

Making the Ideal Real

Reciprocal Mentoring for Technology Integration in Preservice Education

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### Abstract

Preservice educators struggle with ways to help students make connections between theory and practice. Although partnerships between school districts and universities established around field experiences have been the accepted norm for addressing this concern, educational technology instructors still indicate concerns over how to help their students learn about the practical aspects of educational technology. This study coupled handpicked, tech-savvy classroom teachers as mentors with sixteen preservice students from one course. The instructor's role was to establish learning events and a culture where students would develop their collaboration skills and experience collegial relationships with one another, and encourage the transfer of those skills to the mentor-mentee relationship. The instructor and the field experience director wanted to gain the perspective of the mentor-mentee experiences for the purpose of program and course improvement. Findings indicated mentors and mentees had different perspectives on some elements, and like perspectives on other elements of the experience. Overall there was an established need to help preservice teachers develop assertiveness skills as they transition from the role of student to the role of colleague. Researchers learned that even though mentors were selected for their expertise in teaching with technology, there was still a need to help them adjust socially to a situation where they were opening up their classroom to another adult and expected to play a role in the development of preservice teachers.

## **Making the Ideal Real:**

### **Reciprocal Mentoring for Technology Integration in Preservice Education**

Bullough and Gitlin (1995) propose to teacher educators that the beginning of a teacher's professional career is at the start of teacher preparation and not at the point of teacher induction. This perspective imposes a new purpose to preservice experiences. With this in mind, field experiences are a requirement for teacher preparation in most states.

In the college under investigation, the variety of teacher induction programs each offer a unique way to address the purpose of field experience, all with a common motive: to bridge theory building with real classroom practice—ultimately in support of helping preservice teachers to be role-model teachers from their first day on the job.

But instructors of educational technology are challenged with making a strong connection in their courses to practice because of a variety of barriers. Common barriers that make it difficult for instructors to connect coursework to field have included absence of vision, lack of time, inadequate access, insufficient technical support, and the “so what?” factor (Sanders, 2004). Although frustrating, in this case the obstacles were leveraged as an opportunity to instigate a new approach to the idea of field experience—one that highlights technology integration for preservice students.

Four decades of research history in teacher efficacy have affirmed that teacher beliefs are a factor in student success. Of more significance is the fact that the attitudes and beliefs established during preservice course work and field placement assignments resist change (Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998). This is a call for preservice teachers to be partnered with mentors who are veterans, and in the case of

technology integration, who are continually innovative in their teaching. Where better to stay updated with technology innovations than at the university? Perhaps preservice teachers can provide the bridge to transfer new technology tools and researched-based pedagogy into the classroom. Perhaps the mentee can help develop the practical aspects of teaching with technology. This intentional partnering of mentor with mentee in a situation where learning takes place for both parties (reciprocal mentoring) is the premise of this study.

### **Background Information**

The field experience director and an educational technology instructor initiated conversations with a local K-8 district known for its high technology use. Conversations began with the district's technology director and lead technology integration specialist and a working partnership quickly coalesced. Over the course of several meetings they discussed the possibilities of a win-win opportunity through "reciprocal mentoring" whereby student interns would be coupled with teachers in the district for students' required sixty hours of internship time over the course of a semester. All parties hypothesized that by connecting inservice teachers who were noted as experts in educational technology with first-semester preservice teachers taking an educational technology, both the mentor and the mentee would experience new learning.

During the semester that followed, the educational technology instructor was scheduled to teach multiple sections of the same course, Educational Technology in the K-12 Curriculum, to preservice teachers. Students who were registered for one particular section were coupled with mentor teachers in the partnership school district who were known for their expertise in technology integration. With the collegial relationship in

mind, the district suggested this group of sixteen preservice teachers be treated as if they were inservice teachers in the district; consequently, the district issued district-owned laptops to the preservice teachers for use during the semester that would connect to the district and the university wireless networks as well as any other network to which the student had access (e.g., home). The mentor-mentee partnerships were established with handpicked, tech-savvy teachers in the district serving as mentors to the preservice students, and by the third week of class all the preservice teachers had met their mentors, had received their laptops, and had participated in their first district inservice for orientation of the Mac operating system.

The educational technology course the students were taking at the time indirectly embraced the philosophy of reciprocal mentoring where the course requirements were purposefully and strategically designed to demand collaborative work among the preservice teachers involved, and to encourage the transfer of such skills to the field (without requiring it), with the hope that collegial convergence between mentor and mentee would occur. Hence, students' sense of professional membership, their growing sense of leadership, and their grasp of larger issues in education related to the integration of technology were learned in a collaborative fashion through coursework, and professional behaviors involving the development of professional collaboration skills were explicitly discussed, modeled, and expected for class-related activities. Without factors of accountability, the same behaviors were encouraged during mentor-mentee interactions in the field through the instructor's direct involvement with mentees. The instructor did not have interactions with the mentors over the course of the semester.

### **Purpose & Objectives**

The goal of this study was to examine the effects of the semester-long relationships between the mentors and mentees during the students' sixty-hour field experience requirement. The following points of inquiry guided the study:

- 1) What was the field experience like for the preservice teachers?
- 2) What was the field experience like for the mentor teachers?

It was the intention of the Field Experience Director and the instructor of the course to work together throughout this investigation for the purpose of informing improvements to the field experience and/or course requirements and procedures in order to maximize the effect of the theory-to-practice aspect of field experience.

### **Perspective**

#### ***Achieving Expert Status with Technology***

Teacher preparation programs are challenged to: (1) accommodate the current skillset of preservice teachers who, at varying levels, are underexposed to technology tools and uses, while assuring minimal technology competencies upon exit from their courses (Albee, 2003); (2) prepare preservice teachers to use the wide and changing range of technologies supportive to their curricular area (Flores, Knaupp, Middleton, & Staley, 2002; Hughes, 2004); and (3) instill a driving desire in preservice students to stay updated with respect to technology and its meaningful integration in their future classrooms (Williams, Foulger, Wetzel, in press). Forward-thinking programs should offer technology integration content to students in a way that “fosters among the students a sense of ownership for their learning...as both protagonists and authors of knowledge-

building activities rather than simply as conscripted information-processors with regard to the ideas of acknowledged experts in the field” (Ball & Wells, 2006, p. 192).

Claiming technology expertise in education means becoming an expert in areas of technology, pedagogy, and content (TPACK) (Koehler & Mishra, in press). In essence, a teacher who professes to be skilled with technology integration finds creative ways to stay updated with new technologies; learn about, make judgments, and adopt pedagogical styles that maximize the benefits of new technologies; and tinker to perfect their teaching through the interrelated ways technology and pedagogy and content can combine to increase students’ abilities to learn and apply coursework. In technology integration, staying updated is a large responsibility—but one that can more efficiently be accomplished by embracing a collective intelligence (Surowiecki, 2004) through tapping into the expertise of colleagues.

### ***Expert-Novice Relationships and Reciprocal Mentoring***

The innovative approach to the coordination of field experience embraced by this study was grounded in a philosophy for professional development based on reciprocal mentoring (Wink & Putney, 2002). In reciprocal mentoring, the role of mentor and mentee is blurred or sometimes reversed, especially in circumstances where mutual respect is established, even across generations (Salkowitz, 2008). Through reciprocal mentoring veteran teachers share their practical know-how, while preservice mentees share the latest developments in theory, research, and research-based strategies as gained from their coursework. This mentoring model can be largely flexible and based on situational needs, which may be particularly relevant in technology arenas where novice and expert roles can change, depending on the particular context at hand (Wenger, 1998).

### **Research Methods**

During their first semester in a certification program, sixteen students who were all taking the same educational technology course were provided mobile technology (laptops) compatible with district and university networks, all placed in the same technology-rich district, and all assigned to hand-picked mentors who were deemed as experts in teaching with technology by the district's lead educational technology trainer. Their instructor had taught this same course for many years, and continually sought to update the content and refine the pedagogy. This particular semester the instructor wanted to focus course improvements on helping the students make practical connections between theory and practice through focus on the sixty hours field experience in which the students were required to participate.

As the instructor was not able to conduct first-hand observations of the day-to-day activities of students and their mentors in the field, a case study (Stake, 1995) involving end-of-semester debriefings and in-depth interviews would help the instructor and the field experience director acquire understanding of the unique experiences of mentor-mentee relationships. Of course, the grander purpose of the inquiry was to inform program and course improvements in terms of enhancing the theory-to-practice opportunities.

It is important to note there was no additional assignments provided, no major changes in curriculum, and the pedagogical approach did not change in comparison to how the course was normally taught. Taking on the standard approach to this course, collaborative activities were woven into some components of the coursework through a pedagogical style that: 1) required a collaborative component for all major projects, 2)

promoted face-to-face collaboration and the use of online collaborative technology tools, and 3) highlighted any apparent positive effects of students working in a collegial fashion with one another, with their instructor, and/or with their mentor. The only unique feature of this course was the icebreaker at the beginning of the semester whereby students learned to introduce themselves using eye contact and a strong handshake. A brief conversation followed about how to present oneself in the field as a teacher, not as a student, and the instructor and the field experience director shared the types of attitudes that would be most beneficial to reciprocal relationships between mentor and mentee.

### ***Course Data***

Normal coursework activities provided artifacts throughout the semester as a way to capture the events and experiences of the students. These included discussion board posts, emails, assignments, projects, reflections, quizzes, etc. as well as instructor observations of class meetings and conversations. There was no contact between the instructor or field experience director and the mentors until the semester ended.

***Participant Experiences.*** At the end of the semester separate debriefing discussions were held with mentor and mentee groups. These sessions were co-conducted by the course instructor and the field experience director. During each meeting a series of questions were asked of both groups, with allowances for probing and conversation by the participants. It was appropriate to ask some questions of both mentors and mentees, which allowed researchers to compare perspectives. Questions asked of both groups included: 1) At the beginning of the semester, what general outcomes (not necessarily technology related) were you hoping to get from the experience? 2) What outcomes

actually occurred for you? 3) List three 3-5 effective ideas about teaching or teaching strategies that you learned from your experience?

Additionally, the students were asked if they would recommend this program to other students and to explain their reasoning. Since the instructor had a good rapport with the students, responses to the three questions quickly turned into conversational dialogue. This effect, coupled with some probing by the instructor, led to all participants responding to each question. The session was approximately forty-five minutes in length and was audio taped and transcribed for qualitative analysis. Even though school district's Technology Trainer observed the session, she did not contribute and the candid responses from the students led researchers to believe her presence did not inhibit students from providing honest contributions.

To understand the experience of the mentor teachers, an after school meeting was called. Ten mentor teachers attended, which accounted for eleven of the sixteen partnerships, as one teacher served as a mentor to two students. Because there was no pre-established relationship between the mentor teachers and the course instructor or field experience director, the discussion began by the instructor asking teachers to respond to each question in writing. With written responses in front of them, the mentors were then asked to discuss their responses to questions, one at a time, and to add to their written response if conversations led to further thoughts. In addition to the three questions asked of the mentees (listed above), the mentor teachers were asked the following questions: 1) What day(s) of the week did your mentor work with you? 2) Why did you participate in this project? 3) Did you have the opportunity to share any resources, information, or teaching practices with your mentee? If so, what sharing occurred and what instigated

that sharing? 4) What elements of the technology course do you think your mentee saw represented in your field experience? 5) Would you recommend being a mentor to other technology-using teachers in the district? Why or why not? All mentor teachers responded to each question.

### ***Data Analysis***

Researchers used transcriptions of both debriefing meetings and hand-written notes prepared by the mentors during their meeting in qualitative analysis using a grounded theory approach (Strauss & Corbin, 1990) to determine the aspects of the experiences of the mentors and mentees that were relevant to the goal of the study—to inform the improvement of the field experience opportunity. During the open coding phase separate coding schemes were developed for the mentor and mentee datasets and the properties for each code were defined. Next, during axial coding, relationships between the coding categories were determined through a mind-mapping technique that involved both the mentor and mentee coding schemes. During the selective coding phase codes were arranged in a way that developed a storyline, and other types data sources (e.g., course artifacts, instructor and field experience director’s notes, etc.) were used to validate the relationships among the codes. Researchers were confident that the final codes represented multiple forms of overlapping, diverse pieces of evidence and perspectives (e.g., Gay, Mills & Airasian, 2009) of the mentor and mentee experiences, and would help them achieve the goal of gaining practical insight about course and program improvements.

## Findings

### *Insights from Students*

It was clear to the researchers that the experiences were diverse and uniquely different in a variety of ways. The following depicts themes that represented relevant experiences and insights reported from students.

***Discipline of students.*** One student who was actively involved in the classroom with the teaching and learning circumstances expressed struggles with discipline. Another student also felt this way, and expressed that her mentor teacher appreciated her presence as indicated by the fact that she logged over 90 hours in the classroom. But she stated mixed feelings that her mentor “really liked me there, but then I kind of felt like I was (the students’) friend. But that was my bad because I didn’t get them in trouble because I didn’t discipline enough. (My mentor teacher) was like, ‘You’re way to lenient.’” On the other hand, two students who attempted to use discipline strategies felt awkward about their responsibilities, and one felt her mentor teacher was critical of her approach. The majority of the students agreed that there were mixed messages about their role in disciplining the students, and even if they were told to discipline. They felt their mentors were critical of the way they carried out disciplinary acts.

***Being in charge.*** One student had a very positive experience with teaching and disciplining, and attributed this to the mentor teacher publically expressing to the students that “‘Ms. Lisa is in charge,’ and ‘Ms. Lisa says.’” And another student discussed working in a computer lab, which allowed her to teach the same lesson several times to different groups of students, but with modifications per the given grade level. Her mentor teacher took extra time to help her use the school’s lesson plan template to get the

experience of writing out lesson plans. Her mentor, she realized, was going above and beyond her responsibilities, but both parties were willing to accomplish this extended task. A third student talked about how her mentor teacher “built me up and increased my confidence.” She explained this happened by the mentor teacher increasing the teaching responsibilities throughout the semester. Two other students noted the risk-taking encouraged by their mentor teacher, and their ability to “welcome me with open arms” and make them feel a part of the classroom functions.

*Assertiveness.* Students expressed struggles with being assertive with their mentor teachers. One student spent a good portion of her time in the classroom as a sideline observer. This student felt that the teacher already had plans made and was not sure of how to allow the student to help. According to the student, her mentor used passive phrases such as “Would you mind doing this,” or “Is it OK with you if...” in order to instigate action. She did not feel that she was able to accomplish the minimal expectations of the field experience that semester. Another student noted a similar circumstance:

“My mentor teacher, I was kind of upset, because she never introduced me to the kids. And the last day (when) I left the kids still didn’t know who I was. It was kind of hard to talk to them. I was kind of like...she didn’t want to let me help. I would offer and ask and she would say no. I think she thought I was there for more strictly observation...I never got to work with her.

A third student had the same feelings, but thought her mentor was protecting her from participating in the classroom. This student had already established a goal for herself to

meet with her next semester's mentor teacher before the semester begins. Another student justified her limited involvement in classroom activities:

(My mentor teacher) didn't want me to almost ruin it. She didn't want me in her world at all. She didn't introduce me to other teachers, or to other students. She had me sit in the back and she told her kids I was invisible. I tried to be assertive and do what I could, but she made up lessons just for me to do. They were just for me and didn't build on anything they were doing at the time so I wouldn't mess up anything she was doing with them.”

***Evaluation fears.*** Many students expressed frustration over the program's requirement for field experience evaluation using an instrument that assesses their performance of the state's Teaching Standards. The evaluation is conducted at mid-semester and again at the end of the semester to provide students with feedback from their mentor. Some students indicated they were graded down in some areas on the instrument, but were not sure of the justifications for low scores. Given the field experience opportunity is a pass/fail requirement, the students did not feel overly concerned about continuation in the program; but students did feel that their needs for feedback on their teaching were not met.

***Future implications of lessons learned.*** At the end of the debriefing conversation, students were asked to state goals for field experience. The following were cited two or more times as goals for students' next mentee/mentor experience, which was to take place the following semester:

- Thoroughly explain the handbook and expectations (communication)
- Be more assertive (assertiveness)

- Be more actively involved and in charge (engagement)

Other goals mentioned included students' need to be more organized, open-minded, and to better address issues of balance.

### ***Insights from Mentors***

***Capable students.*** Mentors were very complimentary about the knowledge of the students. They spoke of the level of confidence and willingness in the students to participate in the classroom operations. More than that, they noted the differences in students from the beginning of the semester to the end. One mentee admitted struggling with how to provide appropriate mentoring experiences and in the end noted the sophistication of thought and behavior of his mentor as he stated, "I had to be reminded that this was not a student teacher."

***Automaticity.*** Mentors also discussed the automaticity of their work and the intuitive nature of veterans to modify their behavior while in action. They noted for researchers that sometimes when they had a mentee they had to step back and think about ways to help students understand the thought processes behind their actions. They expressed that as teachers in the classroom they participated in multi-tasking and frequently made snap decisions. They realized their teaching behavior was difficult for them to make transparent and visible to their mentees, which caused a circumstance where they were forced to examine what they did, how they did it, whether or not their practices were sound, and how their behaviors fit with their teaching philosophy.

***Roles and responsibilities.*** Mentors expressed limited understanding about their roles and responsibilities. Although they received a mentor handbook with this information, at the end of the semester when the group discussion took place they were

unclear about the commitments requested through the university. Along those same lines, mentors were not clear on how time commitments were to be handled. Mentors also expressed concern about not having uninterrupted time for thoughtful conversation with mentees for debriefing and general dialogue about the profession. They suggested in the future that mentors and mentees schedule ahead for these types of conversations.

*Future implications of lessons learned.* Through the end-of-semester group discussion, mentor teachers had realizations about different ways to handle their mentor responsibilities, and others simply came to realize what their responsibilities were.

### **Implications**

Analysis revealed both positive and negative aspects of preservice students' and mentor teachers' experiences in technology-rich classrooms. When looking closely at the negative aspects of the experiences, there appeared to be a deficit in assertiveness and proactive communication skills, and an unclear definition of roles and responsibilities among participants. These professional attributes and dispositions are taught indirectly in our program and since they are developed over time we expect them to be weakest during the first semester students are in our program. Pertaining to the mentor teachers' contributions to these problems, we also realized that we offered no particular professional development for mentor teachers about their roles, responsibilities, and most useful and appropriate behaviors. These deficits contributed to flawed learning circumstances that were to the detriment of students' capabilities to work collaboratively as teachers.

This finding has important implications for teacher education programs that are seeking to support the development of teacher-leaders whose pathways involves staying

updated in dynamic aspects of teaching such as technology integration. University coursework is required to be aligned to state and national standards, and in the state where this investigation took place, one of the indicators of success are collaboration skills (i.e., performance indicators include collaborates with other professionals and agencies to improve the overall learning environment for students, demonstrates productive leadership and team membership skills that facilitate the development of mutually beneficial goals, and collaborates with colleagues to achieve school and district goals). However, this standard is not assigned to any one course, and a developmental approach has not been adopted.

### **Conclusions**

This study intended to help preservice teachers become better practitioners by exposing them to technology-rich educational environments and connecting them with mentors through initial field experiences who were tech-savvy teachers. In doing so the instructor asked preservice teacher to take on the mindset of a professional teacher—by participating in a collegial relationship where the role of mentor and mentee was not defined by experience, but on the knowledge required at the moment, and could be reversed at any point in time. But in some cases the request for reciprocal mentoring was a failure. This was not due to the amount or type of knowledge the mentor teachers held, or to the amount or type of knowledge the preservice teachers brought with them from their coursework—but to the limitations of some of the individuals to grapple with the social requirements involved in these types of exchanges.

It is becoming increasingly difficult to define “expertise” among teachers. If expertise is viewed as specific to a particular situation, it can no longer be a label applied

to the person, but to the individual *who holds expertise* within at that moment. The prerequisite skills to engaging in these types of collegial exchanges are collaboration and other related social skills. Perhaps it is the role of institutions granting certification to aid students in this aspect of their development.

With this insight, if instructors of preservice students create situations where students learn new technologies and legitimately participate in technology-rich schools, they may be deemed as “experts” on school campuses—especially where they are welcomed as such and feel empowered to participate in collaborative mentor-mentee relationships with expert teachers. The ability to participate legitimately from their first preservice experience in the classroom could put teachers in training on a rich learning adventure—as professionals from day one who have the potential to accelerate their professional development and carry themselves to places they cannot imagine.

Not unlike the continuum of development for K-12 students, preservice teachers are moving along a developmental curve of collaboration and collegiality. The most appropriate role of institutions may be to embrace a developmental perspective of preparation. Should this occur, the preservice teacher will then be on a pathway to induction into leadership rather induction into teaching. As graduates they will have created within themselves the skills for collaboration, collegiality, and consensus building. These behaviors are at the heart of reform that schools so need now.

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