacher was the center of the classroom experience, often

portrayed standing with students sitting, while authority and control emanated out from the teacher. These photographs are similar to what has been found in similar studies where visual images have been used to understand individual conceptions of teaching. For example, Weber and Mitchell (1996, 1998) analyzed drawings made by new and experienced teachers in an effort to understand their individual conceptions of a teacher. They found the most prevalent image to be a white nurturing female teacher instructing in a typical didactic manner in the front of the classroom with a chalkboard in the background. Bullough, Knowles, and Crow (1991) believe that images, through their metaphorical power, act both as a framework for organizing our thinking as well as filters through which we make meaning of our pedagogical knowledge. The photographs in this study not only reaffirm the findings gained through the interview process, that of a teacher-centered perspective, but also shed light on how significantly these images shape and make sense of their practice.

A second issue is that some of the teaching beliefs held by the participants seem to be contradictory in nature. For example, they placed a strong emphasis on experiential and active approaches to learning along with offering a growing recognition of engaging student experiences. This might seem to imply an emerging constructivist perspective of teaching and learning. However, epistemologically, they viewed knowledge as bounded, textually rooted, and separate from the learner, not something that is constructed. There seem to be contradictory views about knowledge and how it is constructed in the teaching process. Even though the participants' place a great deal of emphasis on experiential and interactive forms of learning, that of doing, the findings reveal this emphasis is actually designed with the intent to complement their efforts of sharing knowledge and explaining things clearly to students. In essence, this approach to teaching is motivated with finding ways to make the act of imparting knowledge more active and engaging. This finding is consistent with what Wilson (1990) found in the beliefs of her student teachers; she states

> Many of my students will tell you that they believe in active learning, in engaging students in such educational experiences as using manipulatives, writing stories, and conducting experiments. However, an examination of how they talk about these activities reveals that they see them as pleasant methods to make the business of learning more palatable—not as methods that reflect different assumptions about how and why learning takes place, about what is to be learned, and about what role the teacher plays in the enterprise. No matter what students do on their own, teaching ultimately means that students learn something specific that teachers provide. (p. 206)

Furthermore, the instrumental emphasis in graduate school, focusing on developing greater expertise with various teaching techniques, further supports this conclusion as well.

A third and possibly the most significant issue for discussion is the lack in change in teaching beliefs found among the participants during their graduate school experience. On first blush there might be the assumption made that these particular students are unique and did not take advantage of their graduate school experience. However, research offers a response that is quite contrary to that conclusion. Teachers teach as they were taught and like these adult educators, their belief systems about teaching were developed long before they entered college (Clark, 1988; Knowles, 1992; Lortie, 1975; Pajares, 1992; Zeichner & Tabachnick, 1981). Unlike future doctors and lawyers who embark on their professional training relatively unaware and unskilled about their inevitable responsibilities, future educators already have a well-developed conception of the role of the teacher in the classroom. We could also speculate that adult educators would be more likely to rely on their prior school lives for making sense of their practice than K-12 educators, since most adult educators enter teaching with little formal instruction in the field of education.

This lack of change in beliefs would also be consistent with research on belief change in the transformative learning literature. Mezirow (1991, 1995) discusses the challenge in revising or developing new meaning schemes (beliefs) and frame of reference in transformative learning theory. Meaning schemes develop early in life and self-perpetuate unless strongly questioned and critically reflected upon. It seems apparent that the participants in this study held deeply rooted conceptions about teaching and learning prior to entering graduate school. The emerging change that began to take place seems to exemplify what previous research has revealed about changes in meaning schemes. Taylor's (2000) review of the transformative literature found a meaning scheme to be more specific and less global than change in a frame of reference. Meaning schemes refer to a specific belief as opposed to a cluster of beliefs. Also, they seem to operate often on an unconscious level, revealing themselves when individuals experience difference or through sharing personal habits or narratives.

Research in the field of K-12 teacher education has found similar results when looking at change in teaching beliefs in teacher education programs (Kagan, 1992; Nettle, 1998). In a review of the K-12 literature, belief change was seen as 'a relatively rare phenomenon, [with] the most common cause being a conversion from one authority to another, or gestalt shift' (Pajares 1992, p. 325). Furthermore, research has shown that preservice teachers do not necessarily develop new perspectives about teaching while in a teacher education program, they simply become more knowledgeable at defending the beliefs they already possess (Rich, 1990). Others conclude that beliefs about teaching not only act as a lens by which teachers make meaning of their practice, but they influence their behavior to suit the context of the classroom experience (Johnston, 1992). This is not to say that some belief change does not occur, but it varies individually among student teachers. For example, research has shown that students entering teacher education programs with a reflective orientation are more likely to experience change in beliefs than those without such a perspective (Richardson, 1996).

If teacher education programs which generally involve an extensive and elaborate process of teacher training are finding little belief change among their students, then it seems reasonable to assume that belief change in typical graduate programs in adult education, would be minimal at best. When it comes to preparing adult educators, there are few national certification programs for the practice of teaching adults and many graduate programs in adult education do not require a practicum in teaching. Most Master programs in the United States and Canada seem to be course-driven inclusive of limited and short-term direct-experience activities. Few programs require teaching internships and therefore it is likely that little supervision and feedback is provided about students' teaching performance. Most formal pedagogical knowledge about teaching adults is taught as a methods course, decontextualized, and removed from the students' actual practice. This short-term, limited direct experience, and method oriented approach to teacher preparation in the field of adult education has been demonstrated through the K-12 research to have little impact on belief formation and change (Wideen, et al., 1998). It seems likely that most adult educators probably learn to teach adults while on the job and gain little in the development of new beliefs from their graduate programs in adult education. If further research substantiates this, it is unfortunate considering that one of the major goals of the discipline of adult education is to promote a reflective practice.

In conclusion, this study is significant in a number of ways. One, it should encourage graduate programs to reflect on how their programs are making a difference in their students' adult teaching practice. This means exploring questions like the following: Are students leaving graduate school with a better sense of their own beliefs about teaching adults and how their beliefs impact their practice? Are they given opportunities to reflect deeply and critically on their practice? Are they being exposed to multiple ways of knowing? These questions and others need to be asked and explored in the preparation of future adult educators. Second, this study continues a growing research trend in the field that is recognizing the significance of teaching beliefs and how they shape practice. A better understanding of teaching beliefs of adult educators can help inform the relationship between beliefs and practice and can shed light on how to better prepare students in the teaching of adults. Third, over the last decade there has been a lack of research about the science of teaching adults, particularly within the field of adult education. Hopefully studies like this will initiate a reversal of this trend.

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