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Reading Horizons

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Under Pressure: Controlling Factors Faced by Classroom Literacy Teachers as They Work Through a Professional Development Program

Faith H. Wallace
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This critical constructivist inquiry was designed to understand controlling factors faced by classroom literacy teachers involved in a professional development program. Two guiding questions framed this critical inquiry: (1) how can I describe controlling factors faced by teachers in their respective school cultures and (2) what is the resultant impact of these controlling factors on the teachers' classroom instruction. Findings indicated that participants felt pressure to conform to a particular school philosophy, but empowered themselves by solidifying their own philosophies of instruction.
THERE IS A WIDE RANGE of literature on professional development for literacy instruction. This literature talks of changes teachers make to their classroom instruction through their involvement with professional development programs (Borko, Davinroy, Bliem, & Cumbo, 2000; Borko, Mayfield, Marion, Flexer, & Cumbo, 1997; Broaddus & Bloodgood, 1999; Lyons, 1991; Richardson, 1999) as well as the facilitations and impediments of these programs (Anders, Hoffman & Duffy, 2000; Goldenberg & Gallimore, 1991; Richardson, 2003). However, one aspect of professional development often does not receive enough attention. That is, how teachers deal with controlling factors within their school cultures and how these controlling factors impact teachers' resultant instruction.

Some research has indicated teachers can feel a lack of control over their teaching decisions when administration goes so far as to dictate type of materials to be used and how often these materials are to be used (Anders & Richardson, 1991). The school culture can also place pressure on teachers to conform to a standard (Harris, 1996; Scharer & Detwiler, 1992). This can be particularly problematic when teachers attempt to make instructional decisions based upon professional development experiences. Additionally, pressure to prepare for and achieve proper scoring on standardized testing can also compete with teachers' philosophical beliefs about teaching and learning (Richardson, 1997). While this body of research indicates that controlling factors are a barrier to effective professional development, none of the aforementioned studies were specifically designed to uncover these controlling factors.

Critical theorists have long believed that issues related to power, authority, and control manifest within classrooms just as within society (Carspecken, 1996). Wallerstein (1987) explains that "education is not neutral....[since] education starts from the experiences of people, and either reinforces or challenges the existing social forces that keep them passive" (p. 33). Therefore, it may be that the most appropriate lens for understanding professional development is critical theory. A major focus of critical research is to uncover issues related to power, authority, and control as well as disrupt and challenge the status quo (Carspecken, 1996; Freire, 2003; Giroux, 1988; Kincheloe & McLaren, 2000; Schwandt, 2001; Shor, 1987). However, the literature of professional
development for literacy instruction generally looks to social constructivism as a guide for both developing as well as evaluating programs (Richardson, 1997). There are two basic tenets of social constructivism essential in professional development for literacy instruction: (1) meaning is actively constructed, and (2) learning does not occur in isolation, there is a social interaction during knowledge construction (Driscoll, 2000; Richardson, 1997; Schwandt, 2000, 2001).

As a result, coupling social constructivist principles with that of critical theory into what I have called critical constructivism may be necessary when working with professional development programs. This is possible since critical theorists believe, like social constructivists, in the active construction of knowledge and the implications of social context in learning. However, critical theorists also want to understand potential power struggles and oppression in a given context (Freire, 2003; Giroux, 1988; Kincheloe & McLaren, 2000; Schwandt, 2001; Shor, 1992). Accordingly, careful attention is paid to everyday problems faced by educational constituents and how such problems can reduce teachers from professionals and intellectuals to implementers (Giroux, 1988; Kincheloe & McLaren, 2000).

Therefore, this critical constructivist inquiry was designed to understand controlling factors faced by classroom literacy teachers involved in a professional development program through university affiliation. Two guiding questions framed this critical inquiry: (1) how can I describe controlling factors faced by teachers in their respective school cultures and (2) what is the resultant impact of these controlling factors on the teachers' classroom instruction.

Components of the Inquiry

Context and Participants

The participants for this inquiry were involved in a professional development program through university affiliation. This program, the summer reading institute, was comprised of three graduate level courses and included topics related to theory and research of reading instruction, authentic classroom assessment, and content area instructional strategies.
This program was designed by the University System of Georgia’s Reading Consortium in conjunction with the Professional Standards Commission (Beatty, Feaster, & Many, 2000; Dixey, Many, & Lane, 2004) and results in the participants receiving a Reading Endorsement on their teaching license (for more information see the Consortium website: msit.gsu.edu/readingconsortium). The summer reading institute involves two main components. The first is an intense six-week summer experience where teachers learn about the theory and research of reading instruction. During the fall follow-up semester, the teachers begin the second component, classroom application supported by distance learning. Through this distance learning, teachers continue to have the support of the instructor and peers through WebCT (web-based classroom) while they experiment with new ideas and approaches to reading instruction.

The year of this inquiry was my third year serving as facilitator of the program. Each year, I worked toward a better understanding of designing and describing professional development (Wallace & Coleman, 2002; Wallace & Deming, in press). These experiences helped to shape each next experience from the content of the course and the method of content delivery to the intricacies of the research design. While I was refining my summer reading institute, though, I believed my past experiences potentially caused bias in agenda setting (Richardson, 1992) or influencing of participants (Kincheloe & McLaren, 2000). In order to minimize the effects of such biases, the content of the institute during this study was delivered through an inquiry approach (Egawa, 1996; Richardson, 2003; Short & Burke, 1996; Short, Harste, & Burke, 1996). An inquiry approach is aligned with critical constructivist theory since the participants determine individual and collective goals, choose their own materials, experiment with various perspectives, participate in open and trusting dialogues, and are encouraged to question. Further, a research assistant, Renee Mallard, not involved with the summer reading institute or Reading Consortium, was employed to further limit the influence of the researcher’s bias and agenda setting. Renee observed each session during the summer and discussed potential agenda setting with me during daily meetings. We continued those meetings during the fall follow-up semester as well.
There were a total of six teachers involved in this institute. While all teachers participated in this and a larger study of understanding professional development, for this article, I focus on two specific teachers as a case. I chose these two teachers for a number of reasons. First, three of the six teachers were not regular classroom teachers (e.g. ESL, resource, technology). For this article, I wanted to focus on regular classroom teachers. The two participants were chosen since they worked at the same school, and although they had a similar teaching assignment, they had different backgrounds. This allowed for more than one perspective on the experiences at this particular school. Both teachers taught fifth grade and were responsible for the teaching of language arts. Cordelia had only been teaching two years while Kendra had been teaching more than 10 years. While Cordelia identified herself as a fifth-grade teacher who taught a number of subjects, including reading, Kendra was emphatic that she was a math teacher who had been forced to teach language arts. Both teachers were enrolled in the Reading Endorsement program as one part of their larger Masters program.

Data Sources, Collection, and Analysis

Data sources included more than 300 individual messages collected through reflective journaling, email, and discussion board postings of the two teachers via WebCT. While electronic data sources (i.e. web-based discussions, chat room transcripts, and email messages) are becoming more important to research in teacher education (Grisham, 1997; Howrey, Many, & Race, 2003; Many, Wallace, Stephenson, & Eickholdt, 2004; Turbill, 2001), there are both benefits and drawbacks of these types of data. For example, email and discussion board postings give the researcher flexibility in that each post or message is verbatim and hard copies can be printed or saved to specially created files on a computer. However, because such correspondence is asynchronous—meaning that much time can pass between each correspondence, which makes probing problematic—this method of collecting data must be combined with another data source that captures teachers' perspectives. Therefore, both teachers were interviewed five times over the course of the summer. These semi-structured, open-ended informal interviews (Merriam, 1998; Seidman, 1998) were designed to
delve further into the reflections from email or discussion board postings or to understand their thought processes as they worked through projects during the course. For example, in her first online posting, Cordelia talked about having a lack of support from her school and teammates. She did not elaborate on this. During a follow-up interview Cordelia was asked to talk more about what she meant by a lack of support and the dynamics of her team. (6/10/04).

During the follow-up semester, both teachers’ classrooms were observed twice and each observation included a follow-up interview. Such field work took place so that I could situate the teacher’s experiences within their school context (Merriam, 1998). This type of fieldwork was imperative since critical theorists in educational research pay careful attention to everyday problems faced by educational constituents and how such problems relate to issues of power and control (Giroux, 1988; Kincheloe & McLaren, 2000). On the other hand, I needed to be sensitive to issues of power and control within the professional development program. Therefore, classroom observations were not mandatory. Cordelia and Kendra (along with the other four teachers) were free to decide whether or not they were comfortable with my observing their classrooms, as this was not a requirement of the summer reading institute. All agreed. After both observations, I met with Cordelia and Kendra to conduct a follow-up interview. This was a way to understand how the observed class fit within their instructional vision, clarify my understanding of the observed class, and allow Cordelia and Kendra to reflect on their experiences, including previously identified issues such as Cordelia’s feeling of lack of support from her teammates.

Additionally, during the follow-up semester, the teachers both attended two focus groups (LeCompte & Schensul, 1999). In this case, the focus groups were to talk with all of the teachers in the program to better understand their experiences as they experimented with new ideas and developed instructional unit plans. Further, sample course work was collected as data throughout both the summer and fall semesters. Finally, data were member-checked both informally through a quick email via WebCT and formally by providing the teachers with transcripts of observations and interviews.
Data collection began on the first day of the summer reading institute (June, 2003) and was completed at the end of the fall follow-up semester (December, 2003). This prolonged engagement allowed for persistent observation of data where data were collected, coded, and analyzed concurrently (Charmaz, 2000). The process of analyzing data began with coding where I used selective, or focused, coding beginning on the first day of the institute. Selective, or focused, coding "uses initial codes that reappear frequently to sort large amounts of data" (Charmaz, 2000, p. 516). A constant comparative method of data analysis was employed (Glaser & Strauss, 1967), where I constantly compared new data with data already collected. This forced me to refine codes continually. At this point, I began a process of memo writing (Charmaz, 2000). "Through memo writing, we elaborate processes, assumptions, and actions that are subsumed under our codes" (p. 515). This process was repeated with each data set and category discovery.

All data collected, memo writing, and data displays were housed in a researcher’s notebook to serve as an audit trail. Further, frequent meetings with the research assistant helped to discuss emerging themes within the data. Notes were taken by the research assistant during these meetings and stored in the researcher’s notebook.

Findings

In describing the controlling factors faced by Cordelia and Kendra at their elementary school, I posit one word: pressure. Both Cordelia and Kendra felt this pressure. That is, pressure to conform to a particular philosophy – pressure to give themselves over as implementers of curriculum rather than professionals and decision-makers (Giroux, 1988; Kincheloe & McLaren, 2000). This ubiquitous teaching philosophy that besieged Cordelia and Kendra from parents, colleagues, and administration was simple: teach to the test (standardized testing) regardless of best practices in literacy instruction or the individual literacy needs of the students.

Cordelia and Kendra approached this teaching philosophy with trepidation, as this philosophy did not align with their existent and emerging beliefs about reading instruction. However, they remained
powerless to diverge from this philosophy in part because of a lack of confidence, and in part because of a lack of knowledge of how to exact change. This caused a power struggle within classroom instruction where competing philosophies played tug of war with Cordelia and Kendra’s classroom instruction decision-making. Figure 1 illustrates this power struggle. During the summer portion of the institute, it was clear that the school’s philosophy was ruling their classroom instruction decision-making (see figure 2). However, as Cordelia and Kendra redefined themselves as teachers of reading and solidified their personal philosophies of reading instruction, they began to challenge the school’s philosophy and use their own philosophy as a guide in classroom instruction decision-making (see figure 3). The following sections illustrate Cordelia and Kendra’s pressure to conform to the school philosophy, their solidified personal philosophies, and how their philosophies empowered them to challenge the pressure to conform.

*Figure 1. Classroom instruction decision-making power struggle.*

*Figure 2. School influencing classroom instruction decision-making.*
It was quite clear at the outset of the summer reading institute that Cordelia and Kendra felt pressure to conform to their school’s philosophy of instruction. In their reflective journals and interviews they used words like required, intimidated, norm, pressure, and forced when they talked about their school’s philosophy and their resultant instruction. This began on the very first day when I asked the teachers to reflect on their philosophy of reading instruction. Cordelia began this reflection by discussing, first, her school’s philosophy, “Reading instruction in 5th grade at my school is driven by tested skills. In fact, many times, it is suggested by the grade level chair that we do not support the new skills with any literature due to ‘lack of time’. We, as teachers, are encouraged to just focus on the tested skills” (6/10/03, message No. 8). Therefore, Kendra explained, “I have to tend to the details of reading instruction.” (6/10/03, message No. 11). In a follow-up interview, Kendra was asked to explain what she meant by the details of reading instruction. She said, “How we have to say if you’re doing guided reading and you have to stop to make sure they’re picking up the [that] this is a simile this is a metaphor – things like that” (Interview, 6/10/03). In other words, direct instruction of tested skills.

As Cordelia and Kendra provided details about this school philosophy, they questioned such a philosophy and also revealed that they were being pressured to conform to this manner of teaching. For example in Cordelia’s follow-up interview to her reflection on her own philosophy she explained, “I’m not saying those skills aren’t important
like with cause and effect [skills she is required to teach to prepare for standardized testing]. I was looking at a book in their [anthology] where it would just naturally fit with the story as opposed to picking a skill and just teaching that and simultaneously reading a story” (Interview, 6/10/03). Later in the summer, Cordelia wrote, “I guess the main problem I have is fighting the norm within my grade level of teaching the skills tested on Standardized Tests without incorporating other types of literature” (6/18/03, message No. 120). Kendra explained, “If left to my own devices I would have emphasized the aesthetic [reading for a lived through experience]... However, for the three years that I have taught Language Arts, I have been planning with peers who have forced me to focus on more efferent reading [reading for details; to extract information]” (6/19/03, message No. 153).

More and more “pressure” items emerged as the summer continued. For example, Cordelia explained, “I have felt pressure from my grade level chair and administration to have students take all written assignments through the entire writing process. [Therefore] I have felt myself putting an emphasis on quantity, and not quality” (7/1/03, message No. 342). Even on the last day of the summer reading institute, both Cordelia and Kendra talked about pressure. Kendra talked about wanting to be able to practice what she had learned through the summer reading institute without the pressure of being “evaluated and critiqued by other teachers” (7/17/03, message No. 560). Cordelia felt the same way, “I do feel pressure to conform to what has “worked” for other teachers... I am nervous that I will be told a “better” way to approach teaching by administration if my teaching appears to be too different from the school’s established norm” (7/17/04, message No. 551).

Overall, Cordelia and Kendra felt powerless to combat this mandated philosophy. This was clear from the beginning. Cordelia wrote, “I have tried to break away from the suggested mold, but as I have just completed my second year of teaching, I lack the needed confidence to teach reading effectively without teacher [colleague] support” (6/10/03, message No. 8). Later in the summer, she wrote, “I feel like because I don’t have much experience, I am in no position to show other teachers how to change their learning environment” (7/2/03, message No. 376). Kendra even said that for the last few years, “The reading
specialist...planned, she did a lot; she planned it [planned Kendra’s lessons] and told me what to do” (Interview, 7/17/03). She wrote, “Prior to this summer, I just followed along with whatever the other teachers on my team did in LA [language arts] for the most part. However, there were practices that I disagreed with, and found myself “sneaking” to change” (7/17/03, message No. 560).

A New Philosophy

Perhaps combating the pressure to conform was difficult for both Cordelia and Kendra because they had yet to solidify their own philosophy of reading instruction. They knew that they did not agree with what their school dictated, and they had an inkling of what they wanted reading instruction to look like, but were far from asserting a personal philosophy.

When the institute began, Cordelia explained that she wanted her students to be independent learners that knew “how to look for information, use a variety of resources, and find answers to their own questions” (6/10/04, message No. 8), but didn’t know how to do that within instruction. In fact, she said, “I have felt out of my comfort zone when certain students struggled with reading because I only had a few ‘tricks’ up my sleeve” (6/23/03, message No. 188). She began refining a philosophy of reading instruction as early as the second week of the institute (6/12/03, message No. 50). By the end of the summer, this philosophy could be summed up in two words: strategic instruction. Cordelia saw that instruction in both reading and writing came down to empowering students with strategies to be successful on their own. She talked about supporting readers with strategies for before reading, during reading, and after reading. She also believed that building prior knowledge and teacher modeling were key components to her philosophy. This was what Cordelia considered the focus for her classroom instruction once she returned to the classroom (7/21/03, message No. 119). She explained what this instruction would look like:

First, I do not plan to use the basal readers as the only book my students are exposed to. I will use a variety of print such as trade books, short text, magazines, newspapers, chapter books, and
songs to immerse my students. I will use each of these sources as a model to demonstrate to my students what readers do to make meaning. My instruction will not be as rigid (Monday = building background), but will be strategic instead. It is essential that my students are well equipped so that they develop the necessary strategies to make meaning. I understand that these strategies take time to develop. I will serve as a model for my students, and I must allow them time to practice in smaller groups before they work independently. The gradual release of responsibility and allowing my students sufficient time to practice without the pressure of a formal evaluation will create a comfortable and safe learning environment where my students are encouraged to take risks. (7/15/03, message No. 511)

Kendra began the summer by stating she wanted her students to “develop a love for reading, a love for words” (Interview, 6/10/04). However, she explained, “I was most intimidated by the fact that I would be required to teach Language Arts” (6/10/03, message No. 11) since she wasn’t sure how to achieve her goals believing that “learning to read came pretty much naturally in the primary grades” (6/10/03, message No. 11). By the end of the summer reading institute, though, she developed a similar philosophy to Cordelia’s: strategic instruction. She reflected on the change in her philosophy and how that had changed her attitude about reading instruction:

I guess the big part that has changed... is that I guess before I thought of a reading class as being something that was sort of tedious and sucked all the fun out of reading and now I can see that for instance especially when we talked about efferent versus aesthetic reading I can see how a reading class can really enhance...aesthetic reading which is what I really like. (Interview, 7/17/03)

She specifically intended to focus on two particular reading strategies within instruction: questioning and connecting. In addition, Kendra highlighted the importance of modeling, authentic assessment, and supporting reading before, during, and after reading instruction,
which would be the focus of her instruction when she returned to the classroom (7/17/03, message No. 120).

In addition to refining their philosophies of reading instruction, Cordelia and Kendra also began to develop a similar philosophy about writing instruction where students would be taught strategies for writing or writer’s craft using authentic literature (Kendra, 6/28/03, message No. 99). They felt so strongly about their philosophy of writing instruction that they wrote a proposal for a teacher research grant to implement writing workshop and focus on using authentic literature to teach writer’s craft. They explain:

In order for growth in writing to occur, students must be immersed in authentic literature and exposed to a variety of techniques, styles, and formats. With modeling, students have the opportunity to emulate the model and explore and experiment with their writing so that they can make consistent progress and develop their own style. Using the Writing Workshop format, it is our objective to use trade books to teach craft. We will collect quality trade books to use as models to demonstrate specific craft, such as strong leads, descriptive language, sentence variety, sensory images, comparison/contrast, point of view, strong endings, effective use of verbs, author’s viewpoint, and memoir. (Proposal: Teacher Scholar Awards).

When discussing their philosophies and plans for their classrooms, neither Cordelia nor Kendra ever refer to standardized testing, school requirements, or pressure from their team. Perhaps this is because they gained the confidence and knowledge they needed to shatter the shackles of their school’s philosophical demands. On the other hand, they weren’t at school. They didn’t have to deal, first hand, with the pressure of requirements and a team that criticized them. They did not have to justify their decisions, and, they did not have to carry out those decisions...yet, what would happen when they returned to their school environment? Would the empowerment they felt from defining their own personal philosophies of reading instruction be enough to help them deal with the pressure to conform? Would the administration, teachers, and parents support or condemn them?
The Pressure Intensifies

Although Cordelia was optimistic about working with her team during preplanning, she was also concerned about what the new school year would bring particularly in terms of her team members criticizing her teaching decisions and telling her "how" to teach (7/17/03, message No. 551). By the time I had completed Cordelia's first observation, those fears had become a reality. In our interview after the observation, Cordelia talked about there being tension within the team: "Because I'm the newest and youngest member... my mentor [and also team leader] wants me to do it her way... I'm thinking about it [her classroom instruction] totally differently and I don't like being told how to do it" (Interview, 9/24/03).

Kendra was also observed that day. Both teachers were interviewed at the same time due to their schedule constraints. After Cordelia reflected on the issue with her team, Kendra jumped in and talked about a member on her team who told her that writer's workshop was not "worth it" (Interview, 9/24/03). For Kendra, writer's workshop encompassed her new philosophy about writing instruction (see previous discussion). Kendra continued by saying their team leader was "flippant" with them, and she reflected on what was to come: "I think when we get close to testing time... there is going to be pressure to plan together and [do] the same thing... She says [the team leader] that next week we have to plan together" (Interview, 9/24/03).

When I returned for the second observation and follow-up interview, there were still tensions with regard to the team and planning together. The team leader had decided that the team, including Cordelia and Kendra, would focus on a few weeks of grammar instruction with no reading. But, Cordelia said, "I don't buy into what they are doing." Kendra interjected, "How wrong is it that we plan to this test [the grammar test within the required textbook program]? It drives three or four weeks of instruction" (Interview, 11/12/03). Things had gotten so bad with their team that Cordelia said, "I have nightmares about it" (Focus Group, 12/10/03).
Despite the pressure to conform to their team’s method of instruction, Cordelia and Kendra did what they thought was best within their classroom, even when the team chastised them. Instead of focusing on skills to prepare for national reading tests, Cordelia said, “[I] focus on reading strategies” (Interview, 9/24/03). Kendra explained, “Our focus is different. She [the team leader] wants test skills” (Interview, 9/24/03). Cordelia and Kendra wouldn’t accept this. They recounted how they would sneak in other materials and re-plan units that were planned as a team (Interview, 11/12/03). Cordelia went so far as to decide to leave the school: “I think I’ve out grown this... I want to go to a place [a school] where our ideas are valued” (Interview, 11/12/03). It seemed that Cordelia and Kendra were, in fact, empowered by their personal philosophies and were now making classroom instruction decisions based on those philosophies despite the pressure to conform (see figure 3). In the following sections, I highlight some of their decisions.

Cordelia

During my first observation of Cordelia’s classroom, I clearly saw that she was adhering to her philosophy of strategic reading instruction. In this lesson, the students were building upon their knowledge of immigration. They had read a tradebook dealing with immigration in past lessons and now they were reading an article from a magazine, a nonfiction piece. Cordelia had students practicing their questioning the text where they generated questions that they would like the text to answer on one side of a piece of paper and then used the other side of the paper to answer questions learned from the reading. Cordelia modeled this process for students before they worked on their own (Observation, 9/24/03).

When I talked with Cordelia after the observation, she reflected on how this lesson was different than how she would have taught the same unit the previous year: “This is not how I would have taught it last year... [I would] throw a web on the board and [then] read it [students would read the story]” (Interview, 9/24/03). Her goal in this unit was to prepare students for a story that they would have to read in their basal.
She wanted to build their background knowledge by starting with a tradebook about immigration. She chose this book, a Caldecott award winner, because "it gave them [the students] a basis of immigration... and it's so good about [for] making text to text connections" (Interview, 9/24/03).

Cordelia was also spending time working on the implementation of writing workshop in her classroom, sometimes merging the two. For example, during my second observation, Cordelia was working with the students to practice making predictions and link predictions back to the text. As students worked, though, there was evidence of carry over from other lessons. For instance, one student pointed out a text-to-text connection with another book, a strategy they had already practiced, and another student pointed out a "twist" in the story from their genre study in writing workshop. When the reading was complete and predictions revisited, Cordelia used this text as a model of a good ending in writing. The class reread the ending, and Cordelia prompted them to discuss what made it a good ending. Cordelia then instructed the students to think about this while they worked on their own writing. They could either revisit an existing piece or start a new piece (Observation, 11/12/03).

Cordelia explained her goals for this unit plan:

Through my... plan, I will expose students to authentic literature, and allow them the time and forum to practice their craft. In order for growth in writing to occur, students must be immersed in authentic literature, and exposed to a variety of techniques, styles, and formats. With modeling, students have the opportunity to emulate the model and explore and experiment with their writing so that they can make consistent progress and develop their own style. (Assessment and Instruction: Setting the Stage)

True to her design, she incorporated a number of trade books, allowed the students to choose which endings worked for their individual pieces, and provided time for students to experiment with a variety of endings (Assessment and Instruction: Reflections).
Kendra

As early as September 7, Kendra updated me about how writing workshop was going in her classroom: “So far, I’ve been doing mini-lessons, taking status, and then letting the kids write” (9/7/03, message No. 182). I saw this process during my first observation. She began the class by talking with the students about papers that they had previously submitted for feedback. Kendra pointed out how excited she was that so many of the students were putting dialogue in their stories. Therefore, she decided to focus a mini-lesson around the use of dialogue. To do this, Kendra began by reading a picture book to the students. This particular book was rich with dialogue. Kendra stopped in the middle (assuring students she would finish the book next time), but put a copy of one page of the story on the overhead projector, a page consisting of all dialogue. Kendra used this page to generate a discussion with the students about how to punctuate dialogue. When they finished, the students had time to either go back to a piece of writing and work on dialogue or start a new piece including dialogue. Meantime, Kendra held conferences with individual students (Observation, 9/24/03).

Kendra also designed a unit plan project around writer’s workshop and collaborated with Cordelia:

For our... project our focus will be teaching craft through authentic literature. We will assess the types of crafts students are already using and what they start to use as a result of our mini-lessons. To assess we will use – student writing samples (before and after mini-lessons) – anecdotal notes (from peer revisions and individual conferences) – [and a] writing strategies interview.... (9/1/03, message No. 621)

After assessing her data, Kendra decided to focus on the craft of writing effective leads (9/12/03, message No. 651).

Even though she focused mainly on writer’s workshop, Kendra did not abandon teaching strategic reading. When I asked Kendra how reading instruction was going and whether or not she was sticking with her goals, she said that there were components that she was consistently
using: "One is the introduction of strategies to students before, during, and after reading in the reading class... I've also used the vocabulary development strategies with my science class, and have followed the gradual release of responsibility model in using those" (10/5/03, message No. 724).

A month and a half later, Kendra, again, reflected upon her instructional goals:

I have used the framework [a planning guide that mirrors her philosophy] both in planning and as a check. Some aspects of the framework such as Vocabulary Development, Making Connections, and Questioning have become routine in planning and delivering lessons... I have improved with the gradual release of responsibility, but I find that I don't give enough guided practice before assigning tasks as independent work. (11/22/03, message No. 827)

Kendra was working toward reaching her goals as a teacher of literacy.

Discussion

The findings of this inquiry indicate that professional development programs should not only take into consideration teachers' beliefs and experiences (Richardson, 1994), but also factors that control or impact teachers' ability to be professionals. If teachers feel pressure to conform, professional development programs should try to empower teachers to find ways to challenge this control and problem solve. Perhaps a problem-posing (Freire, 2003) method can be employed where teachers can identify problems they face within their schools and work toward taking action or solving those problems through the support of the professional development program. Freire (2003) explains, "In problem-posing education, people develop their power to perceive critically the way they exist in the world with which and in which they find themselves; they come to see the world not as a static reality, but as a reality in process, in transformation" (p. 83).
Further, this study illustrates the importance of adopting a critical perspective when investigating professional development programs and their resultant impact within schools. In this case, Cordelia and Kendra were not necessarily free to act on their beliefs about teaching and learning within their school contexts, especially at the onset of the summer reading institute. More inquiries understanding this type of control and ways teachers empower themselves to combat this control are essential within the professional development literature. In this study, fully understanding and developing a personal philosophy of reading and writing instruction was empowering for Cordelia and Kendra. However, other school contexts may require a different type of empowerment. Since critical theorists focus on positive social action (Carspecken, 1996; House, 1990; Richardson, 1990), research adopting a critical theorist perspective within professional development would seek to understand how to facilitate empowerment of teachers as well as help teachers overcome controlling factors within their school cultures. This goal is essential in a time when teachers are considered script-readers or implementers, rather than valued as knowledgeable professionals who can make a difference in the education of their students.

References


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Increasing Fluency in Disabled Middle School Readers: Repeated Reading Utilizing Above Grade Level Reading Passages

David D. Paige
University of Memphis

This study examined the effects of repeated reading using above grade-level narrative passages on: (a) reading rate as measured in words per minute (wpm) and (b) reading miscues. A single group, pretest-posttest design was used to measure the treatment effects. The study group consisted of 11, sixth grade African-American students with learning disabilities who received language arts instruction in a self-contained special education setting. A pretest-posttest measurement was conducted using the Flynt-Cooter Reading Inventory for the Classroom to measure reading level and reading rate. The study results suggest that for the classroom teacher, daily, extended use of a repeated reading intervention with above grade level passages may have two positive effects on students with reading disabilities. First, reading rate may increase, meaning that a greater volume of text can be read, enabling a student to read more productively. Secondly, a decrease in reading miscues may also occur, resulting in greater decoding accuracy and aiding comprehension. These two factors may improve overall reading efficiency.
BY THE TIME THEY GET to middle school, they know who they are. When they are called to read, other students become agitated after just a minute or so. Whispers such as "come on" and "hurry up" are accompanied by sighs and moans that can be heard floating across the classroom as tension and anxiety mounts around words that flow too slowly and test the patience of classmates. When their turn is over, the next student picks up reading like a sprinter racing to make up for lost time by the previous slow reader. Meanwhile, the disfluent reader does his best to melt into the anonymity of the classroom, hating reading even more as his personal embarrassment and reading ineptitude is reinforced by another dose of painful, public, round robin reading.

Repeated reading can provide disfluent readers with increased confidence about their reading skills as they watch their reading rate increase. It is this tangible increase in reading skill that can provide such students with hope for future academic success.

Fluency and Repeated Reading

Fluency can be defined as "freedom from word-identification problems that might hinder comprehension in silent reading or the expression of ideas in oral reading" (Harris, 1995). An expansion of this definition comes from Rasinski (2003) who states that fluency involves not only automatic decoding processes, but also the feature of prosody. To read with prosody means to connect the elements of intonation, stress, rate, and rhythm (Schreiber, 1980). The premium on fluent reading rises dramatically in middle school with the increased demands of content area reading. As Rasinski (2000) points out, reading assignments for a disfluent reader take considerably longer and will often end in frustration and an eventual resistance to attempting further assignments. An additional compounding factor in middle school becomes the readability of content area textbooks which are often written above grade level (Paige, 2004) and filled with new and challenging vocabulary, thus presenting an even steeper climb for struggling readers.

The strategy of repeated reading attempts to increase reading rate by using unassisted strategies (Dowhower, 1989) which involve the independent practice of text over multiple readings. Many studies have
shown strong empirical evidence that repeated reading is an effective strategy to increase reading rate (Dowhower, 1987, 1994; Neill, 1979; Samuels, 1979; O'Shea, Sindelar, & O'Shea, 1985; Stanovich, 1990; Schreiber, 1980). In an analysis done by Kuhn (2003), 11 repeated readings studies have used above grade level reading passages (Koch, 1984; O'Shea, Sindelar, & O'Shea, 1987; Van Bon, Boksebeld, Font Freide, & Van den Hurk, 1991) with six of the studies showing increases in the treatment group. More recent work by O'Connor, Bell, Harty, Larkin, Sackor, and Zigmond (2002) explored differences in fluency gains by poor readers in the third to fifth grades. When students with the lowest fluency rates were compared to those with higher rates, the authors found that the former group made greater gains in reading rate with texts that were matched to their instructional reading level while students in the latter group were found to respond equally well to texts at either their instructional level or to texts at their grade reading level.

Therefore, the purpose of this study was to investigate the effect of repeated reading on the reading rate of sixth grade students with reading disabilities using above grade level narrative text.

Method

Setting and Participants

Participants for this study were a single classroom of 11 African-American students, ten of whom were sixth grade students and one in the eighth grade who received instruction for language arts in the special education setting. The mean chronological age of the group was 12-0 years and ranged from 11-3 to 13-8 years. The class consisted of seven males and four females who were from lower to middle class households. The suburban middle school that they attended was part of a large southeastern U.S. school district. The school enrollment was primarily African-American (89%) with 18 percent qualifying for free and/or reduced lunch with the remaining 82 percent best described as middle class. Two of the eleven study participants qualified for free and/or reduced lunch. Ten of the eleven study participants were diagnosed with a non-specific learning disability (LD) and one female participant was diagnosed as mildly mentally retarded. Two of the eleven participants
received all academic classes in the special education setting while the other nine received two or fewer classes in the special education setting. Data from the state-wide reading assessment (See Table 1) taken at the end of the previous academic year showed that the mean standard score for the study group on the assessment was 592, the mean national percentile was 13, and the mean NCE score was 24.

Table 1
Participant NCE Score and Chronological Age

<table>
<thead>
<tr>
<th>Participant</th>
<th>NCE Score</th>
<th>SS</th>
<th>Percentile</th>
<th>Age (Months)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>19</td>
<td>593</td>
<td>7</td>
<td>11-10</td>
</tr>
<tr>
<td>2</td>
<td>16</td>
<td>510</td>
<td>12</td>
<td>13-08</td>
</tr>
<tr>
<td>3</td>
<td>7</td>
<td>549</td>
<td>2</td>
<td>12-11</td>
</tr>
<tr>
<td>4</td>
<td>36</td>
<td>614</td>
<td>25</td>
<td>11-11</td>
</tr>
<tr>
<td>5</td>
<td>14</td>
<td>579</td>
<td>4</td>
<td>11-07</td>
</tr>
<tr>
<td>6</td>
<td>53</td>
<td>660</td>
<td>53</td>
<td>11-03</td>
</tr>
<tr>
<td>7</td>
<td>31</td>
<td>622</td>
<td>19</td>
<td>11-07</td>
</tr>
<tr>
<td>8</td>
<td>27</td>
<td>612</td>
<td>13</td>
<td>12-01</td>
</tr>
<tr>
<td>9</td>
<td>29</td>
<td>617</td>
<td>14</td>
<td>12-00</td>
</tr>
<tr>
<td>10</td>
<td>19</td>
<td>593</td>
<td>7</td>
<td>11-11</td>
</tr>
<tr>
<td>11</td>
<td>8</td>
<td>559</td>
<td>2</td>
<td>11-05</td>
</tr>
<tr>
<td>Group Mean:</td>
<td>24</td>
<td>592</td>
<td>13th</td>
<td>12-00</td>
</tr>
</tbody>
</table>

(Population mean = 50)

Materials

Six reading passages were prepared from the novel *Number the Stars* (Lowry, 1989), one for each of the six weeks of the intervention. The text was above grade level for ten of the eleven study participants and was purposely chosen for this study based on suggestions in the literature by Kuhn (2000) that passages above grade level may have a positive effect on reading rate when used in conjunction with repeated reading. The text from *Number the Stars* (Lowry, 1989) is graded on Accelerated Reader program criteria at the 5.0 reading level. Passages were selected randomly from throughout the text and were evaluated to match the overall 5.0 reading level of the novel.
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Each passage was counted out to 100 words, typed in 14-point font, and then individually printed. The second item prepared was a graph with days of the week (Monday through Friday) along the x-axis and a number scale from 40 to 200 along the y-axis. This graph was prepared so that each daily reading result could be plotted in terms of words-per-minute (wpm), thereby providing a visual reference for the student of their daily progress. Each student had one graph for each week, a total of six for the treatment period.

Measures

A single group, pre-test – post-test (McMillan, 2001) design was used to measure the effect of the repeated reading intervention. In this design, pre-testing of the participant group was followed by the six-week repeated reading intervention after which a post-test was administered to assess change in the dependent variable. Before collecting pre-test data, each participant was measured to determine their individual instructional reading level. Participants were assessed at their instructional level. For example, if a student was administered a level three passage in pre-test, a level three passage was administered in the post-test. Both pre- and post-test oral reading measures were collected using Form A of the Flynt-Cooter Reading Inventory for the Classroom (RIC), (Flynt & Cooter, 2004). From the pre- and post-test passages, a reading rate in words-per-minute (wpm) was calculated. The procedure for determining wpm involved recording miscues as the student read the passage out loud while being timed for one minute. Miscues were subtracted from the “gross” wpm to determine a “net” wpm. This same methodology for wpm calculation was conducted for each day of the repeated reading intervention.

Procedures

Beginning on Monday of each week, the 100-word passage for that week was given to the student. A teacher-assisted oral reading (Rasinski, 2003) was performed by the teacher-researcher which consisted of the passage being read aloud while the student silently followed along with his copy of the text. The student was then asked if there “were any words in the passage that they did not know how to pronounce?” Most students
would then identify one to three words at which point the word would be pronounced again out loud for the student. Often, the student would repeat the word again for correct pronunciation. No student asked for identification of more than three words in a passage.

After reviewing the passage before reading, a timer was then set to count down to zero from one 1-minute and the student was then instructed to begin reading. Student miscues were recorded using a running record procedure (Clay, 1985). At the end of the timed reading, the net wpm was calculated and recorded on the graph and then reviewed with the student.

At this point the student was asked to select a goal in wpm to reach on Friday. This self-selected learner goal was then recorded on the wpm graph for referral as the week progressed. The element of goal self-selection was included to discourage learned helplessness (Alderman, 2004) in which the student attributes failure to a lack of ability and to encourage a mastery orientation, wherein the student views success as being attributable to effort (Dweck & Goetz, 1978). Before the student left the test area, missed words were reviewed with the student. On Tuesday, Wednesday, Thursday, and Friday this procedure was repeated without the assisted reading. The students' progress was reviewed each day so that the student could see where they were in relation to achieving their wpm goal that was set on Monday. After the student finished the repeated reading on Friday and all results were graphed for the week, the results were reviewed once more with the student and compared to the goal set by the student on Monday.

Findings

*Weekly Practice Effect*

The unit of analysis was each student's wpm score. The Monday wpm score for each of the six week passages was averaged to compute a starting point in terms of a wpm score for each week. The Friday wpm score for each week was averaged to obtain an intervention ending point that could then be compared to the average of Monday wpm scores to provide an intra-week, measure of practice effect for intervention
Increasing Fluency

effectiveness. For the daily reading passages, the study group showed a mean wpm score of 84.6 wpm for Monday readings and a mean wpm score of 116.7 for Friday readings (Table 2). This measure indicates a mean weekly score change of 32.1 wpm for the study group. All participants showed a mean score increase during the study period on this measure. A Pearson correlation was computed for the intra-week practice effect and was found to be .978 and statistically significant at $p < .01$.

Table 2
Mean change in wpm

<table>
<thead>
<tr>
<th>Participant</th>
<th>Mon WPM</th>
<th>Fri WPM</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>132.0</td>
<td>157.0</td>
<td>25.0</td>
</tr>
<tr>
<td>2</td>
<td>65.0</td>
<td>81.0</td>
<td>16.0</td>
</tr>
<tr>
<td>3</td>
<td>44.0</td>
<td>69.0</td>
<td>25.0</td>
</tr>
<tr>
<td>4</td>
<td>97.0</td>
<td>126.0</td>
<td>29.0</td>
</tr>
<tr>
<td>5</td>
<td>57.0</td>
<td>95.0</td>
<td>38.0</td>
</tr>
<tr>
<td>6</td>
<td>57.0</td>
<td>84.0</td>
<td>27.0</td>
</tr>
<tr>
<td>7</td>
<td>141.0</td>
<td>188.0</td>
<td>47.0</td>
</tr>
<tr>
<td>8</td>
<td>43.0</td>
<td>70.0</td>
<td>27.0</td>
</tr>
<tr>
<td>9</td>
<td>111.0</td>
<td>148.0</td>
<td>37.0</td>
</tr>
<tr>
<td>10</td>
<td>74.0</td>
<td>106.0</td>
<td>32.0</td>
</tr>
<tr>
<td>11</td>
<td>110.0</td>
<td>160.0</td>
<td>50.0</td>
</tr>
<tr>
<td>Mean:</td>
<td>84.6</td>
<td>116.7</td>
<td>32.1</td>
</tr>
<tr>
<td>SD:</td>
<td>35.1</td>
<td>41.3</td>
<td></td>
</tr>
</tbody>
</table>

Miscue Analysis Data

The unit of analysis for this measure was the number of reading miscues made during each passage. Miscues were averaged for each of the six Monday and Friday passages for the study group (Table 3). The mean number of Monday miscues for the study group was 4.35 while the mean number of Friday miscues was 2.47. The mean change for the study group was a decrease of 1.88 miscues. A Pearson correlation of .838 was found to be statistically significant for miscues at $p < 0.01$. All students in the study group with the exception of two showed a decrease in number of miscues from Monday to Friday during every week of the study period.
Table 3
Mean miscue change

<table>
<thead>
<tr>
<th>Participant</th>
<th>Mon Miscue</th>
<th>Fri Miscue</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2.17</td>
<td>1.67</td>
<td>-0.5</td>
</tr>
<tr>
<td>2</td>
<td>4.50</td>
<td>3.17</td>
<td>-1.33</td>
</tr>
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<td>3</td>
<td>8.17</td>
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<tr>
<td>4</td>
<td>2.33</td>
<td>1.17</td>
<td>-1.16</td>
</tr>
<tr>
<td>5</td>
<td>5.83</td>
<td>3.17</td>
<td>-2.66</td>
</tr>
<tr>
<td>6</td>
<td>3.83</td>
<td>2.17</td>
<td>-1.66</td>
</tr>
<tr>
<td>7</td>
<td>1.67</td>
<td>0.50</td>
<td>-1.17</td>
</tr>
<tr>
<td>8</td>
<td>9.00</td>
<td>3.33</td>
<td>-5.67</td>
</tr>
<tr>
<td>9</td>
<td>4.17</td>
<td>3.50</td>
<td>-0.67</td>
</tr>
<tr>
<td>10</td>
<td>3.67</td>
<td>1.50</td>
<td>-2.17</td>
</tr>
<tr>
<td>11</td>
<td>2.50</td>
<td>1.50</td>
<td>-1.00</td>
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<tr>
<td>Mean:</td>
<td>4.35</td>
<td>2.47</td>
<td>-1.88</td>
</tr>
<tr>
<td>SD:</td>
<td>2.42</td>
<td>1.42</td>
<td></td>
</tr>
</tbody>
</table>

**Pre-test and Post-test**

The unit of analysis for this measure was wpm. Pre-test and post-test wpm measures from the Flynt-Cooter RIC were 87.6 and 116.3 respectively with standard deviations of 25.9 and 23.3. The pre and post test results are shown in Table 4. This measure reflected an increase in the group mean of 28.7 wpm for pre and post-test outcomes. In the study group, nine of the eleven participants showed an increase in wpm between pre-test and post-test. A paired sample t-test of the pre-test – post-test measures was statistically significant at p < .017.

Effect size for the pre-test-post-test outcome was calculated by taking the difference between the two means and then dividing by the standard deviation. This resulted in a large effect size of the repeated reading treatment on the pre-test-post-test measure of .86. Effect sizes were considered to be small (.25), medium (.50), or large (.80), as suggested by Cohen (Huck, 2000). This effect size compares favorably with that of 0.44 as reported by the National Reading Panel (NICHD, 2000) for measures on reading fluency.
Increasing Fluency

Discussion

Reading rate

The repeated reading intervention appeared to be effective at improving reading rate as measured by the Flynt-Cooter RIC at pre-test and post-test for sixth grade students with reading disabilities. An intra-week measurement of wpm showed that readers increased their weekly reading rate with the repeated reading strategy.

Growth in reading rate over the course of each weekly period generally increased for the first four days and then would often either slow in growth or stop altogether. This finding concurs with the recommendation of O'Shea (1985) that after the fourth reading 83 percent of fluency increase has been attained. This positive effect on reading rate has important implications for the classroom teacher. As mentioned earlier, middle school teachers spend little time improving fluency in students, although many disabled readers would stand to benefit greatly from such intervention. Recent findings by Rasinski and Padak (2005) suggest that a lack of fluency may have contributed approximately 28 percent of the variance in student achievement tests,

Table 4
Pre and Post-test Outcomes (wpm)

<table>
<thead>
<tr>
<th>Participant</th>
<th>Pretest</th>
<th>Posttest</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>100</td>
<td>130</td>
<td>30</td>
</tr>
<tr>
<td>2</td>
<td>105</td>
<td>99</td>
<td>-6</td>
</tr>
<tr>
<td>3</td>
<td>58</td>
<td>87</td>
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</tr>
<tr>
<td>4</td>
<td>96</td>
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<td>5</td>
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<tr>
<td>Mean:</td>
<td>87.6</td>
<td>116.3</td>
<td>28.7</td>
</tr>
<tr>
<td>s:</td>
<td>25.9</td>
<td>23.3</td>
<td></td>
</tr>
</tbody>
</table>
further underscoring the need for increasing fluency in middle school students.

Three of the eleven study participants did not demonstrate an increase in reading rate when measured by the pre-test-post-test instrument. However, all three of these students showed wpm increases for each week of the weekly practice effect. Although the present study is not able to detect the reason for this lack of transfer from the weekly practice to the posttest instrument, two possibilities are proffered. First, it can be speculated that there was little to no word generalization between the intervention passages and the narrative passages of the test instrument. Of course it can be pointed out that this apparently did not affect the other eight study participants. However, these three participants consisted of one student with mild mental retardation and a second who exhibited the most difficulty in the study group with decoding. The third participant exhibited a tendency to repeat sentences when a decoding mistake was made. Although this tendency had partially subsided during the weekly intervention, it returned on the post-test measurement and may have contributed to the lower reading rate. It may also be that the first two participants required a high level of explicit instruction and practice and, as such, did not generalize well new learning to other reading contexts.

A second hypothesis for the lack of gain in reading rate may involve a rapid degradation of the intervention effect. In essence, although a day to day gain was made, the gain may have very quickly diminished or degraded due to processing peculiarities specific to these participants and their processing of the texts. A degree of insight into this is revealed when the reading miscues are analyzed. For one of the students, miscues actually increased between Monday and Friday during two of the six weeks. The second student had the highest number of miscues in the study group. This could indicate that the reading level was too high and therefore inhibited textual transfer.

Miscues

Repeated reading appeared to be effective at reducing reading miscues as measured by daily recording of miscues on running records.
All students showed an overall decrease in reading miscues, although as mentioned earlier, two students had weeks where miscues increased. Reading miscues are related to the ability of the reader to accurately apply decoding strategies. In analyzing participant miscues, several trends appear. First, many of the participants in this study were unable to decode any part of the miscued words. Secondly, students would often read only a familiar first syllable of the word without decoding the second or third syllables, thus misreading the word as a familiar similar, albeit incorrect, word. Thirdly, several readers would often decode the word completely, but part of the decoding, such as a middle syllable would be incorrect.

A fourth area concerns several high frequency “th” words such as that, their, and then which four of the study participants would consistently misread and not be able to correct by the Friday reading. Even with practice, these students continued to misread these words throughout the study. One possible explanation for this is that these words had been impressed incorrectly over time into the reader’s automatic recognition structures and as such, are very difficult to correct. Teachers should keep in mind that the theory of automaticity is a two-way street meaning that if a word can be correctly learned to the point of automaticity, then a word can also be learned incorrectly to the point of automaticity.

An interesting aspect of this study was how participants would improve their reading accuracy. For example, the novel is centered in the culture of Judaism, and as would be expected, some culturally specific words such as Sabbath and Rosen, were not relevant to the study participants and were not decoded correctly by nine of the eleven participants. However, these two particular words, when mispronounced on Monday, were corrected by Friday by all but one of the nine participants. It could be speculated that although these words were unfamiliar to the reader, they contained phonetic structures that were decodable by the student with practice.

In cases involving the participants with the lowest degree of fluency, multiple miscues were made on Monday and Tuesday readings. By Friday however, these miscues were most often reduced by half by
the majority of participants. Although the specific cause of these decreases is difficult to isolate within the parameters of the present study, one possible explanation may involve the repetitive application of decoding strategies known to the student that increased recognition through practice. In students with higher degrees of fluency, the number of Monday miscues was generally three to six and by Friday the miscues had been reduced most often to one and in several cases to none.

The implications found in this miscue analysis seem to be three-fold. First, the results of the present study suggest that repeated reading is an effective strategy to help the disabled reader sharpen decoding skill and decrease miscues through the practice provided by the intervention. Secondly, repeated reading can help the teacher pinpoint specific, reoccurring decoding problems experienced by students and then plan appropriate interventions. Lastly, it appears that certain words are consistently decoded inaccurately by some disabled readers, despite attempts at correct repeated practice. These words may well require targeted interventions by the teacher beyond repeated reading to undo the incorrect decoding by the student.

Motivation Affect

An interesting aspect that emerged from this study was the qualitative affect on the study participants of first choosing, and then working to attain their self-selected weekly wpm goals. While the attribute of goal selection was not quantitatively measured in this study, the affect was evident in participant responses. An example of this response was seen in one respondent who upon achieving his selected goal for the week would pump his fist and display a large grin. Without exception, study participants wanted to know their “score” on Friday. An important aspect to this process was in helping the student interpret their result when they did not meet their pre-selected goal. One particular student who missed her weekly goal was encouraged to consider how much progress she had made by noting the upward direction indicated by her weekly progress graph. Helping this student to view her progress through a mastery orientation of effort equals results appeared to negate the effect of not reaching her goal, as evidenced by her nod of self-satisfaction.
Increasing Fluency

Study Limitations

The results of the present study are limited by the small number of participants, thus constraining the generalizability of the findings. Also, no control group was utilized which presents difficulties in assessing the meaning of the results. No test of the participants was conducted to determine the relationship of the study group to the population of students with learning disabilities specific to reading and no pre- and post-test measures were used to assess reader motivation.

Implications for Further Research

Research (Kuhn, 2003) suggests that when fluency increases so does comprehension. Testing the effects of comprehension in conjunction with repeated reading, particularly over a significant period of time, would provide insight into how increases in reading rate affect comprehension gains. Secondly, a study design involving a control group would help to isolate and identify the specific effects of repeated reading on the variable tested in this study. Deeper study into how strategies that encourage a mastery orientation in disabled readers could provide insight into a very important area of reading, that of reader motivation. Finally, there is still much to be learned regarding optimum treatment protocols (continual or intermittent for example) in the application of repeated reading intervention.

References


David D. Paige is a doctoral student at University of Memphis, TN.
This manuscript documents a year-long descriptive case study of preservice teachers specializing in reading. The objectives of this study were to (a) better understand the development of literacy beliefs and change processes in preservice teachers with reading specializations engaged in the final year of their field-based teacher education program, and (b) ascertain factors influencing their change processes during the final year of preparation. The results highlight the shifts these preservice teachers made concerning their beliefs about literacy instruction and the factors that served as catalysts for those changes.
"We ought to be interested in the beliefs of preservice teachers not because we wish these future educators to share similar, appropriate conceptions, but because the nature and importance of individuals' beliefs is such that they must be a focus of the dialogue in teacher education if there is to be any hope of budging mental structures long solidified and deeply rooted. And, of course, because we are finding that some beliefs that teachers hold are both a hindrance to their effectiveness in the classroom and damaging to their students." (Pajares, 1993, p. 52)

Introduction

TEACHER EDUCATION PROGRAMS are being held responsible for public school student achievement (T. Bennett, Head of Teacher Certification State of Texas, personal communication, July 7, 2003), colleges of education cannot be held responsible for beliefs that preservice teachers bring. Instructors in teacher preparation programs need to be aware of the existing belief systems that preservice teachers possess and how to effectively translate existing beliefs about teaching and learning so that preservice teachers leave teacher preparation programs with beliefs in line with current research about the teaching and learning process. Evidence suggests that beliefs have a significant effect on behavior (Pajares, 1992; Rokeach, 1968; Schommer, 1990). For example, psychological research indicates that beliefs influence comprehension, knowledge acquisition, and interpretation (Pajares, 1992). In addition, research on epistemological beliefs provides insight into comprehension (Schommer, 1990) and indicates that beliefs greatly influence human decision-making (Pajares, 1992; Rokeach, 1968).

More specifically, teachers' beliefs concerning what constitutes effective teaching and best practice have a profound impact on their classroom instruction and environment (Konopak & Williams, 1994; Scharer, 1992). Teachers tend to implement instruction that reflects the methodology they encountered when they were students regardless of whether or not it meshes with best practices that they learned during teacher preparation programs or has a research base (Britzman, 1991; Lortie, 1975; Willis & Harris, 1997). Numerous studies describe both
Development of Literacy Beliefs and Practices

Effective teachers (Cunningham & Allington, 1999; Kohl, 1984; Ruddell, 1997; Spencer & Spencer, 1993; Wong & Wong, 1998) and teacher beliefs (Clark & Peterson, 1986; Kagan, 1992; Pajares, 1992; Richardson, Anders, Tidwell, & Lloyd, 1991). While Barr (2001) states that, “Exploration of belief is pivotal,” Anders, Hoffman, and Duffy (2000) assert that “we do not know enough about the construct to effect change” (p. 733) and that research is lacking about how to impact beliefs of preservice teachers. To attempt to bring about professional growth, one must understand how the evolution of preservice teachers’ beliefs can be facilitated through experiences and informed scholarship (Pajares, 1993). Therefore, it is imperative to investigate the process of change and the factors impacting shifts in the beliefs of preservice teachers.

Research has indicated that in order for reading teachers to become reflective practitioners who intertwine literacy theory and practice, university and public school partnerships that provide hands-on practice in public school classrooms and university experiences must become a priority for preparation programs for reading teachers (Donovan, 1999; Linek, Fleener, Fazio, Raine, & Klakamp, 2003; Linek, Nelson, Sampson, Zeek, Mohr, & Hughes, 1999; Wiseman, 1999; Zeek & Wickstrom, 1999). Factors that emerged as essential to the development of reflective practitioners included modeling of the instructor, course assignments, cognitive dissonance, and reflection. Researchers (Linek, Nelson, Sampson, Zeek, Mohr, & Hughes, 1999; Sampson & Linek, 1994; Smith, Sampson, Linek, & Raine, 2001; Zeek & Wickstrom, 1999) found that participants in a field-based teacher education program experienced more change and identified a greater variety of dissonance factors that impacted their beliefs concerning literacy education. Results of this research indicate that a field-based model of teacher preparation facilitates the development of teachers who have a broader view of literacy instruction.

While the field-based model of teacher preparation has become an accepted and increasingly widespread mode of preservice teacher education, recent research has tended to focus on literacy coursework at the beginning of the teacher preparation program (Linek, Nelson,
Sampson, Zeek, Mohr, & Hughes, 1999; Linek, Raine, & Smith, 2000) and early childhood programs (Martin, Martin & Martin, 1999). Therefore, information is lacking concerning the shift in beliefs for students specializing in reading as they experience their final year of teacher preparation. The researchers in the current study had been informally exploring preservice teachers' beliefs in their own respective literacy methods courses (the fifth and sixth courses in a reading specialization sequence) utilizing self reported data and artifacts produced by the students. Similar trends were perceived to be common across the students and the courses, which were different than described in the previous research about initial literacy methods courses.

Thus, in the fall semester of 1999 we devised a formal year-long descriptive case study employing qualitative methodology. The bounded system making up the case consisted of a group of preservice teachers specializing in reading. The objectives of this case study were to (a) better understand the development of literacy beliefs and change processes in preservice teachers with reading specializations engaged in the final year of their field-based teacher education program, and (b) ascertain factors influencing their change processes during the final year of preparation. Questions guiding this study were:

1. What are the beliefs of preservice teachers specializing in reading concerning literacy, literacy instruction, and assessment before, during and after their year-long field-based teacher education program?
2. What changes occur in the beliefs of preservice teachers specializing in reading during the year-long field-based teacher education program?
3. What factors influence the change process?

**Method**

**Participants**

The initial group of participants consisted of eleven preservice teachers who had chosen reading as their academic specialization in their
teacher certification program. They were in the final year of their teacher preparation program at a university setting in the rural southwest. Data were collected for these eleven participants during the pre and mid phases of the study. However, for various personal reasons, only eight participants were enrolled at the conclusion of the year-long experience (i.e., pregnancy, death in family, etc.). All preservice teacher participants were white females between the ages of 21 and 37.

Participants were enrolled in the field-based program where each preservice teacher had two field placements ranging from grades one through five and worked with at least two public school teachers (mentors) and one university supervisor (liaison). Each participant had a primary level grade placement of either first or second grade and an intermediate level grade placement of either fourth or fifth grade during their field-based experience, spending half of each of their two semesters in a primary classroom and an intermediate classroom.

Two of the preservice teachers worked in a school of 441 students located in the university town with a population of 10,000 (20,000 when the university is in session). Sixty percent of the students in this school were from economically disadvantaged families. Three of the preservice teachers worked in a school of 428 students in a rural suburb with a population of 3,000. Thirty percent of the students were from economically disadvantaged families. The final three preservice teachers worked in a school of 337 students in a small city of 25,000 in the rural southwest. Seventy-three percent of the students attending this school were from economically disadvantaged families. All of the communities where the preservice teacher participants worked were within a 45 minute drive from each other.

Students seeking elementary certification from the university were required to take three reading courses. While the first two courses each required fifteen hours of lab/observation in public school classrooms, they were not designated as field-based courses but were considered prerequisites. The three courses included:
Reading & Literacy I introduced the theoretical foundations of reading and literacy with an emphasis on teaching approaches, text genre, writing, listening, speaking, linguistics, cueing systems, phonemic awareness, phonics, word recognition, spelling, and professional resources;

Reading & Literacy II focused on basal readers, trade books, literature, cognition, reading comprehension, comprehension strategies, and formal and informal assessment strategies; and

Content Reading Methods for Teacher Candidates in Field-Based Settings (taken during the first semester of the field-based experience) addressed teacher-directed and reader-based strategies to comprehend expository text. Students spent two days per week in the public school setting and fourteen six-hour university seminars that integrated literacy instruction with math, science and social studies.

In addition to the three common reading courses, students with an academic specialization of reading took three additional reading courses. These courses included:

Word analysis skills (taken prior to field-based experiences) examined word identification within the context of language by focusing on strategies that are useful to readers in the areas of word knowledge and word analysis;

Planning and organization of Reading Instruction in Field-Based Settings (taken during the first semester of the field-based experience) provided opportunities for the prospective teachers to examine and use literacy strategies, approaches and assessments within the context of six three-hour evening university seminars; and

Practicum in reading instruction in field-based settings (taken during the second semester of the field-based experience) required students to interact with individual children and groups
by conducting formal and informal assessments while implementing reading instruction supported by six three-hour evening university seminars.

The field-based experience was divided into two distinct focus areas. During their first semester of field-based teacher preparation, preservice teachers were in elementary public school classrooms two days per week and attended fourteen integrated university seminars addressing math, science, content reading, social studies and diversity. The following semester, preservice teachers were in elementary public school classrooms five days per week, with the exception of attendance at eight university based seminars dealing with classroom management, organization, technology, diversity, and inclusion. During both semesters, the university seminars were an integrated six hours of preservice teacher development.

*Researchers*

The research team comprised two instructors, two external researchers, and an external research assistant. One of the instructors had been involved in the field-based program for five years teaching reading courses and serving as a university liaison. Prior to work in the field-based program, she had taught reading courses for 25 years. The other instructor had recently completed her doctorate and had worked as a reading supervisor in a small rural district. This was her second semester to teach reading coursework at the university level. The semester prior to the initiation of this study, she had served as a university liaison. The external researchers and research assistant had no formal connections to the participants in the study. The two external researchers had been involved in the design and implementation of the field-based program seven years prior to initiating the study. Due to administrative responsibilities their teaching load had shifted to the graduate program and they no longer taught or served as liaisons in the teacher preparation program. The research assistant was a new doctoral student who had public school teaching experience, but had no prior knowledge of the field-based teacher education program.
Data Sources

Data sources included responses to the Philosophical Orientation to Literacy Learning (POLL) (Sampson, Linek, Raine, & Smith, 2001) a semi-structured, open-ended questionnaire administered before (pre), midway (mid) and at the conclusion (post) of the preservice teachers' year-long experience. Artifacts collected included liaison field notes, the preservice teachers' lesson plans, and their written reflections after teaching these lessons in the public schools. Formal interviews with the instructors that probed for insight into the categories were conducted and transcribed by the external researchers. In addition, students completed a written summative/comparative reflection at the conclusion of the year-long experience comparing their pre-, mid-, and post-questionnaires by responding to the following prompts:

1. Do you see any differences?
2. If yes, what are they?
3. What factors influenced your beliefs?

Data Analysis

The primary data sources were participant responses to the pre, mid, and post POLL and the summative comparative reflections based on the responses to the pre, mid, and post POLL as these data sources provided a comprehensive overview of student perceptions, growth, change, and factors impacting change. Constant comparison (Glaser & Strauss, 1967; Strauss & Corbin, 1990) occurred in a recursive analysis process to analyze the pre, mid, and post open-ended questionnaire and the summative/comparative reflection. This recursive analysis occurred in several stages in order to (a) identify the preservice reading specialists' beliefs about literacy at the beginning and end of the field-based experience, (b) identify changes in beliefs, and (c) identify factors that influenced changes in beliefs. First, one external researcher analyzed the data to develop initial codes and categories. The first stage of inter rater reliability was initiated when the first and second external researchers collaboratively reanalyzed the data. As the reanalysis proceeded, codes and categories were verified, collapsed, or modified (Bogdan & Biklen, 1992). In order to further enhance reliability and
validity, when these two researchers reached consensus on the categories, the external research assistant reanalyzed all data using the codes which had been developed. Data over which there were disagreements were then collaboratively reanalyzed and discussed by the three researchers until consensus was reached. Next, member checking occurred with the two instructors to corroborate and verify that the categories were congruent with their observations of the preservice teachers both in class and in their field placements. Discussions ensued to reach consensus on some further refinement of terms used to describe the categories.

Then two instructors analyzed multiple secondary data sources to corroborate and verify the categories. Secondary data sources included lesson plans written by the preservice teachers, written preservice teacher reflections on lessons they had taught, and liaison field notes from observations of lessons and discussions with field-based mentor teachers. During discussion and joint recursive analysis (Glaser, 1992; Glaser & Strauss, 1967), these two instructors reached consensus on the categories. Then the categories and supporting data were shared with the entire research team for corroboration.

For triangulation, the entire research team compared and discussed categories across primary and secondary data sources. Through discussion, categories were refined for full consensus. The external researchers then reexamined the data and sorted all primary data source responses into the refined categories. Responses were identified for each student and a frequency count of students was computed for each category. Some students gave answers that fell into more than one category, thus the total frequency count is not reported. This process was followed for each phase of the data analysis.

Results

Results include the responses of eleven prospective teachers to the open-ended questionnaire before and during the field-based experience. For various personal reasons noted previously, only eight participants were enrolled at the conclusion of the year-long experience.
Literacy Beliefs Before, During and After Field-Based Experiences

Results describing literacy beliefs of the preservice teachers with an academic specialization in reading before, during, and after field-based experiences are described below by the prompt on the POLL.

Prompt: What is a good reader? Why do you say that? Table 1 summarizes the categories that emerged as the preservice teachers described their beliefs concerning good readers. Prior to field based experiences, only ten categories emerged. However, during the year-long experience the number of categories describing beliefs about good readers more than doubled.

At the beginning of the year, some preservice teachers mentioned the importance of comprehension with statements such as “A good reader is someone who can read a book, selection, etc., and understand basically what he/she just read,” and “A good reader is one that knows the meaning from what he/she reads.” However, the major focus was on the word level of text. For example, one preservice teacher stated, “A good reader can pronounce most words and sound out unfamiliar words.” Another comment was, “A good reader is a child who can look at letters, know they form a word, [and] determine how to say the word.”

At the midpoint, the majority had shifted their beliefs to include comprehension. At this point, they had implemented instruction in public school classrooms for one semester and debriefed with their university liaisons and public school mentors concerning the success of the lessons. Comments included, “A good reader is a reader who can look at words, decode them, use context clues and find meaning,” “Someone who can understand the words he/she reads. Reading is gaining info about something,” and “They must have the comprehension skills to comprehend what they have read.” By the end of the experience, preservice teachers articulated a more “balanced” belief system and those who did not specifically address comprehension utilized terms such as “high self esteem and are not afraid to make mistakes while reading”, “continually progresses” and “enjoys reading.”
Prompt: What do students need to know about letter/sound relationships? How would you teach that? The initial emphasis on letter/sound correspondence remained throughout the experience. However, the initial ten categories expanded as the year progressed (see Table 2). At the mid-point, one prospective teacher commented,

Table 1
Beliefs About Good Readers

<table>
<thead>
<tr>
<th>Categories of Beliefs</th>
<th>Pre n=11</th>
<th>Mid n=11</th>
<th>Post n=8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Focus on Word Level</td>
<td>8</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Focus on Comprehension Level</td>
<td>6</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>Know/Utilizes Phonics</td>
<td>5</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Reading At or Above Grade Level</td>
<td>4</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Non-Specific Focus on Affect</td>
<td>4</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Uses Context Clues</td>
<td>4</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Risk Taker/Self-Confidence</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Fluency Does Not Mean Comprehension</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Concept of Fluency</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Has a Large Vocabulary</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Growth Equals Success</td>
<td>0</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Ability to Decode Does Not Mean the Child</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understands</td>
<td>0</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Uses Strategies</td>
<td>0</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Gain Information</td>
<td>0</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Reads for Different Purposes</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Reads for Enjoyment</td>
<td>0</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Successful at Accelerated Reader</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Builds Schema</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Shares Their Reading</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Tells Stories</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Uses Inductive/Deductive Reasoning</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Reading is Situational</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Automaticity Does Not Equal Comprehension</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Uses Prior Knowledge</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Success in Reading Equals Success in All</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subject/School Areas</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Uses Picture Clues</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

Note. Some students gave answers that fell into more than one category, thus total frequencies are not reported.
“Students need to know that letters represent sounds and those sounds, when put together, make words. The words together then create meaning.” Another stated, “Students need to know that letters are the symbols for the sounds that we use for language.” Responses at the conclusion of the experience included, “Sounds are represented in writing and can then be read,” “Modeling the process of writing what students are saying and then reading it is important. We would then progress with students writing their own responses (stories, poems, etc.) and sharing them,” and “The English language is very complex and it is very easy to overwhelm students with rules and patterns.”

Table 2
Beliefs About What Beginning Readers Need to Know About the Letter/Sound Relationship

<table>
<thead>
<tr>
<th>Categories of Beliefs</th>
<th>Pre n=11</th>
<th>Mid n=11</th>
<th>Post n=8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Letter/Sound Correspondence</td>
<td>10</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>Letter has Multiple Phonemes</td>
<td>6</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Blending</td>
<td>3</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Groups of Patterns/Families</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Letter Make Words</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Diagraph/Diphthong</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Letter is a Symbol of Sound</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Rules &amp; Exceptions</td>
<td>1</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Recognition of Environmental Print</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Letter Identification</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Words Make Sentences - Sentences Make Meaning</td>
<td>0</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Sounds Make Words</td>
<td>0</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Words Make Meaning</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Analytic Phonics</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Sight Words</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Predict Sounds</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Ownership</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Relationship Between Reading &amp; Writing</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

Note. Some students gave answers that fell into more than one category, thus total frequencies are not reported.
Prompt: Consider children's initial encounters with print in a school setting. a) What would you do to teach beginning readers to read? b) Why would you do that? Table 3 shows that prior to the field-based experience, the prospective teachers' comments indicated beliefs in the importance of activities and strategies that focused on a combination of letter, word and text study. Statements included, "I would read to the children often ...let them play with sounds, constructing their own sentences," and "I would write the names of objects in the classroom and place them on the objects themselves to encourage recognition of words in the students' environment. I would also introduce big books so children can follow my finger/pointer as we read together. I would also incorporate predictable pattern books." During the mid-point of the semester, a few comments surfaced that focused strictly on letter/sound relationships such as "Initially, I would have these students associate pictures with sound [drew picture of a ball is 'B']. This reinforces the idea that sounds are represented by letters." By the conclusion of the experience, the majority of the prospective teachers' responses indicated beliefs that emphasized the importance of exploring how language works with the context of meaningful whole text.

Table 3
Beliefs About How To Teach Beginning Readers

<table>
<thead>
<tr>
<th>Categories of Beliefs</th>
<th>Pre n=11</th>
<th>Mid n=11</th>
<th>Post n=8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sound</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Letter</td>
<td>4</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Word</td>
<td>3</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Text</td>
<td>4</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Prompt: What would you use to assess or evaluate student in reading and writing? How will you collect and use what you have assembled? At the beginning of the field-based experience, only four categories of beliefs emerged from the data (see Table 4). Due to lack of specificity, many responses were categorized as "belief not articulated." For example, one comment was, "I would have my students do various activities with a reading selection." At mid-point, running records
(which had been presented in the reading seminar) were noted in many responses along with other specific assessment strategies. Examples included, "[I would use] running records and journals of daily writing," and "running records, reading strategies, tests, monitoring group or individual activities." Discussions of formal and informal assessments included comments such as, "Informal assessment can be done by listening to students read and keeping a running record. Formal assessment can be done by giving vocabulary/spelling tests." Post comments continued to mention specific assessment practices such as "running records, formative and diagnostic assessment," and "Reading inventories, informal reading by students, writing and creating their own personal stories, reading comprehension assessment (oral and written) and written summaries of reading passages, vocabulary and spelling assessments are valuable. I will use these evaluation methods to create reading groups that are developmentally appropriate and pinpoint where instruction should take place."

Table 4
Beliefs About the Uses of Assessment

<table>
<thead>
<tr>
<th>Categories of Beliefs</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre n=11</td>
</tr>
<tr>
<td>Beliefs Not Articulated</td>
<td>5</td>
</tr>
<tr>
<td>Track Progress over Time</td>
<td>3</td>
</tr>
<tr>
<td>Exhibit Comprehension</td>
<td>2</td>
</tr>
<tr>
<td>Target Growth Areas for Individual Students</td>
<td>2</td>
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<tr>
<td>Strengthen Teaching</td>
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</tr>
<tr>
<td>Create Developmentally Appropriate Groupings</td>
<td>0</td>
</tr>
<tr>
<td>Individualize Instruction</td>
<td>0</td>
</tr>
<tr>
<td>Individualize Assessment</td>
<td>0</td>
</tr>
<tr>
<td>Maintain Files/Folders</td>
<td>0</td>
</tr>
<tr>
<td>Exhibit Writing Skills</td>
<td>0</td>
</tr>
<tr>
<td>Determine &quot;starting point&quot; for instructions</td>
<td>0</td>
</tr>
</tbody>
</table>

Note. Some students gave answers that fell into more than one category, thus total frequencies are not reported.
Factors Impacting Shifts in Beliefs at the Midpoint of the Year Long Experience

After determining the shifts students had made in beliefs during the midpoint of the year long experience, the written reflections students completed after teaching a lesson, artifacts, cued recall instructor interviews, and field notes from liaison observations were examined recursively. Specifically, reflections consisted of students’ responses to the following open-ended prompts:

What went well with the strategy lesson?
What did not go well with the strategy?
How did the students benefit from this strategy?
I wish I had...or the next time I will make these changes.
What did you learn?

During analysis of the reflections the researchers observed that as students discussed what they had learned, they repeatedly referred to experiences that had occurred during instruction that triggered realizations or new learning. During discussion and joint recursive analysis, the researchers reached consensus regarding five categories of experiences and accompanying realizations that emerged from the data. Further recursive analysis of the artifacts verified the five discrete categories and corroborated that experiences lead to realizations. The five discrete categories of experiences and the accompanying realizations for the preservice teachers are described below.

Experience/Realization: Appropriate match of instructional materials to the developmental level of the children. Preservice teachers wrote about instructional and teaching experiences leading to the realization that the reading material was inappropriate for the students. They described materials that were “too lengthy” with “too many difficult words.” Some explained how they made “adjustments within the lesson” and “modified the material to fit my students and they were all successful.”
Experience/Realization: Time management during a lesson. “Managing time” during instruction consistently surfaced as an experience that lead to adjustment and change. Many comments made by preservice teachers indicated that they “Had to modify the strategy to fit into the allotted time.” Some activities took longer than the prospective teachers thought they would and they noted, “Next time I would adjust the activity/strategy.” One prospective teacher suggested using a timer to help keep the children on task while doing the independent phase of the lesson. Another noted that new strategies take more time, “You should allow extra time when teaching with a new strategy!” One respondent simply stated, “It takes a lot of time to read.”

Experience/Realization: Behavior management during a lesson. When preservice teachers were responsible for behavior management during instruction, the need for modification and change became evident. Some comments connected effective behavior management to their own preparation, “Be more organized,” and “Have a better closure.” Other comments focused on gaining skill and insight into working with students in groups such as, “Next time, I will try some partner reading to help encourage more individual effort.”

Experience/Realization: Self-monitoring focused on value of strategies. When prospective teachers implemented strategies that had previously encountered in literacy coursework, they experienced surprise at their success resulting in a change in their valuing of strategies in effective classroom instruction. Comments included, “These strategies really work!! I know that might sound dense, but I am truly amazed. For the past year and a half, strategy after strategy has been thrown at me and tested on me,” and “It is hard to understand the concept of a strategy when the materials tested on me are things I already know and understand. To actually use a strategy with students and see the understanding dawn on them is amazing.” Another prospective teacher stated, “Simply reading the chapters in a text will not ensure that actual learning has taken place. Strategies should be used to facilitate real-life learning.”
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Other comments reflected success with strategies such as word sorts. One statement noted, “My students gained a study strategy, became aware of spelling patterns in a way they could understand, and were much more aware of sounds as well as patterns. I learned that these students can pick up on spelling patterns and sounds through discussion and seeing and touching their words. A word sort transforms their spelling into more than just words on a page.” Another preservice teacher stated, “Once again, I saw first hand, how having something other than a worksheet in their hands – works! The students really learn better when they can manipulate it [words]!”

Experience/Realization: Adequacy of the modeling step on the lesson. The preservice teachers discussed the importance of “modeling for [students] so they can see it and then they can do it.” Typically, this was the result of experiences when effective modeling was not implemented as evidenced by the comments, “I did not demonstrate the sort very well and they had never done those before. I had to help each child.” and “Next time, I will have sorts on overhead transparencies and do the sorts with them as guided practice.”

Verification and Corroboration of the Five Initial Factors at the Midpoint of the Year Long Experience

Further recursive analysis of the liaison field notes and instructor interviews verified the five categories and corroborated that experiences lead to realizations. Although the five categories emerging from the preservice teacher data were verified by the instructors, the data from the interviews revealed that the instructors did not perceive these categories as discrete. Rather, they saw them as intertwined and discussed them as such in the interviews. This intertwining is evidenced by the supporting data from the interviews that follows.

The instructors/liaisons observed that initially in the process of teaching, the preservice teachers typically engaged in two scenarios. Either they recognized the mismatch and “shifted reading lessons to listening lessons” or they ignored the mismatch and....[found that] managing off task or misbehavior commanded more attention. If there
was not a match between the instructional level of the child and the level of the materials, then the strategy could not be executed and modification was required. But they didn’t understand that until they experienced it...as a result, in future lessons they paid more attention to creating lessons at the appropriate level and became more aware of the importance of assessment.

The instructors/liaisons also noted that the preservice teachers often, “Didn’t know what their children knew....[but eventually the preservice teachers] began to more closely observe students and/or ask their mentor teacher about what skills the kids had. They started to be able to analyze the strategy as to what the prerequisite skills were so that kids can be successful.” For example, a preservice teacher was observed “Trying to have students use dictionaries in the process of implementing the strategy Question My Word Knowledge (Linek, Raine, & Smith, 2000). She had realized that they didn’t know how to use a dictionary, so she stopped the planned lesson and taught them the dictionary skills they needed. In the future, this intern gave thought to what prior skills were needed to perform that lesson.”

The instructors also said that preservice teachers realized that “They had to be confident and competent in their own preparation so that their inner talk was not, ‘What do I do next?’ but ‘How are the children performing/responding?’ If they were not sure what they were going to do, the lesson didn’t flow and they had to keep thinking, ‘Oh my gosh, what am I going to do now?’ This lead to the children getting off task and misbehaving while the teacher was trying to collect herself. If they [preservice teachers] were very well rehearsed, they could spend more time focusing on the kids and think on their feet much better.”

The data from these interviews also supported the intertwining of effective time management, behavior management, self-monitoring, and modeling. For example, one liaison noted that it was important for preservice teachers to realize that they had to have “transitions worked out ahead of time.” She saw a preservice teacher “Who had worked through the lesson cycle perfectly with second graders, but when she shifted to independent practice---all hands went up for individual help.
She was so focused on lesson cycle that she didn’t make sure that the students were learning during...modeling...and directed practice. The next time she modeled, she gave children clear instructions to stay focused on learning during the instructional time and observed/monitored to see if they were paying attention by directing questions to them. That time when she finished, most students understood and were ready to transition to independent practice. I think it had previously never occurred to her that the children should be learning during the modeling stage and that she should have their full attention, she was focused on content. If there had not been children there, she had a perfect lesson. But, the kids had learned that they didn’t have to listen to the modeling stage and that they could get the teachers individual attention for help later—so in a room with 20 kids with hands in the air, she was going one by one and 19 others were waiting. During initial lessons she had their attention, but day by day slippage occurred [as students realized that they didn’t have to] pay attention.”

The above observations and comments reveal that the instructors did not view the five categories as discrete, but rather saw them as interrelated. However, their comments still provide support for the five categories:

- Appropriate match of instructional materials to the developmental level of the children;
- Time management during a lesson;
- Behavior management during a lesson;
- Self-monitoring focused on value of strategies, and
- Adequacy of the modeling step on the lesson.

*Factors Impacting Shifts in Beliefs at the End of the Year Long Experience*
At the conclusion of the year-long field experience, students were asked to complete summative reflections. Reflections consisted of students’ responses to the following open-ended prompts:

You have completed your internship and residency. Now you have an opportunity for “reflection.” Please be thorough. Compare and contrast your “PrePOLL” that you completed 1/25/00 and your “PostPOLL” (completed on 11/27/00). Do you see any differences? What are they? What factors have influenced your beliefs?

Researchers analyzed the summative reflections and post-polls to determine factors that impacted beliefs during the year-long experience. Just as with the midpoint analysis, researchers observed student references to realizations or new learnings based on experiences they had encountered. The researcher team reached consensus on three categories that emerged from the end of year data during discussion and joint recursive analysis.

**Experience/Realization: Recognition of effective/ineffective practices.** Preservice teachers reflected on experiences leading to a realization of their rights and responsibilities to make choices concerning future teaching ideas/practices. With the responsibility of such choices, the preservice teachers became focused on observing and/or implementing classroom practices that would result in a positive impact on the students. Their comments included remarks such as, “I have seen them [strategies and practices] used and they seem to be very effective,” and “I don’t think I’ll use [specific materials]...they are boring,” and “I don’t think I’ll use the leveled readers that are with the classroom reading book. They are too odd.” Another preservice teacher commented that she had “seen their faces when the teacher tells them just to ‘read a book.’ How awful this must be for those who can’t read...[don’t know what to do].” Another preservice teacher noted “I must experiment and choose the [assessment] best suited for me.”

**Experience/Realization: Responsibility to self-monitor and adjust based on student performance/needs.** The preservice teachers cited
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experiences in the classroom that changed their perspective concerning their responsibility to implement child-centered instruction. The preservice teachers made comments such as, “I now realize the results I get back after each evaluation will help me to help each student in the areas in which they are lacking.” Other preservice teachers mentioned terms such as “pinpointing” instructional needs, “individualizing instruction,” and teaching students “on their own level.” One preservice teacher noted, “I have an obligation to teach every child” Another shared a personal challenge of a child she was working with and the impact the encounter had on her beliefs about her role as an educator. She realized that it was up to her to “somehow make a difference to a child.”

Experience/Realization: Valuing what was learned at the university. The field-based experience contributed to the realization of the importance of university coursework on preservice teacher development. By the end of the experience, most preservice teachers noted the importance of information sources they had access to during their teacher preparation program such as seminars, college courses, interactions with university faculty, and professional journals. For example, one preservice teacher noted, “I have applied a lot of things that I have learned in the [university] classroom to the field,” while another stated, “I love....all the practical strategies I learned from Dr.____.”

Verification and Corroboration of the Final Three Factors at the End of the Year Long Experience

Further recursive analysis of the liaison field notes and instructor interviews verified the three categories and corroborated that experiences lead to realizations. The three categories emerging from the preservice teacher data were verified by the instructors. Once again, data from the interviews revealed that instructors saw the categories as intertwined rather than discrete. This intertwining is evidenced by the following excerpts from the interviews.

In an instance where the instructor was discussing the factor of preservice teachers recognizing effective/ineffective practices, there was
no separation from the factor of responsibility to self-monitor and adjust based on student performance/needs. The instructor remarked that the preservice teachers began to realize that,

"It comes back to the responsible party and accountability—if they are accountable to themselves and the district for the progress of children, it will influence decisions that they make, the instruction that they give, and how they view the children’s responses. Initially, child centered meant letting the kids do what they wanted, enjoying the kids and having a happy time with them. However, when they became in charge, then they realized that they were responsible—and structured lessons to foster and advance the children’s learning. Child-centered took on the meaning of getting productive learning growth in the children. They began to focus on not what is nice at the moment, but how it fit into the complete scope of what the children needed to be learning. For example, initially, during Sustained Silent Reading (SSR), kids had free choice and it didn’t matter if the kids really looked at it [the books] or not during SSR—later, child centered meant guiding the children into proper selections at independent reading levels so that they were really practicing and adding to their reading ability.

Although formal data were not collected at the beginning of the study about predictions of what would impact their learning the most during the year-long experience, the instructors noted unsolicited comments by preservice teachers indicated a belief that liking children and experience working in the field would have the most value in their gaining of knowledge about teaching. However, as the semester went on an instructor noted,

They realized that often the mentor teachers, although experts in child management, did not always have an in depth understanding of strategies and learning processes, were often not current, and were frequently unable to answer their questions about ‘why’ something did or didn’t work. The mentors seemed limited to speaking from experience about what had worked for
them in their classrooms. The university classes, university seminars, and support from university liaisons in the field gave them information about new researched based strategies, answers to their "why" questions, and feedback on appropriate implementation based on research about learners. They began to appreciate previously gained information, asked for reminders, and requested support/feedback as they struggled with teaching fulltime during their second semester.

In addition, another instructor said,

What we’ve helped them to develop is reflecting on what works and why it worked and why it didn’t work so that you know how to amend it the next time the strategy is used. I had this question on their reflection response sheet. It was a prompt that they had to respond to on the reflection sheet that they had to complete after completing a lesson. They had to reflect on what worked, why it worked, what didn’t work, why didn’t it work, and how they would adjust it next time. It pushed their reflection beyond just, it did work or it didn’t work. Sometimes the students think that they’ll learn these strategies and then they’ll know how to teach and just use them again and again. When they begin to use the strategies, they begin to realize that there have to be adjustments made with the strategies for the situation, the materials, or the students—then the reflections on why it did or didn’t work results in the mentor teacher learning. Then our preservice teachers begin to realize that teaching isn’t something that we learn how to do and then put it into practice and continue through the years to do it. It is when we teach that we really learn more about how to teach and hone our skills—therefore being a teacher implies always learning. The result is that teaching is never really comfortable; perhaps if it [teaching] ever got comfortable we would cease being effective. Dissonance is a lifetime teacher process.

Further, one instructor stated,
The preservice teachers would say, because the strategies were effective, they would continue to use them even though it wasn’t a course requirement. So after the students were no longer under our authority, they continued to use it [the strategies]. This demonstrates the true value of the coursework. While they are taking the courses they just have to trust us that it is worth their time. After they are in the role of being the teacher, they learn to value the skills and strategies they learned during their coursework in light of how useful they are for them....they were no longer doing strategies because they were required; they were using them because they found it made their teaching better. So it [using the strategies] became their personal requirement.

These instructor comments once again verify the categories and corroborate their overlap.

*Themes in Factors Influencing the Change in Preservice Teacher Beliefs*

During the analysis of the data, researchers noted that as the preservice teachers discussed experiences leading to realizations, they often referred to specific trends related to changes in their beliefs. Therefore, the researchers reexamined the open-ended questionnaires given at the mid-point and conclusion of the field-based experience and the summative reflections in order to determine overarching themes that served as factors impacting change. Three overarching themes emerged. Table 5 summarizes that analysis.

Table 5

<table>
<thead>
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<th>Overarching Themes</th>
<th>Frequency</th>
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<th>Post n=8</th>
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<td>Combination of University and Field Experience</td>
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<td>Experience</td>
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<td>5</td>
</tr>
<tr>
<td>Field Experience</td>
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<td></td>
<td>3</td>
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<tr>
<td>University seminar Experience</td>
<td>1</td>
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Discussion

The results of this descriptive case study highlight the shifts these preservice teachers made in their beliefs concerning literacy instruction during their final year of field-based teacher preparation and identify overarching themes as well as categories of factors that served as catalysts for those changes. Factors occurred in the form of experiences leading to realizations that impacted beliefs concerning literacy instruction.

As preservice teachers focused on how to make reading/language learning relevant and effective for students in the classroom, they experienced various types and levels of dissonance consistent with previous findings (Linek, Nelson, Sampson, Mohr, Zeek, & Hughes, 1999). Although the focus of the current study was not on identifying specific types of dissonance, both cognitive and experiential dissonance are obvious in preservice teacher comments and essential to confronting one's beliefs and acknowledging the necessity of modification for instructional effectiveness (Anderson, 1994; Azjen, 1988; Dressman, Graves, & Webster, 1999; Kagan, 1992; Risko, Roskos, & Veukelich, 1999; Wolf, Hill, & Ballentine, 1999). Initially, dissonance occurred primarily while they were implementing instruction. However, at the conclusion of the year-long experience comments indicated they were also engaged in critical reflection and decision making concerning the effectiveness of the teaching they observed or implemented. Both at the midpoint and the conclusion of the experience, the preservice teachers were more specific in their planning and teaching of appropriate instructional goals. In addition, responses showed a strong focus on the importance of making literacy instruction meaningful at the midpoint of their year-long experience. This focus remained consistent at the conclusion of the year long experience.

While some of the realizations emerged as students experienced dissonance during the implementation of instruction, for others the catalyst seemed to be encountering success with a concept and/or strategy they had previously observed/learned. Prior to observing the implementation or personally engaging in implementation in a classroom
setting with children, they had not realized it would actually "work." However, dissonance provided by experiences remained the "trigger" for the realization, for although they had known about the practice/strategy they were not "comfortable" that it was valid until they had the opportunity to experience it in a field setting. Therefore, the results of this study further support the findings of Wildman and Niles (1987) noting that it is necessary for teachers and preservice teachers to undergo a state of "disequilibration" in order to acquire new understandings.

While many of preservice teachers still cited combining university seminar instruction with actual implementation of literacy lessons in public school classrooms as a factor in shaping their beliefs at the conclusion of the study, the frequency was less. However, this was not surprising since the number of university seminars declined by 40 percent during their final semester while teaching responsibilities shifted to full time. The opportunity for reflection upon actual teaching experiences appeared to serve as an "anchor" for the shifts in beliefs. Upitis (1999) noted that in order to talk about effective teaching practices, one had to have actual teaching experiences to reflect upon while Vygotsky's (1986) theory of Zone of Proximal Development (ZPD) purports that learning can be scaffolded through a learner's collaboration with a more knowledgeable person. Thus, scaffolding occurred as opportunities to reflect and discuss with knowledgeable others were provided in the university seminar and in the public schools. These findings support the identification of the field-based model of teacher education that retains the university/public school connection throughout the experience as critical in the effective preparation of teachers (Goodlad, 1991; Holmes Group, 1990 & 1995).

Pajares (1993) stated, "Teachers' beliefs can be understood in the context of teaching practices and student outcomes, but as these are not in evidence during the preservice experience, the beliefs of teacher candidates have few reference points against which to be compared" (p. 50). Pajares' statement, the results of this study, and Vygotsky's (1978) theory that learning can be scaffolded through a learner's collaboration with a more knowledgeable person support the need for field-based teacher preparation that intertwines public school and university
experiences. This information is critical as the teacher shortages increase, reading preparation programs are attacked (Moats, 1999) and field based teacher preparation programs undergo examination.

If children are to become successful readers, it is essential that their teachers implement effective instruction that utilizes best practices (Cunningham & Allington, 1999; USDOE, 1987). However, if teachers are not cognizant of the beliefs that they hold concerning the teaching of reading, they do not possess the power to monitor and self regulate their instructional practices. In order to experience growth, teacher educators should provide experiences that lead to realizations concerning student learning that challenge personal beliefs in order to encourage the reflection and self-directed inquiry that is necessary for professional growth. Therefore, as stated by Pajares (1993), "Self-reflection and belief exploration should be a focal point of teacher education and an important part of a program's curricular foundation" (p. 48).

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Wayne M. Linek, Mary Beth Sampson, I. LaVerne Raine, and Brenda Smith are faculty members at Texas A&M University-Commerce, Commerce, TX. Kimberly L. Klakamp is a Program Coordinator with the Garland Independent School District, Garland, TX.
What can we realistically expect teacher educators to do with technology, given the contexts in which they find themselves, the skills that they bring to their contexts, and the changes that they would need to make? We attempt to answer this question through three self-studies as we integrated technology into methods courses and student teaching supervision. Data sources included reflective journals, lesson plans, observations, and interviews. Pre-established categories and constant comparative method were used to analyze the data. Three common themes emerged (the issue of technology integration; the interdependence of skills, responsibilities, and context; and the mediation of context) that lead us to conclude that the notion of technology integration varies in different contexts.
LITERACY EDUCATORS HAVE long realized the importance and potential of technology in literacy teacher education programs (Labbo & Reinking, 1999; Leu & Kinzer, 2000; Reinking, 1999). Efforts have been made both to theoretically contextualize technology’s role in literacy education (Leu, 2000; Reinking, 1995) and explore practical applications of technology in literacy teacher education (Morrow, Barnhart, & Rooyakkers, 2002; Watts-Taffe, Gwinn, Johnson, & Horn, 2003). Theoretical justifications of technology’s role in literacy education have strong implications for literacy teacher education, providing unique perspectives for re-examination of literacy teacher education programs in the context of new literacies (Reinking, 1995). One implication would be the reconsideration of the knowledge and skills literacy teachers need to be equipped to teach new literacies in the electronic age (Leu, 2000).

To foster such necessary knowledge and skills of literacy teachers, teacher education programs have to envision technology as an integral component and need to develop technology integration systematically throughout programs (International Society for Technology in Education (ISTE), 2000). However, most of the practical endeavors for integrating technology into literacy teacher education have occurred at individual levels rather than at the program level. Literacy educators have used various technologies including email, the Internet, literacy software, and video cases in literacy methods classes to enhance teacher candidates’ experiences with technology (Merkley, Schmidt, & Allen, 2001; Morrow, et al., 2002). Positive results have included increased confidence in using technology (Morrow, et al., 2002), increased technology skills (Watts-Taffe, et al., 2003), better understanding of technology’s role in teaching (Watts-Taffe, et al., 2003), and an expanded perspective of literacy in the electronic age (Reinking, 1999).

We are aware of only two studies that actually have focused on the contexts in which faculty members integrated technology (Boling, 2003; Wepner, Tao, & Ziomek, 2003), though there are studies that mention the conditions that affect faculty use. Studies indicate that faculty use of technology has been affected by the technical skills of the faculty (Myers, Miels, Ford, & Rurke, 1997), level of access to technology (Boling, 2003; Wepner, et al., 2003), technical support (Boling, 2003; Morrow, et al., 2002), and university teaching experiences (Boling,
One limitation of the majority of studies about faculty technology integration is the restricted contexts for technology use. These studies were usually situated in one program or department (Merkley, et al., 2001; Morrow, et al., 2002; Watts-Taffe, et al., 2003), and used similar software or a similar technique (Boling, 2003; Teale, Leu, Labbo, & Kinzer, 2002). While they provide us with insights about technology integration in teacher education, these insights are usually only appropriate in their own contexts and might not offer direction for technology use with different challenges and opportunities.

The present study is intended to look into the contextual conditions that affect faculty technology integration of three literacy educators at two different institutions and with different instructional capacities. We studied ourselves to examine the following question: What can we realistically expect to do with technology, given the contexts in which we found ourselves, the skills that we bring to our contexts, and the changes that we would need to make? An ultimate purpose of the study was to provide insights about the relationship between technological skills, context (or contextual complexities), and shifting responsibilities as literacy educators attempt to integrate technology into their programs.

Technological skills refer to one’s knowledge of hardware, applications, graphics, telecommunications, integrated technologies, and multimedia construction. Contextual complexities (or context) refer to the tension between existing material and human resources and the positive and negative responses to these resources. This contains five categories we identified in our previous study (Wepner, et al., 2003). They are equipment/software, technical support, administrative and peer support, availability of funds, and student expertise. Shifting responsibilities refer to ways in which tasks and duties change to use technology effectively in the classroom. The four categories are role as catalyst, planning for instruction, instructing students, and monitoring students (Wepner, et al., 2003).
Background

When one of us co-edited a book on ways to help K-8 teachers integrate technology into classrooms (Wepner, Valrhont, & Thurlow, 2000), it became obvious that there is little research available on the shifting responsibilities of teachers as they subscribe to standards for using technology in their classrooms. Two of us decided that we needed to examine ways in which classroom teachers' responsibilities change as a result of teaching with technology. We found through interviews and classroom observations that teachers' responsibilities shift considerably (Wepner & Tao, 2002). They need to devote more time to their professional development to acquire the necessary technology and technical knowledge. They must spend more time planning and organizing for instruction and arranging for the availability and usefulness of the equipment. They also need to come to accept that, even as veteran teachers, they are humbled by their lack of technology proficiency.

An outgrowth of this study was a recommendation that literacy educators, as part of the K-16 education continuum, need to study their own shifting responsibilities as they work toward helping teacher candidates learn to use technology for teaching. Three of us, at different points in what we refer to as the technology comfort continuum, and with different institutional contexts and conditions, studied the way in which we changed our practices to get our teacher candidates to use technology in their methodology courses and student teaching assignments. We found that the same issues confronting teachers in the K-12 classroom affected our performance as literacy educators (Wepner, et al., 2003).

Furthermore, we found that our own contexts actually affected our interest in and ability to use technology for teaching and supervision. We recognized the need to study our own contexts in relation to our own skills and responsibilities to determine realistic expectations for ourselves.
Methodology for the Current Study

Subjects and Data Sources

We are three literacy educators coming from two different comprehensive universities in the northeast region of the United States. Two of us, Liqing and Nancy, taught introductory literacy methods classes and one (Shelley) supervised student teachers. The 45 teacher candidates enrolled in the coursework had to evaluate software and Internet sites, learn how to use multimedia software, develop webquests, and include technology in their lesson planning. The two student teachers had to plan and teach four lessons using technology during a semester. The five data sources were our own reflective journals, teacher candidates' reflective journals, samples of lesson plans, observations of student teachers' lessons conducted by Shelley, and teacher candidates' interviews by Liqing and Shelley.

We used reflective journals to record our own observations and reflections. Nancy and Liqing wrote in their reflective journals every two weeks. Shelley wrote in her reflective journal after every technology-based lesson taught by the student teachers. Teacher candidates had to use a modified form of a teaching strategy called KWL for their reflective journals. They had to record what they “Knew” about using technology and what they “Wanted” to learn before teaching. Afterwards, they had to record what they still “wanted to Learn” and provide suggestions for doing the lesson next time. All three of us reviewed and analyzed teacher candidates’ lesson plans for appropriate uses of technology during our instruction. Student teaching observations were conducted weekly, and Shelley’s observations were recorded on a standardized form used by all university supervisors. Liqing and Shelley interviewed students at the end of the semester to find out their perceptions of their experiences with technology. Students’ interview data were transcribed.

Data Analysis

While we followed Bogdan & Biklen’s (2003) recommendation for this qualitative research study to develop a fairly open-ended question to
look into the process of technology integration in our individual contexts, we did our data analysis by using the categories we found in the previous study (Wepner, et al., 2003): shifting responsibilities and contextual complexities and their components. Data analysis was conducted as follows. During the academic year when the data were collected, we individually examined our data sources. Our reading of the data was continuous and repeated several times, both for data coding and for verifying the preset categories. We also met face-to-face with each other five times over the year to discuss the appropriateness of our data analysis. When we met, we re-examined the categories from our previous study in light of the present data to make sure that they still fit. We discussed the data analysis of our individual data that had been shared with each other through email attachments before we met.

We compared our data sources with pre-established categories for shifting responsibilities and contextual complexities to look for themes to describe our transactions in our unique roles (Wepner, et al., 2003). In particular, teacher candidates' interviews and reflective journals were analyzed for insights into the dynamic relationship between proficiency, responsibility, and context on affecting knowledge of and use of technology. Lesson plans and observations of student teachers' teaching lessons were examined for contextual factors that contributed to a technology-based lesson's success or lack of success and the shifts in responsibility and technological proficiencies required of the university supervisor. As a result, we further clarified and consolidated our categories of contextual complexities to more accurately capture what we actually experienced. The resulting components of contextual complexities were reduced from five to four: equipment/software, technical support, administrative and peer support, and student expertise.

Findings

The three case studies describe our background with technology, our responsibilities, findings, and issues. To provide a clear picture of individual situations of technology integration, we use first person narrative for each case description. Results are reported for the three cases by looking at the relationship between skills, context, and responsibilities.
Nancy's Story

Background. I came from an institution in which technology was almost nonexistent. Integrating technology into our courses was not yet even a subject of discussion. This current position presented me with a very different set of expectations, including my participation with other faculty on a large technology grant. The grant, coupled with the decision to research this topic, provided strong internal and external motivation to increase my skills.

The start of this study marked my first attempt to seriously integrate technology into my undergraduate reading/language arts methods courses. It was a very time consuming process for me to sift through my traditional course content to decide what to give up to make space for new material, what assignments to eliminate to create new ones, and how to plan for assessment and grading of these new assignments. I began to see how this would be a circular process: I now knew enough to require my students to use technology which forced me to learn more about it.

Responsibilities. When I began to teach my two methods courses with a changed format, I had added a number of technology requirements, both as a means for my students to learn course content (i.e., extensive use of CD-ROMs that accompanied my new textbook) and as assignments for my students to complete independently (i.e., a series of web site evaluations). My pre- and post- evaluations of these activities uncovered two surprises: some of my students knew less about technology than I had expected and the large majority of them felt there should have been more, not less, technology included in the course. I was then able to take these findings into account in planning my second go-around.

For this study, I added technology-related requirements to my courses and increased the percentage of the courses grade that would be based upon these requirements. My students were required to evaluate two pieces of reading/language arts software, develop a reading/language arts lesson that included the use of the Internet, create an integrated thematic unit that included the use of technology, and attend two
computer workshops on topics such as web quests, and developing web pages.

I had them complete a KWL-Suggestion form (KWL-S) for these workshops. Again, I was surprised by what I found. Many of the students felt there should be more computer workshops and more technology-related topics. They indicated they had gained knowledge that would serve them well as teachers, for example, "I learned that in a web quest there should be a specific question to be answered so my students would have some direction. I also learned that the directions need to be very clear so students don't get confused. Finally, web quests need to be visually appealing and easy on the eyes."

Findings. First, I did not have to have or use any sophisticated technology skills. I needed a general knowledge of software and websites and an understanding of what should be included in a good technology-based lesson plan.

My second finding has to do with my context. My institution as a whole, and the large majority of the individuals who teach here, are committed to being technologically proficient. Add to this the previously mentioned technology grant we had recently been rewarded. The encouragement, the equipment, and the necessary technological support are there for us. This has made it easy to develop to include technology in our teaching. It is as if most of the potential challenges have been removed. I do not have to teach these computer workshops. I just send my students to a brand new, staffed computer lab. There are not many excuses for not taking advantage of what this context offers.

My third finding has to do with my responsibilities. I served mainly as a catalyst for the integration of technology. I changed my course format, created and explained the new assignments, and arranged for the computer lab through our Technology Learning Specialist.

I did not have to do a lot of teaching about or modeling the use of technology. I served as a monitor as well as catalyst. I monitored the completion of students' requirements, assessed and graded their work, and monitored their attendance at the required workshops.
Broadening Our View About Technology

Issues. I have become increasingly aware that technology must be integrated into undergraduate methods courses to adequately prepare teacher candidates. The methods teachers, not the student teaching supervisor, should be held responsible for this important part of our undergraduates' education.

I have come to realize that while teacher candidates may be able to use technology for their own needs, they might not be adequately prepared to actually use technology to teach content to their own students. I am trying to arrange for my methods students to each teach a small-group technology-based lesson as a required part of their weekly field experience. There are issues with this requirement such as my students' confidence and competence in conducting such a lesson, availability of computers, and technological support to help with the problems that inevitably occur during these lessons. If teacher candidates gain even limited hands-on experience in using technology to actually teach content during field placements, they will be better equipped to effectively use it as student teachers.

Liqing's Story

Background. I have always been interested in technology applications in education, including email applications in facilitating elementary school students' literacy development, and computer applications in teacher education. In my reading and language arts methods classes, I have used some reading and language arts software. In addition, I have taught a graduate level instructional technology class. I can generally handle simple hardware problems and installation issues, yet I have to refer to lab technicians for more complex computer problems.

As a user of technology and believer in the facilitative potential of technology in educational learning, I joined my two colleagues in the present project at my own institution. At the time of the initiation of the project, my institution was facing a technological dilemma. It was under pressure to increase its applications of technology in teacher education programs since it was beginning to prepare for NCATE accreditation. However, the only instructional technology faculty resigned the previous...
June, leaving a support vacuum for instructional technology applications within the Education Department. There were a few individual faculty members in the department who were using the Blackboard system and other content related software, though coordinated sharing of successful applications was not happening.

**Responsibilities.** The class involved in the present study was an undergraduate introductory reading methods class with 25 students. The course required students to use two types of technology. First, they had to use the Blackboard system to carry on weekly chapter discussions, download handouts, and check for weekly assignments. Second, they had to create a language arts or social studies web quest. This project required students to use simple web authoring tools such as Microsoft Word to create their web quests.

I depended mainly on myself for teaching technology use in the lab during several demonstration and hands-on classes. The lab was not always accessible to students due to the limited hours during weekdays and the close-downs over the weekends. The lab technician could help my students only when he did not have any other classes in the lab, which was usually not during late afternoon class times when they were on campus. To anticipate my students’ needs for technology support, I used office hours to help troubleshoot both the discussion board and web quest projects.

**Findings.** I had to give almost equal weight to technical procedural instruction and reading/language arts instruction. The equipment, support structures, and colleague interactions presented a challenge for integrating technology into my methods class. I found myself constantly struggling to get accustomed to the contextual constraints.

My plans were first adjusted to deal with the lack of technological and technical support, and then my plans were changed to address students’ lack of technology expertise. I stayed away from CD-ROM software use because the lab could not make any CD-ROM available to our students. I chose the Blackboard system over Yahoo or other discussion forums because it was supported at the institutional level. I
chose the web quest project because of its accessibility and wide educational applications.

Although a pre-survey did not reveal a big gap in computer knowledge among my students, many juniors and seniors indicated that this was the first college class that required them to use technology in their assignments aside from word processors. To accommodate students’ lack of technology knowledge, I added two lab times to the original three. I also planned a class session to talk about using Blackboard.

Integrating technology challenged my teaching expertise and my students’ tolerance of it in a methods course. I recorded in my reflection journal: “Then a breaking point came when a student exclaimed that she did know how to do it. I immediately asked her to tell the class whether it was difficult. She was by no means a very technical student or even a smart student in class. Her answer that it was just that easy made others want to try it themselves....”

I constantly questioned my adequacy with technology and continuously sought opportunities to update my knowledge. For instance, I had to learn unexpectedly, at the behest of a student, to convert texts into PDF files. Luckily, and because the department did not have the software, I found that the faculty technology support office in the library had the Acrobat Writer.

I served as both a catalyst in facilitating students’ use of technology for teaching and an instructor in teaching the basics of computers and web page construction. Students’ comments at the end of the course indicated some positive and encouraging signs of success. Students learned the mechanical aspects of using technology and the importance of shaping web resources into useful lessons for their students. “The most difficult aspect was coming up with an actual lesson” was a comment made by a student who “know nothing about web quests before this class.” Another student voiced a similar insight: “[I] actually learned the technical part of creating a web quest was tedious not difficult. I found the hardest part was focusing on a topic.”
While writing about my situation in my reflective journal, I constantly mentioned the need for support from same-minded faculty who used technology in their classes. Although I took some steps to set up some support structures that had limited capacity, I know that integrating technology into teacher education will remain a constant challenge within my context.

**Issues.** The tension between using technology and teaching the content remains a constant issue. The enthusiasm of the students whom I interviewed afterwards confirmed the value of using web quests with my class. However, they did not seem to think the use of Blackboard was valuable for their future teaching career, or even for the present course, even though Blackboard was much less technical and more content oriented than the web quests.

The tension between using technology at the grass-roots level and securing administrative support for such efforts remain. It is easy to say we need to adhere to what NCATE demands but it takes a core critical mass to carry this out. While bottom-up initiatives need to occur, top-down support needs to be in place in order for any grass-roots effort to continue to develop.

**Shelley's Story**

*Background.* I spent many years developing my technology skills so that I could teach a graduate level reading/language arts course and teach an introductory graduate course in educational technology. Because of a change in responsibility from faculty to administration, I was slow to learn new technology applications. I also decided to serve as a university supervisor of student teachers, rather than a course instructor, to get into the schools and to see how far I could go in promoting the use of technology.

*Responsibilities.* I decided to use this project to study what I needed to do to help my student teachers succeed with a technology requirement. Each student teacher had to use computers for four of the eight formal lessons I observed. For two lessons, they had to have the students work with a website to support their instructional plan. They could
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demonstrate the website and/or have students actually interact with it. For two lessons, they had to have students work with a software application. They also had to complete an electronic portfolio.

A Technology Learning Specialist (TLS) was available at the University to train and mentor the student teachers about software applications, website selection and development, and multimedia development. Both student teachers were placed in the University's Professional Development School with two third grade teachers who were very proficient with technology. These two cooperating teachers had been using technology for ten years, and used software and websites on a regular basis for integrated lessons. They each had 5 desktop computers in their classrooms, and they shared a portable wireless lab that enabled them to have one computer available for every two students.

Findings. The first finding relates to the technology skills required. My technology interest and skills gave me the wherewithal to require student teachers to use technology in their teaching. However, because I was in a supervisory role and not an instructor role, I felt that I did not have to be an expert with my technology skills, and in fact was not. I found that I depended on the TLS to impart technology skills. In one journal entry, I wrote about our TLS, "He's the linchpin to the success of this project because he can work with the student teachers on an as-needed basis."

During the interview, when I asked my two student teachers what they would recommend for someone in my position and what they wished that I had done to make their lives easier, Cheri said, "Luckily I had a teacher who used it all the time, and I think that if you don't have a teacher that uses it all the time then the supervisor has to take a bigger role in it by telling us how you can infuse it." Both commented that they wished that they were more prepared through coursework so that they would have felt more comfortable working with technology earlier in the student teaching semester. Cheri, with prior technology knowledge, wished that her coursework helped her to have a better idea of how to use it with students. Kelly, with minimal technology skills, wished that she had used different software programs, and had practiced with the Internet before student teaching.
A second finding has to do with my context, and the importance of the classroom teachers for my student teachers' success with technology. The cooperating teachers willingly worked alongside the student teachers to insure that they met their technology requirements by helping them plan lessons, arrange for the availability of equipment, and troubleshoot as the student teacher implemented the lesson. They also had students who were exposed to computers in previous grades. These student teaching placements provided the optimal context for technology integration for any prospective elementary education teacher.

Student teachers commented during their interview with me that they came to realize that they were expected to use technology because "the school uses it all the time." They observed that computers gave their students a way to be creative, work at their own pace, and get excited about a topic.

They talked about the demand on their time in their journals. Cheri wrote, "It takes twice as long to create a technology-based lesson, and you have to have a back-up lesson in case the technology fails." They also found that they had to do more modeling and hand holding in the beginning for students to get the gist. Kelly wrote, "I needed to create step-by-step directions so that my students had the directions right beside them."

The student teachers also talked about age-old issues with the computers. As Cheri said in her journal, "Although I tested all of the computers, half of the computers would not connect the day of the lesson. Next time I will make sure to have extra computers on hand as well as a back up lesson." In the end, and because they felt supported and saw their students benefit, they both commented that they would "definitely use it in the classroom."

A third finding has to do with my responsibilities. I served primarily as a catalyst and focused mostly on monitoring. The school—or context—enabled me to serve in these two capacities. I did not have to plan or instruct because the cooperating teachers planned with the student teachers, and the TLS instructed them on applications they needed to learn. However, I needed to devote more time to student teaching
supervision. In my role as catalyst, I also had to spend more time interacting with the Office of Field Experiences to find good placements for my student teachers. I made the technology assignments, arranged for the necessary instructional training and mentoring, and sought support from the cooperating teachers and principal. Had the TLS not been available, my students would not have received the necessary help.

In my role as monitor, I worked closely with the student teachers to help them reflect on the strengths and weaknesses of their lessons in relation to students’ responses and achievements. The role of catalyst and monitor cannot be underestimated. Had I not required technology-based lessons of my student teachers, they may or may not have developed them, and certainly not showcase-quality. Had I not helped them to look at what they were doing in relation to students’ performance, they might not have thought about the impact of the technology on students’ learning.

Two issues emerged from my experience with these two student teachers: (1) the technology skills and responsibilities required of university supervisors; and (2) the responsibilities of Schools, Colleges, and Departments of Education (SCDEs) to insure that university supervisors have the necessary technology skills to do their jobs well. If universities are responsible for insuring that student teachers have technology competencies, especially given national accreditation expectations, and student teaching is a capstone experience for evaluating such competencies, the university supervisor should be able to recognize good use of technology. However, given that universities typically hire adjunct faculty for the position of university supervisor, it poses an additional challenge.

SCDEs should be responsible for developing and informing student teachers of any technology requirement, not individual supervisors. Institutions, specifically the Office of Field Experiences (OFE) that hires and assigns university supervisors, should determine the technology skills that university supervisors possess to determine how best to use them. Those who oversee OFE should work with the faculty and administration to offer university supervisors useful professional development opportunities with technology.
OFE should develop an inventory of school districts that promote and support technology use. While a perennial problem to find student teaching placements, it nevertheless is important for student teachers to be placed in classrooms where technology is used. Every triad should have at least a cooperating teacher or a university supervisor who is skilled with technology. The quality of the student teachers' technology-based lessons truly is dependent on the combined competencies of the members of the triad.

Discussion

As the case studies revealed, we had different expectations for our students that reflected what we knew and could do with technology and what was valued and supported in our respective contexts. Yet, we developed common concerns about the impact of context on integrating technology into teacher education. Nancy had to work with technology-barren courses that did not require field-based experiences. Liqing had to cope with reticent students, minimal technical assistance, and lack of peer support. Shelley had to deal with unevenly technologically proficient student teachers, unclear expectations for student teachers' purported impact on children, and the lack of technical expectations for university supervisors.

Three major themes emerged from the common and unique features of our contexts: (1) technology integration can and should be defined variously; (2) the interdependence of technology skills, teaching/supervisory responsibilities, and contextual complexities must be addressed; and (3) the notion of context can be mediated and broadened.

Technology Integration Can and Should Be Defined Variously

Technology integration is not a "one size fits all" concept where faculty members need to do the same things for their teacher candidates. Technology integration also does not have to be activity driven where there are specific skills that each faculty member must possess to be competent in using technology. Each of us took a different path to using technology because of our own unique backgrounds, responsibilities, and
contexts. Nancy had her students learn how to become informed users of reading/language arts software and websites. Liqing had his students, in a similar type of reading/language arts methodology course, become proficient with web-based learning. Shelley, while interested in both types of technology, had her students make optimal use of the technology available in their classrooms.

We had our students use different types of technology for different purposes, yet all of our students used some type of technology for teaching. While we recognize the importance of helping teacher candidates meet the standards established for our field (for example, ISTE), we also need to accept that our contributions have to be anchored within our own realities that encompass our skills, content demands, and context. For example, one institution that has a team of technology educators and a technical support staff can require candidates to enter student teaching with a specific set of technology skills and expect them to teach six to eight lessons with technology. Another institution, with no educational technology personnel and limited technology and technical support should not place the same demand on teacher candidates and should not expect faculty to be as intense with technology integration as an institution that has an abundance of resources.

Literacy faculty should determine the technology knowledge and skills that teacher candidates and literacy specialist candidates should have to succeed in their teaching situations, and determine how to provide and assess such proficiencies. The breadth and depth of technology integration in a program will vary because of the technology skills that faculty bring to their courses, the level of institutional support for such integration, and their willingness to shift responsibilities to develop technology-based courses and field experiences. All options for teacher candidates should be considered; for example, technology integration in regular coursework, specific technology courses or modules, assigned lab work, one-on-one or small group training, modeling, and mentoring, or attendance at specific institutes and workshops.
The Interdependence of Background Knowledge, Teaching/Supervisory Responsibilities, and Contextual Complexities Must Be Addressed to Use Technology

To understand the meaning of this theme, it is important to look at a teaching responsibility such as reading in K-6 classrooms. It is possible for an entire school district or geographical entity such as New York City to require all its teachers to use a prescribed reading program such as Balanced Literacy. Assumptions are made about the teachers that enable such an edict to be made. The teachers need to teach reading, are expected to know how to teach it, and are expected to help their students pass standardized tests in reading. In contrast, it is more difficult to require teachers to teach with technology because one cannot assume that teachers have the necessary equipment, competencies, and packaged curriculum to do this. Teaching is not necessarily a content area that is tested. Rather, it is a mechanism for enhancing and enriching other content areas (Iding, Crosby, & Speitel, 2002; Pittman, 2003). It is therefore more difficult to have standardized expectations for all teachers in all contexts (Pierson, 2001), especially given dramatic variations in equipment availability.

Literacy educators face similar challenges in that while they are trained in, for example, the discipline of reading, they are not necessarily trained in the discipline of technology at the same time. To use technology for reading methodology courses, literacy educators do not have the opportunity to use prepackaged curricula, but instead have to develop their own repertoire of skills to use it. Guided by the goal to make teacher candidates good teachers, literacy educators rely on their own abilities to learn technology skills through, for example, workshops, networking, and trial and error. Their background knowledge, teaching responsibilities, and contexts could help or detract from their ability to use technology effectively.

The net result is reflective of the way in which these three factors work together. At least a modicum of skills, a supportive context, and a willingness to shift responsibilities need to be in place for a faculty member to use technology. And, each faculty member should assess the degree to which each of these three factors exist or can be put into place
to realistically determine one’s own ability to integrate technology. A standard cannot exist because the combination of these three factors is unique for each person and university. For example, if one is skilled with technology, yet suffers from an unsupportive context, one needs to determine the type of contextual support that exists and does not exist, and the degree to which one is willing to assume responsibility for contextual deficiencies. Liqing, who came to his situation with a strong set of technology skills, immediately determined that while computers were available, the existing labs were not accessible for instructional time. Moreover, adequate technical support was not available to enable his students to use appropriate educational software. To compensate for his unsupportive context, he was willing to dramatically shift how he would teach his reading methodology course.

Nancy, who came to her teaching situation with more basic technology skills than Liqing, knew that she could capitalize on her context to virtually accomplish all of her goals. The support from her context provided enough motivation for her to make the necessary shifts in planning and teaching responsibilities. Other faculty in Nancy’s situation, while possessing the same level of technology skills and working within the same supportive context, might not accomplish what Nancy did with technology integration because of their lack of willingness to shift responsibilities.

As technology goals are established for candidates, it is important to try to determine whether faculty technology knowledge matches faculty responsibilities in relation to available resources. If there is a mismatch, adjustments need to be made accordingly.

*The Notion of Context Can Be Mediated and Broadened*

Contexts should not be thought of as one directional force constraining or allowing for technology integration. Efforts should be made to mediate the contexts to call forth proximal conditions for technology integration. Mediating the context calls for an awareness that, based on contextual opportunities and challenges, a certain level of technology skill is needed and responsibilities shift with more or less emphasis on different role responsibilities. Liqing had to expand his role
in planning to secure equipment and appropriate support by negotiating beyond his immediate context. He also had to train himself further to have the necessary skills to do what he ordinarily would expect a technology specialist to do. Shelley had to spend additional time as a catalyst to prepare her students to use technology to compensate for the university's lack of standardized expectations for student teachers. At the same, because she was skilled in spotting a good technology-based lesson, she could enjoy the creativity of the lessons coming from the student teachers because of the positive influence of the cooperating teachers. Nancy, who had glorious hardware and technical support, nevertheless had to revise her course syllabi without input from her peers because they were not inclined to use technology in the same course.

Context, as it relates to the availability and accessibility of technology, needs to be viewed from both a physical and conceptual perspective. Usually, when we think of technology, we think of hardware placed in labs and classrooms. While it is physically present or available in a specific context, it might not be accessible because of limited lab hours, lock-ups, placement in remote locations, or minimal technical assistance for set-up. This lack of accessibility often reflects one's view or conception of technology as a separate entity housed in a separate area rather than an integral part of teaching. When faculty and administrators view technology as essential for teaching, it becomes accessible because it is placed in classrooms so that faculty have easy access to the equipment. Additionally, technology personnel are available to instruct with technology and provide technical support. The more that faculty are aware of this distinction, the better able they will be to mediate this important component of their context.

In addition to mediating context, we should think about broadening the definition of context for technology integration in teacher and literacy education programs. It should be broadened to include internal factors (the factors unique to one's institutions), external factors (national and state mandates and initiatives), and professional and social networks that promote collaboration, assistance, and support. This broadening is necessitated by the need to continue learning with and about emerging technologies because of changes on a daily basis.
We note that the present study does have a major limitation because it is based on three case studies, and we must be cautious in generalizing the results. However, we believe that the present study helps to broaden our view about the impact of the interaction of three factors on technology integration: faculty knowledge and skills, the context in which faculty find themselves, and the degree to which faculty can and are willing to shift the way they teach to assume this additional responsibility. What is considered technology integration to one faculty member at one university might be very different to another faculty member at a different university because of the many different individual and contextual factors that come into play. Attempts to standardize the way in which technology is integrated at the same university also can be difficult because of individual differences in skill sets and dispositions toward technology and the context in which technology is available.

Top-down prescriptions as to how to integrate technology might not be as effective or as realistic as the bottom-up efforts by faculty members in using it in their own contexts. Realizing the value of technology integration in literacy education might be more important than personally possessing advanced technology skills, though the latter would be needed at its basic level.

Conclusion

We should not specify what teacher educators should be doing with technology. Although this statement is counterintuitive to what organizations such as ISTE are promoting with standards for teacher educators, we believe that teacher educators are better served if they set realistic goals for themselves. These goals should be based on the relationship between their skills, their context, and their willingness and ability to shift responsibilities, rather than pre-established standards that have been created with anonymity. Instead of believing that all of us must possess the same skills to perform the same technology tasks with our teacher candidates, we found that, if we can discern what actually exists, we can figure out ways to make our unique profiles work for us. Future studies that examine literacy educators’ specific uses of technology in relation to their own contexts and shifting responsibilities is one way to contribute further to this paradigm shift for understanding
factors that contribute to getting technology integrated into literacy education programs. At the same time, and as literacy educators continue to plan for integrating technology into their programs, they can conduct more in depth studies of their own skills, contexts, and changes in responsibility to determine what is truly feasible with this ever-challenging necessity.

References


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