

Creating Connections: A Pilot Study on an Online Community of Learners

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Abstract

This paper reports the findings from a pilot study that investigated the uses of computer-mediated communication in an educational psychology course for pre-service teachers that focused on problem-based learning via CD-ROM-based case analysis. Thirty-nine pre-service teachers and eight practicing teachers participated in the development of an online learning community in which they viewed video case studies as part of a virtual field experience component and communicated online through chat rooms and threaded discussion lists. Data sources included transcripts of chat room and threaded communication, field notes, student tasks and reflections, and exit interviews with the teachers and one student focus group. Methodology was qualitative in nature using a template organizing approach with the constant comparative method. This paper reports the findings concerning students' learning about educational psychology and teaching, students' appreciation of diverse settings, the developmental nature of the questions posed by the pre-service teachers, and the advantages and disadvantages of using the technological components in this course. Results showed that the case studies helped the students make sense of the concepts and theories being studied in class, while communication with the teachers helped the students see the practical applications of the information they were learning.

Introduction

While the process of learning to teach is a very complex enterprise, it can be equally as complex for those of us in the professional community who seek to understand how the process develops and how best to foster that development. Much research has been done on learning to teach, as well as on teacher education practices, at all levels of the teaching continuum from pre-service teacher education programs throughout the career span of the practicing teacher. Though much has been learned about this challenging process, there is still even more to learn about the development of learning to teach and what implications that may have in providing the most appropriate learning experiences in pre-service programs.

For researchers to continue to understand how and why teachers learn what they do within any educational context, from pre-service teacher education programs to professional development for practicing teachers, it is critical to investigate the meaning the teachers involved construct from their experience within it. Knowledge and skills do not exist independently of the contexts from which they are acquired; neither does learning to teach exist independently of the practice of teaching.

Past experiences have shown us that teachers have great difficulty learning theories and skills in isolated university classrooms and then applying them in future teaching situations. Cognitive psychology has posited that learning occurs when it is situated in the context of its use (Brown, Collins, & Duguid, 1989). The adoption of this Theory of Situated Cognition for practice in teacher education programs may be one way not only to situate teacher learning in the context of its use, but it may also serve to blend theory with practice enabling teachers to bridge their university experiences with their school practice in a more effective manner.

By developing an online community of learners consisting of pre-service teachers and practicing teachers, this study adopted the situative perspective of learning (Borko & Putnam, 1996) as its theoretical framework and investigated the ways in which technology may support teacher learning. This pilot project, which involved creating an online computer-mediated community of learners, hereinafter referred to as CMCL, was designed to create a field experience component to a Psychological Foundations of Education for Pre-Service Teachers course through the development of an online learning community. This community included pre-service teachers and practicing teachers communicating online and using problem-based learning via CD-ROM based case analysis to study and learn about educational psychology and teaching.

Traditionally, this course had been centered on the teaching of psychological theories for education, but had had little opportunity for the pre-service teachers to observe and participate in the practical classroom applications of the theories studied. A need for an alternative to traditional field experiences existed, as it was becoming increasingly difficult to find opportunities for field experiences for the pre-service teachers due to the flood of college students entering the local schools for student teaching, student aiding, and other teaching experiences from the various programs on campus. This project sought to provide one such alternative.

Imig and Switzer (1996) stated that by incorporating technology into a course in order to focus on an institutional objective, technology, in this way, does not become an end in and of itself, but contributes to the solution of a problem. By adopting Imig and Switzer's perspective on the use of technology in teacher education programs, this study looked at the ways in which online learning communities may enhance pre-service teachers' learning experiences.

Literature Review

Learning to teach is a developmental process continuing across the career span, involving growth and change in both the levels and the depth of understanding of students and of students' learning needs. It is important to understand the nature of teacher learning as well as the implications that has for our teacher preparation programs. By doing so, we may be able to offer the most effective learning environment possible for our newest teachers. The perspective of learning known as the situative perspective (Borko & Putnam, 1996) was adapted from the Theory of Situated Cognition and encompasses the three conceptual themes which form the basis of the conceptual framework of this study. Those themes are: 1) learning is situated in particular contexts, 2) learning is social in nature, and 3) learning is distributed across the individual, other persons, and tools.

Learning as Situated

Programs of teacher education have traditionally been based on the belief that learning to teach is a process of acquiring knowledge about teaching (Carter, 1990). More recent shifts in practice have begun to recognize the individual involved in the process of learning to teach. This shift has focused upon prior beliefs and experiences of beginning teachers by focusing on cognitions, beliefs, and the making of meaning as the desired outcomes of teacher education (Richardson, 1999). Teaching that honors this stance is less a matter of presenting factual information and ready-made knowledge, but rather consists of creating environments that support learners in their efforts to construct the knowledge in a way that is meaningful for them (Borko & Putnam, 1996). This focus on the individual in the center of the context of learning to teach also supports the idea that knowledge cannot be thought of as independent from the contexts and situations in which individuals acquire and use it (Borko & Putnam, 1996; Putnam

& Borko, 2000). This gives rise then to the question of where should teacher learning be situated? What should be the context of learning for a pre-service teacher to reap the most benefits from their professional preparation? Should the learning be situated in field-based experiences university experiences, and/or a combination of both?

Learning as Social

The sociocentric view of knowledge and learning holds that what we learn and how we think are the results of our interactions with groups of people in our culture over time (Soltis, 1981). This notion also has profound implications on understanding the powerful influence prior experiences and beliefs have on beginning teachers. They have, after all, had at least 16 to 17 years of experience in classrooms with teachers during their own educational careers and have learned throughout those interactions.

Much research has shown that novice teachers often will revert to teaching "as they were themselves taught" in spite of the teacher education programs' philosophies they most recently experienced. This may be due in large part to the isolation teachers often experience in the confines of their classroom and their daily routine. As they struggle to meet new challenges, they revert to what is most comfortable, to what they know best. It is important to consider the profound impact social situations have on learning and to continue that process throughout the pre-service preparation program and into the teaching career in order to avoid that isolation.

Lave and Wenger (1991) proposed the concept of legitimate peripheral participation, which describes a gradual involvement into a community of practice that starts out peripheral and increases in engagement and complexity over time. The implications of this for teacher education would suggest that pre-service and/or novice teacher learning be supported by a social network of more experienced others guiding them to become full participants in their community

of practice. The importance of such interactions was highlighted in a survey conducted by Smylie (1989), in which teachers reported 'consultation with other teachers' as the most effective source of learning to teach second only to 'direct experience as a teacher.'

Learning as Distributed

The idea of learning as distributed builds upon and expands the social nature of learning. Theorists assert that knowledge, rather than existing solely in the individual, is distributed across all members of a learning community, as well as across the social, cultural, and physical tools and symbols of that community (Lave, 1988). Thus, for situative theorists, the whole is literally greater than the sum of its parts. The distributive approach to learning assumes and strives for interdependence among supportive subsystems within a socio-cultural system (Converso et al, 1999).

Implications for Teacher Education

The situative perspective of learning suggests that the learner be at the center of the instructional design by honoring prior knowledge, beliefs, and the making of meaning, as well as the importance of learning environments that allow the student to problem solve and construct meaning for themselves within a social network of supportive others.

So, how can we put these practices into place in a teacher education program? What tool or method would allow us to provide collaborative experiences as well as time for reflection? How can we couple problem solving activities and time for the student to think through dilemmas on their own with apprenticeships and mentoring that guide the development of pedagogical knowledge? Development of a learning community may be one answer to all these questions. The development of an electronic learning community may advance this potential even further.

Learning in a learning community allows learning to be contextual and social, as well as distributed. Learning is individual and yet, supported. Within the technologies available to us as we enter the new millennium, exist the possibilities for a learning community that only technological advances can make possible.

This study examined the experiences of pre-service teachers who participated in such a learning community as they learned about educational psychology and teaching during an educational psychology foundations course. The research was guided by the following research questions: 1) What are the design, implementation, and management issues with the CMCL? 2) What do the participants learn? 3) How does this experience enhance the participants' learning of educational psychology? 4) How does this experience enhance the participants' learning about teaching? 5) How does this experience enhance the participants' learning about and appreciation for diverse settings?

Methodology

Thirty-nine students in one section of a Psychological Foundations of Education for Pre-Service Teachers course participated in this semester-long pilot project. The students ranged from sophomores to graduate students and consisted of seven males and 32 females. Thirteen of these students were majoring in secondary education while the majority of the class, 26 students, was majoring in Early Childhood Education. One student was not enrolled in the teacher preparation program, but was studying to work in a health-related education field.

Additional participants included eight experienced teachers from the field. Five teachers had experience at the elementary levels and three teachers had experience at the middle and high school levels. One teacher had experience working with children age 3 to adults. One teacher with elementary experience additionally held special education certification and had experience

working in special education resource positions. Two of these teachers are now graduate students working on advanced degrees, two are college professors, and four are currently still in practice. Six of the participating teachers were all currently from the local area, one teacher was from a large city on the other side of the state, and another teacher was from a rural county in a neighboring state. Years of teaching experience ranged from eight years to 27 years total teaching time.

Context

The students viewed video-based CD-ROM case studies, developed by Carl Harris Productions, in class that served as a virtual classroom field experience. These case studies included videos of teachers teaching their classes ranging from a high school physical education class to a primary multi-grade classroom to a seventh grade language arts classroom, among others. The students also communicated online via chats and threaded discussion lists with practicing teachers from various levels of public school backgrounds and experiences.

Six sessions occurred during the semester. During each case study, students were asked to complete a task related to the case that revolved around helping them focus on key components of the case as related to the topics they were studying in educational psychology. Following the viewing of the case studies, online chats and threaded discussions were held in which the students communicated with the teachers. The topics of conversations of these chats were based on the questions and concerns the students brought with them from their educational psychology course and/or the video case study they had most recently viewed.

After each cycle of activities, students were asked to complete a reflection sheet asking for their feedback and suggestions for improvement, as well as asking what they felt they learned about educational psychology and/or teaching from the experience. All chats and threads were

archived and printed for analysis and copies of all tasks and reflections were made and kept for analysis as well.

Data Collection and Analysis

Data were collected throughout the course of the semester. These data included tasks the students completed including KWL sheets and in-class assignments, reflection papers, transcripts of chats and threaded discussions, field notes, and transcripts from six teacher interviews and one student focus group.

Analysis involved a combination of the template organizing approach (Miles & Huberman, 1994) with the constant comparative method (Glaser & Straus, 1967; Merriam, 1998). According to Silverman, “Content analysis involves establishing categories and then counting the number of instances when those categories are used”(p. 122). Early categories were based on answering the research questions involved in this research. While development of these categories can be a helpful organizational tool in conducting the analysis, it is important to allow unexpected patterns in the data to be represented by developing new categories as they appear in the data. This was accomplished by further levels of analysis, such as the constant-comparative method.

A combination of the template organizing approach (Miles & Huberman, 1994) with the constant comparative method (Glaser & Straus, 1967; Merriam, 1998) was used to analyze all interviews and to locate themes in the overall data patterns. The template approach “immerses the researcher in the often massive and confusing jungle of text, with the set purpose of identifying ‘chunks’ of text so as to facilitate future data retrieval and analysis” (p 166). The template is constructed by determining categories to search for in the data that align with the purpose of answering the research questions. After the template is constructed, the constant

comparative method is used to determine patterns in the data. According to Merriam, the “constant comparative method involves comparing one segment of data with another to determine similarities and differences. Data are grouped together on a similar dimension” (p. 18). These dimensions are grouped together and are given a name so that they become a category. The objective then becomes to locate patterns in the data and arrange them in relationship to each other. Finally, triangulation was used in order to ensure accurate analysis. Multiple methods of data collection were used, as well as member checking to ensure accurate interpretation of the data.

Findings

Data were analyzed according to the following five categories: a) students’ learning about educational psychology, b) students’ learning about teaching, c) students’ learning about diverse settings, d) the developmental nature of students’ questions, and e) the advantages and disadvantages of using technology to study educational psychology and teaching.

Students’ Learning about Educational Psychology

Students had three forums in this class through which to learn about educational psychology. They experienced the professor’s lectures and class discussions, they viewed the video-based CD-ROM case studies, and they communicated with practicing teachers. Data were collected on what the participants in this study reported learning specifically from viewing the case studies and by communicating with the teachers. These data were collected from the students’ KWL tasks, the reflection tasks, and from the focus group.

Learning about educational psychology from case studies. The case studies served two purposes for the pre-service teachers. First, they clarified the concepts that were being studied in the course by serving as an example of the concept or theory under study. Several students noted

that the case studies gave life to written theory. For example, some of the students' comments included, "They made concepts clearer by showing what the theory looked like in a classroom setting," "The concepts were not so abstract when I could actually see them in a case study," "The case studies helped to reinforce ideas and theories taught in class for me," "I wasn't just reading it from a book but actually seeing a concept in a classroom," and:

The case studies allowed me to view the philosophies and concepts we have learned throughout this class and see them being put into action. It is very easy for us to read about them, but this allowed us to visualize how each works.

Secondly, they helped the students see how the concept or technique being talked about in class could be used in practice. Students were able to identify and see concepts in action such as reinforcement being used in a teacher's classroom. Some of the comments from students included, "I think the case studies allow for us to make the connection of teaching theory put into practice," "It gave me a more practical understanding to the material that we have been discussing," and finally:

With the case studies, we had the chance to OBSERVE [student's emphasis] what we learned in class and from reading the book, and watch how you can APPLY [student's emphasis] it to teaching and learning within the classroom. When you are seeing a teacher actually implement a theory or concept into everyday lessons, you realize just how vital everything is that you study, and you learn methods and collect ideas of how you can actually implement these into your own classroom. When you read it, or write notes down about it, you do not fully understand how to apply it, or what happens when you do, until viewed in one of these case studies. They have been very helpful.

The students' comments about what they learned from the case studies developed over the course of the semester from more simple statements concerning the fact that they were able to identify one of the educational psychology concepts in the video to understanding how that concept was being used by the teacher. The students' statements; therefore, appeared to indicate a progression from simple identification of concepts to understanding the application of concepts.

Learning about educational psychology from teachers. The communication with the teachers extended the discussion of the theory and/or concept by talking about the practical applications in the classroom. It allowed the students to go beyond understanding how the concept was used in the one video to how teachers work with these concepts on a daily basis and allowed them to see there were multiple ways to apply what they were learning. Many of the students seemed excited to discover that teachers, "really use what we study in class." Comments like, "It's nice to see that teachers in public schools really use things like multiple intelligences. It feels good to know that we'll really use the stuff we are learning."

In helping the students extend their understanding of practical applications of theory, the teacher chats centered on practice-based discussions. For example, in class, the students had been learning about theories of motivation. The case study they viewed that week helped the students understand more about the concept by seeing an example of how the teacher was attempting to motivate a reluctant learner. The chats and threads that week then focused on motivational concerns in the classroom. The teachers talked with the students about such things as ways to make a lesson on plants 'unboring' to second graders, ways to motivate struggling readers to want to read, and ways to encourage self-esteem. Student comments indicated that from the teacher chats that week about motivation, they learned the importance of knowing the

learner, and in making learning relevant and interesting to the learners. For example: “The teacher encouraged us to make the learning belong to the kids. Make them part of their learning,” “It is important to find ways to interest students in the topics they are studying. This could involve finding REAL WORLD [student’s emphasis] examples for them and relating subject matter to their own lives,” and this final remark from a student:

I learned (from talking with the teachers) that the concepts that we have learned in class are very important in teaching and are used in the classroom every day. The concepts are what teaching is about, they are the backbone of the profession. The connections I have made are the teachers using the information about development, management, etc. in their lessons. They know the concepts are important.

Students’ Learning about Teaching

Students’ learning about teaching stemmed from communication with the teachers through threaded discussions and chat rooms. Two main categories of student learning were determined from the data analysis: the students learned about the realities of the classroom and they made connections to theory by discussing practical applications. Chat discussions included the following major topics throughout the semester: a) engaging children in learning; b) child-centered curricula and appropriate activities; c) knowing your learners’ backgrounds, cultures, interests, needs; d) lesson planning ideas, and e) practical applications of theories and concepts discussed in class, such as development and individual differences.

One particular class discussion sparked a conversation in the chat room about grouping, multiple means of assessment, management issues, and self-esteem. As one student stated about her experience chatting with the teachers and what she learned from it:

I learned that everything is constantly changing. Teachers need to pay attention to the growth and development in their students to review their own curriculums and adjust lesson plans and topics accordingly. We definitely learned about all of the struggles that go along with teaching, like motivating all of the children, or grabbing their attention. But they also gave us tons of hints and told us how important it is to get the children's respect and to seek outside support from other teachers and faculty members. I just got more excited about the profession talking with them about it!

What is important to note, is that the complete triad of class lecture, case study, and communication with the teachers was the catalyst for overall student learning. Communication with the teachers was effective because the students had seen the classroom examples from the videos and were thus ready to extend their understanding. The students stated they were better helped by the case studies as far as gaining a firmer understanding of the psychological theory or concepts than they were by the teachers, but the discussions with the teachers had the most impact on helping them make connections and learn how to apply these concepts to a real classroom.

Appreciation of Diverse Settings

Students viewed case studies of five different classrooms. These classrooms included a high school physical education class, a primary multi-grade class doing a science lesson, a first grade class doing a morning of balanced literacy, a seventh grade persuasive writing class, and a primary ESL class. They also communicated with eight teachers of various backgrounds and expertise from small rural communities to large urban cities. The teachers were both local and from across two states. The students were thus exposed to a diversity of perspectives from the teachers as well as a diversity of experiences with different types of classrooms. The key thing

to note here is that not only did students become aware, as some truly were not, of the diversity that exists in public schools, but they also learned some strategies and understandings required of working with a diverse population. As some students noted, “It opened my eyes and I have some great ideas I can now use in my room to respect those issues better,” and “I’m more aware of just how diverse classrooms are going to be. Not just racial, ethnic, or cultural diversity, but diversity within student attitudes, abilities, and learning styles.”

The Developmental Nature of Student Questions

The nature of the type of questions the students asked changed over time, reflecting more field-based knowledge and a more global outlook on the education of children. In September, the questions the students posed were largely logistical “how to” questions that did not indicate an understanding of the importance of context in making teaching decisions. They were also largely centered on themselves as the teacher of the classroom and they exhibited concerns about how they themselves would function within the classroom. For example, student questions included: “How can I keep the class under control?” “How do you manage students at different levels?” “How do you deal with students who have never done something before?” Most of the questions the students asked at this point in the semester focused on management of classroom activities. It is also important to note that almost 20% of the students were unable to even generate a question on this first task. They could not think of anything they wanted to ask about teaching. By the end of the semester, there was no short supply of questions.

By October, the pre-service teachers’ questions became more situational. They were also more focused on the children than on themselves. Some of their questions included: “What do you do with students who are convinced they cannot do the work? How can I help them realize that they can do the work?” “How do you keep the kids who may be special ed or those who may

be gifted focused or motivated in the classroom?” “What are some of the interests the students have at this age level? What types of books are they reading? Is there a favorite author they all love?” This trend of situational questions continued into November, but the questions became more specific and they also began to bring in concerns from outside the classroom walls such as working with parents and the role children’s background experiences play in their learning.

By December, an obvious growth in the depth and breadth of their questions had taken place. The questions became more reflective, more global in nature, and they often expressed a concern or worry rather than asking a question. They were far more often focused on the concerns or needs of the children rather than on themselves, a quite dramatic shift from September. For example: “I’m so worried about children not getting taught morals and values at home. I know that I will want to teach this. I just hope I don’t step on too many toes.” “I hope that with all I have learned I will be able to create a great learning environment, one that encourages cooperation, learning, and hope for future dreams.” “I would like to learn how to reach out to children who may be quiet or shy children and how to get them to become more confident and want to be more involved in the classroom.”

Advantages and Disadvantages of Using Technology

Three main themes emerged from the data concerning the advantages of using technology to study teaching and educational psychology. They included: a) real world, not textbook examples, b) diversity of perspectives and opinions, more “voice” than is typically found in a traditional format, and c) applications, making them think about their own classroom.

Of course, one disadvantage any time technology is used is the risk one takes that it will not work or that there will be technological glitches. However, the disadvantages of using

technology in this instance mainly included the way the technology was used, not the technology itself. For example, some students felt the case studies were hard to see or hear in a large classroom. They felt the cases were fragmented and rushed and sometimes hard to make sense of. They would have liked to have spent more time on them and seen them in their entirety rather than viewing clips from them. The concerns with the chats included the difficulty in keeping up with the pace of the chat and the lack of face-to-face, personal interaction. The concerns with the pace of the chat lessened as the semester went on and as we experimented with different numbers of people in the chat rooms, narrowing it down from 20 to five. Threaded discussions were deemed much less useful than the chats by the majority of students, except to serve as options for follow-up thoughts from chats.

Conclusion

While most teacher education programs have established goals to develop technology use in their programs due to the increased use of technology in public schools as well as standards directed by NCATE and INTASC, the use of technology in teacher education has largely been limited to methods style courses in technology or to the integration of required technological components to course work such as listserv discussions, internet searches, or an equivalent technology component (Vannatta & Beyerbach, 2000). While a few attempts have been made to develop telementoring projects or online learning through chat rooms or threaded discussions, little research exists on the use of technology as a web-based tool to support distributed learning communities in pre-service teacher education. Even less research is available on the use of technology in practicing teachers' professional development.

An online learning community has the potential of supporting what research has told us is important in pre-service teacher education programs. It offers pre-service teachers the ability to

collaborate with colleagues while also providing opportunities for reflective practice. It provides a forum for the presentation and discussion of case methods based in real world dilemmas encouraging the use of problem solving abilities.

And perhaps most importantly, it offers the very unique advantage of providing to pre-service teachers a learning community that offers the highest of potential for distributed learning, with access to experienced teachers, administrators, university faculty, and a virtually endless list of possibilities for participants in such a program. As teacher education programs become more heavily invested in the use of technology and required by standards set forth by NCATE to incorporate the use of technology in courses, the opportunities, and the challenges, technology provides us with cannot be ignored.

References

- Borko, H., & Putnam, R. T. (1996). Learning to teach. In D.C. Berliner and R.C. Calfee (Eds.), *Handbook of educational psychology* (pp. 673-708). New York: Simon and Schuster Macmillan.
- Brown, J. S., Collins, A., & Duguid, P. (1989, Jan/Feb). Situated cognition and the culture of learning. *Educational Researcher*, 32-42.
- Carter, C. (1990). Teachers' knowledge and learning to teach. In W.R. Houston (Ed.), *Handbook of research on teacher education* (pp.291-310). New York: Macmillan.
- Converso, J. A., Schaffer, S. P., & Guerra, I. J. (1999). *Distributed learning environment: Major functions, implementation, and continuous improvement*, 15 p. [Online]. Available: ERIC Document ED437918
- Glaser, B. G., & Straus, A. L. (1967). *The discovery of grounded theory*. Chicago: Aldine.
- Imig, D. G. & Switzer, T. J. (1996). Changing teacher education programs: Restructuring collegiate-based teacher education. In Sikula, J. (Ed.), *Handbook of research on teacher education* (pp.213-226). New York: Simon and Schuster Macmillan.
- Lave, J. (1988). *Cognition in practice: Mind, mathematics and culture in everyday life*. Cambridge: Cambridge University Press.
- Lave, J. & Wenger, E. (1991). *Situated learning*. Cambridge: Cambridge University Press.
- Merriam, S. B. (1998). *Qualitative research and case study application in education*. San Francisco: Jossey-Bass
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded*

sourcebook. (2nd ed.) Thousand Oaks, CA: Sage

Myers, C. B. (1996). *Beyond the PDS: Schools as professional learning communities*.

Paper presented at the Annual Meeting of the American Educational Association, New York, NY, 12 pp. [Online]. Available: ERIC Document ED 400227

Richardson, V. (1999). Teacher education and the construction of meaning. In G.A.

Griffin (Ed.), *The education of teachers: The ninety-eighth yearbook of the National Society for the Study of Education* (pp.145-166). Chicago: The University of Chicago Press.

Putnam, R. T., & Borko, H. (2000). What do new views of knowledge and thinking have to say about research on teacher learning? *Educational Researcher*, 29(1), 4-15.

Silverman, D. (2001). *Interpreting qualitative data: Methods for analysing talk, text and interaction*. Thousand Oaks, CA: Sage.

Smylie, M. (1989). Teachers' views of the effectiveness of sources of learning to teach. *The Elementary School Journal*, 89(5), 543-558.

Soltis, J. F. (1981). Education and the concept of knowledge. In J.F. Soltis (Ed.), *Philosophy and education* (pp.95-113). Chicago: National Society for the Study of Education.

Vannatta, R. A., & Beyerbach, B. (2000). Facilitating a constructivist vision of technology integration among education faculty and preservice teachers. *Teaching and teacher education*, 16(5), 648-661.

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