

## Learning to Teach a Blended Course in a Teacher Preparation Program

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### Abstract

Teacher preparation programs have provided blended courses (a combination of online and face-to-face learning) for their students because of their availability and their convenience. Researchers need to understand how teacher educators perceive blended courses when they teach teacher candidates, because teacher preparation programs have different features than other higher education programs have. This qualitative study examined one instructor's activities and her perceptions of a blended course in a teacher preparation program for one semester. Data included classroom and online observations, weekly interviews after face-to-face classes, and a final interview at the end of the semester. The results indicated that the instructor saw her roles primarily as pedagogical, managerial, social, and technical. The instructor also saw herself taking on additional roles in the blended environment. This study suggests that ongoing support from cohorts and institutions is necessary for instructors who implement new blended approaches.

Online and blended learning (the combination of face-to-face and online learning) approaches have become popular in higher education because they are effective for reducing costs, distributing quality education, and solving distance problems (Allen & Seaman, 2007). A blended learning approach is especially regarded as an important method because it reduces some limitations typical of online learning, such as separation, isolation, and estrangement among members; limited feedback; and lack of responsibility among students (Dziuban, Hartman, & Moskal, 2004; Lock, 2006).

The U.S. Department of Education sponsored a meta-analysis of online learning studies published between 1996 and 2008 (Means, Toyama, Murphy, Bakia, & Jones, 2009). The findings suggest that “Instruction combining online and face-to-face elements had a larger advantage relative to purely face-to-face instruction than did purely online instruction” (p. xv). Many researchers also have reported that blended learning is more effective than fully face-to-face or online learning in terms of students’ satisfaction and faculties’ responses (Dziuban et al., 2004; Wingard, 2004), flexibility with regard to time and location, ease of using resources, increase of interactions (Lock, 2006), and effectiveness of interaction between students and instructors (Chamberlin & Moon, 2005).

Even though considerable research has documented the advantages of online and blended learning in higher education, empirical studies of the blended learning approach in teacher education fields are relatively limited (c.f. Collopy & Arnold, 2009; Means et al., 2009; Wang, 2008). As Saunders and Werner (2002) indicated, teacher candidates and subject matter can influence the effectiveness of a blended approach. Researchers need to consider the features of teacher education programs, such as teacher candidates’ field experiences, interaction with K-12 students, and communication with in-service teachers.

Keengwe and Kang (2012) conducted a literature review related to a blended approach in teacher preparation programs. They reported on research showing that the blended approach is effective for improving teacher candidates’ competence (Collopy & Arnold, 2009), achievements (El-Deghaidy & Nouby, 2008), and professional knowledge (Turvey, 2010).

Although current research on teacher preparation programs has focused on designing blended learning experiences, evaluating the improvement of students’ content knowledge and satisfaction, and developing online learning tools, few published studies have examined instructors’ perspectives on using blended learning in teacher preparation programs. Some researchers have reported the perspectives of instructors who are designing and implementing blended courses in higher education (Mortera-Gutierrez, 2006; Oh & Park, 2009; & Ocak, 2011).

In order to understand instructors’ perceptions of and their practices in a blended course, this case study examined the perceptions of one instructor who used a blended learning approach in a teacher preparation program for one semester, focusing on her experiences with the blended approach. Instructors’ role framework and activity theory were used as theoretical frameworks, because they are useful for understanding how the instructor perceived and developed her perceptions of a blended approach in practice.

### **Blended Learning and Teacher Preparation Programs**

The Sloan Consortium (Allen et al. 2007) referred to blended instruction as a course combining online and face-to-face learning, where 30-79% of the content is delivered online. In this study, blended learning was examined in a course that combined online and face-to-face learning and that involved the systematic combination of face-to-face and technologically mediated interaction between students, teachers, and learning resources. Blended learning, which ideally adopts the best practices of face-to-face and online approaches, shows some particular features in teacher preparation programs.

First, many researchers have examined how online learning extends and complements face-to-face learning. For example, in one study, researchers examined how teacher

candidates used online sessions for continuing their learning beyond face-to-face sessions (Keengwe & Kang, 2012). In their literature review, Keengwe and Kang found only three studies that examined replacing face-to-face meetings with online modules (Collopy & Arnold, 2009; Khine & Lourdusamy, 2003; H. Lin, 2008). Instead of providing assignments or discussion opportunities online, these three studies showed that researchers structured online modules to enable teacher candidates to learn by themselves without meeting face-to-face. Khine and Lourdusamy (2003) discovered that teacher candidates were satisfied with the blended approach, because online modules saved them time from having to meet face-to-face and also provided them with opportunities to improve their knowledge by themselves. These three studies showed that these blended courses improved teacher candidates' positive attitudes toward the approach and enhanced their knowledge and skills from using online modules.

Second, many researchers have used constructivism and social constructivism perspectives as their theoretical frameworks to study technology integration and use (Keengwe & Kang, 2012). Some researchers have used blended theoretical perspectives, combining constructivism or social constructivism and other perspectives, such as collaborative learning (Collopy & Arnold, 2010; H. Lin, 2008), experiential learning (Compton, Davis, & Correia, 2010), and learning communities (Gao, 2010; Yeh, 2010).

Collopy and Arnold (2010) organized online course work by incorporating social experience through cooperative learning. Through teamwork, teacher candidates interacted and learned from each other. H. Lin (2008) redesigned a course and used three online modules for focusing on technology integration. From students' feedback, she found that online activities, as well as face-to-face activities, supported collaborative learning.

Compton et al. (2010) aimed to connect teacher candidates' early field experiences to their teaching experiences. They found that experiential learning helped teacher candidates "to reflect and analyze their field experiences and compare their personal histories with new information gathered during the field experiences" (p. 315). Compton et al. discovered that hands-on experiential learning influenced positive outcomes regarding the perceptions of virtual schooling. Combining various perspectives could be helpful for understanding a blended approach and participants' perceptions of the approach.

Third, while many researchers have reported on the effectiveness of a blended approach in terms of the teacher candidates' perspective, few studies have addressed instructors' experiences in blended courses in teacher preparation programs (Keengwe & Kang, 2012). Some studies have examined instructors' perspectives in other higher education programs (Dziuban et al., 2004; Oh & Park, 2009; Woods, Baker, & Hopper, 2004). These researchers described instructors' attitudes about a blended approach and their perceptions of best blended learning environments through surveys and interviews.

Oh and Park (2009) examined faculties who teach blended courses and found that most faculty members had positive attitudes toward a blended approach, because it helped improve their instructional qualities. They argued that "there is a critical need for institutions to change their support systems" for instructors (p. 340), such as giving incentives for extra workloads, providing instructional support, and aligning instructors' evaluation systems with institutional goals. Based on these findings, this study adopted two theoretical perspectives as frameworks to study an instructor's perceptions and experiences in a blended course: instructor role framework and activity theory. The next section explains why these two perspectives were chosen for this study.

## **Conceptual Framework**

### **Instructor Role Framework**

Researchers have emphasized instructors' roles in online environments because they influence the success of online learning approaches (Liu, Bonk, Magjuka, Lee, & Su, 2005; Oh & Park, 2009; Woods et al., 2004). Berge (1995) categorized the roles of instructor into four areas: pedagogical, social, managerial, and technical. Pedagogical roles include designing educational practice, giving feedback, and providing opportunities for students to build and share knowledge and skills through interactive discussion. Social roles are to build social rapport, establish a learning community, and support interactions among students and instructors. Managerial roles are to manage the classroom, coordinate tasks, and supervise online discussion. Technical roles are to show students how to use technology and to support their learning with technologies.

As new technologies and learning environments emerge, Berge (2008) indicated that instructors' roles need to be reconsidered: "These new dimensions of the learning environment... led to a demand for different instructors' roles within different learning environments" (p. 407). Blended learning environments require instructors to engage in new activities (Howell, Saba, Lindsay, & Williams, 2004; Kaleta et al., 2007), such as integrating online and face-to-face activities and redesigning course structure.

Even though their purposes were not to examine instructors' perspectives on blended approaches, several researchers have proposed new instructors' roles in a blended course in teacher preparation programs, such as redesigning courses and integrating classroom activities to field experience (Collopy & Arnold, 2009; Compton et al., 2010; El-Deghaidy & Nouby, 2008; Gao, 2010; Khine & Lourdusamy, 2003). Collopy and Arnold (2009) redesigned a course and developed four online modules that had a similar format (introduction, review, providing new activity, examples, and discussion). They provided these online modules for teacher candidates to focus on "the tasks, team structures, or online technology" (p. 90). They found that the groups using online modules had higher satisfaction than those in online-only groups. Compton et al. (2010) used virtual early experiences in their online module for teacher candidates. Through this virtual experience, the authors reported, teacher candidates connected their virtual field experiences to K-12 classroom settings.

Another theoretical perspective is helpful for understanding instructors' activities in a blended course. Many researchers believe that activity theory is useful for interpreting people's activities and perceptions of their environmental context (Jonassen & Rohrer-Murphy, 1999). The next section will talk about the rationale for using activity theory in this study.

### **Activity Theory**

Activity theory has been used as a theoretical and an analytical framework for examining the design and development of technology-supported courses, human-computer interaction, and online and blended learning communities (Kaptelinin, 1996; Karasavvids, 2009). Kaptelinin (1996) argued that examining students' motives, goals, and the status of their behaviors helps program designers understand and predict changes in students' behavior in various situations. He showed how activity theory was used to design technology-enhanced courses, and he concluded that activity theory "would enable designers to achieve appropriate design solutions, especially during the early phase of design" (p. 113). Engestrom (2001) constructed an activity system

framework made up of six components (subject, object, tools, communities, rules, and division of labor/role), which work together to influence participants' activities.

By using activity system as a conceptual framework, many researchers have analyzed participants' activities and the relationships among the components of an activity system. In blended courses, instructors implement tools, communities, rules, and division of labor (role) by combinations of face-to-face and online activities to achieve course objectives. These components also impact instructors' activities and their roles.

In summary, Keengwe and Kang (2012)'s literature review first showed that researchers need to study instructors' perceptions of blended courses in relation to their experiences in teacher preparation programs to learn about the potential benefits of the approach. Second, their review underscored the need to understand the role of instructors in these activities to understand how instructors perceive and construct their perceptions of a new blended course. Third, their review underscored the need to examine the roles of instructors' in their blended activities within the activity system of a blended course in order to understand how instructors perceive and construct their perceptions of a new blended course. Using observation and interview research approaches, this study sought to answer the following research questions:

- How did the instructor perceive her roles and activities in implementing a blended course?
- What did the instructor perceive as the blended approach's benefits and challenges?

## **Research Design**

### **Institutional Context**

Beginning one fall semester, several sections of an internship program course were transitioned from a face-to-face to a blended course format. The participant's course took place in the internship year of an elementary teacher preparation program for preservice teachers who had completed a baccalaureate degree and wanted to earn their teaching certificate. During this academic year, all intern teachers took three courses each semester, and the program had eight sections with 20-25 students in each section.

These intern teachers met all professional standards for the internship year as specified by the school of education at a midwestern US university. They finished three required courses in the fall semester (an internship seminar and literacy and math methods courses), and they took three more courses in the spring semester. All intern teachers experienced one blended course during the fall semester (seven face-to-face sessions and three online sessions), and the spring semester was the second time for them to take a blended online course. All intern teachers were assigned to an elementary or secondary school and they worked with their mentor teachers for 1 year. For 4 days, they were in their schools and came to university on the fifth day to take the three courses each semester.

### **Subject**

One instructor, Kate (pseudonym) was selected by using purposeful sampling strategies. Merriam (1998) explained that purposeful sampling strategies are effective when researchers want to "discover, understand, and gain insight and therefore must select a sample from which the most can be learned" (p. 61). Kate was one of eight instructors

who teach an advanced social studies methods course during the spring semester, when this study was conducted.

In selecting the participant key questions were posed, such as, “Does the instructor have blended or online teaching experience?” “Is the instructor currently teaching a blended course?” and “Does the instructor have K-12 teaching experiences?” After contacting possible instructors, Kate was selected because she had been teaching intern teachers with a blended approach for 1 year. She had worked as a field instructor in this program for 3 years and started teaching intern teachers in the internship program the year before this study took place. She also had 10 years of K-12 teaching experiences. Thus, she was selected on the basis of her experience in the K-12 classroom and in the program as well as her experience with online learning.

### **Data Collection**

Data collection methods included four face-to-face classroom observations, four online session’s observations, weekly interviews, and a final interview.

**Classroom Observations.** To prepare for four face-to-face classroom and three online observations, a weekly observation protocol was redesigned using Mwanza’s (2002) Eight-Step-Model. Mwanza constructed the Eight-Step-Model to identify the factors that influence participants’ activities. The eight questions are as follows:

- What are the main activities?
- What are the activities’ purposes?
- Who did the activities?
- What resources did they use?
- What are the participants’ roles?
- What rules existed in the classroom?
- What did the learning community do?
- What were the expected outcomes?

Based on this weekly observation protocol, Kate’s roles and activities were examined and documented in field notes. The field notes documenting Kate’s teaching were written during the face-to-face teaching periods. After writing the field notes, some questions were added based on the field notes to the weekly interview questions for Kate. By using the weekly observation protocol, four online sessions were examined during weeks 2, 6, 9, and 10.

**Weekly Interviews.** After each class, semistructured interviews were conducted using the questions derived from the Eight-Step-Model. The interview questions included the eight questions of the weekly observation protocol, questions about how to connect online and face-to-face activities, and questions on how to solve the unexpected outcomes in class. For example, in session 7, Kate found that one of her intern teachers had experienced some struggles with her mentor teacher. Kate discussed the intern teacher’s experiences with other intern teachers.

After that class, some questions related to Kate’s responses were added, such as “How do you support intern teachers who have problems with mentor teachers?” and “When you do not have any meetings with intern teachers, how do you know their concerns?” These questions were not in the original semistructured interviews, but whenever some interesting issues happened in class, additional interview questions were added.

Interviews with Kate were conducted four times after class for 30 minutes. All interviews were audio recorded digitally. Face-to-face weekly interviews included some questions related to online observations.

**Final interview.** The third approach for collecting data was a semistructured interview to compare and clarify other data, such as weekly interviews and field notes, in depth. The interview was implemented at the end of the semester and audio recorded digitally. This interview supplemented my description of Kate's perceptions of and practices in a blended course. While the weekly interviews focused on Kate's activities, the final interview focused on her whole experience with the blended approach, the changes in her perceptions of a blended course, and her successful and challenging experiences.

### **Data Analysis**

This qualitative study used interpretational analysis because it allows researchers to "find constructs, themes, and patterns that can be used to describe and explain the phenomenon being used" (Gall, Borg, & Gall, 1996, p. 466). This study investigated the activities of one instructor in a blended course and tried to find some patterns and themes to explain her perceptions of her roles in a blended course. Gall et al. pointed out that developing a set of categories helps researchers collect data more effectively. Therefore, six categories were constructed based on the components of activity systems (subject, object, tools, community, rules, and division of labor/role).

Upon the completion of data collection, all field notes and interviews were transcribed, the transcripts were read, and data were analyzed related to the six components. During the process, I paid attention to emerging themes that were not described among the six components. After repeating the process of analyzing relevant data, Kate's activities in her face-to-face and online sessions and Kate's responses from the weekly and final interviews were recoded from the field notes.

Through this analysis, I categorized the contents into six components. After categorizing all the data, some patterns were found in Kate's perspective. Within an activity system, Kate (the subject) was related to the other four components (i.e., tool, rule, role, and community) to achieve the course objectives. Therefore, this study connected Berge (1995)'s instructor roles to the four components in an activity system framework (Engestrom, 2001) in order to examine the study's research questions.

### **Validity and Reliability**

Gall et al. (1996) argued that triangulation is the process of using multiple data collection methods and data sources to improve the validity of case study findings. I used field observations, weekly interviews, and a final interview as data sources. I examined Kate's teaching experiences in a blended course using a weekly observation protocol. At the end of the lesson, I followed up by interviewing Kate, using my observation field notes to find out more about how Kate made sense of the experience. At the end of the semester, a final interview with Kate was conducted. The final interview showed how Kate developed her perceptions of the blended approach during one semester. To improve the validity of this study I quote Kate directly to convey her responses as accurately as possible.

### **Limitations**

This study has some limitations, primarily observing only one instructor who teaches elementary intern teachers in one type of teacher education program (an internship

program); thus, it does not represent other instructors who teach blended courses, secondary intern teachers, or traditional teacher preparation programs. The findings of this study are descriptive because this study intended to describe one instructor's perceptions of a blended approach in a teacher preparation program.

## Results

### Kate's Perceptions of Her Roles

Kate's activities were examined to determine how she perceived her roles in a blended course. A blended course is an activity system, consisting of six related components. Table 1 shows how Kate perceived her roles as a blended course activity system.

**Table 1**  
Kate's Roles in a Blended Course Activity System

<b>Activity System Components [a]</b>	<b>Berge's (1995) Instructor' Roles</b>	<b>Description of Roles in a Blended Course</b>
Role (Division of labor)	Pedagogical role	(a) Redesign course structure, (b) connect classroom activities to interns' field experiences, (c) differentiate activities, and (d) balance facilitators' roles.
Rule	Managerial role	(a) Provide interns with clear instructions and experience of online module and (b) manage face-to-face and online activities.
Community	Social role	(a) Create social rapport and learning community, (b) sustain learning community, and (c) connect the communities to field experiences.
Tool	Technical role	Provide opportunities to use technology.
[a] Other components of activity system: subject: Kate & the intern teachers, object: course goals.		

In this study, each component is defined as follows: "Subject" refers to Kate and interns; "Object" refers to the purpose of the blended course, which focuses on interns' professional roles and teaching practices in social studies; "Tools" refers to pedagogical strategies, classroom resources, and the course management system (Angel); "Community" refers to people who share the same goals, rules, and roles. This course had online and face-to-face communities consisting of Kate and the interns; "Rules" refers to implicit and explicit expectations community members should follow; and "Division of labor" refers to Kate's and the interns' roles. After identifying these components, I connected these components to her four roles and described how Kate implemented these roles.

**Kate's Perceptions of Her Pedagogical Roles.** In the blended environment, Kate reported that her pedagogical roles were (a) modifying course structure, (b) integrating online and face-to-face activities, and (c) differentiating students' learning styles. First, Kate perceived that she needed to be flexible on course content, scheduling, and activities according to her reflections and her students' responses during the course. Kate said that when she planned to do a "unit plan assignment" she designed an online module session



to replace a face-to-face session. Kate said that “it [unit plan assignment] was so dense that if I’m lecturing through the...six parts to that assignment...in a room together people may or may not be interested in hearing me walk through this.”

After finishing the activities, she shared her reflections: “I used the virtual environment to introduce that assignment and articulate the different components of the unit plan that then was supported by in-class workshops.” However, she found that intern teachers did not understand the online module clearly. Therefore, she provided online discussion for the intern teachers to discuss their topics, and she contacted them through e-mail and telephone to support them.

She also used some time in their face-to-face sessions for clarifying their assignments. Kate said that she often revised her instructions, even though it was not an easy job for her. Kate said that a blended approach is more flexible than other approaches, because she can modify course structure during a blended course.

Second, Kate reported that her roles were to integrate online activities with classroom activities and vice versa. For example, in the first session, Kate introduced integrated curriculum methods and provided work sessions for intern teachers to think about their assignments. She designed an online module (the second session) for intern teachers to integrate their assignments with the online module without attending school. In the third session, she provided classroom activities for the intern teachers to integrate their assignments in class, such as reviewing their unit plans and discussing their problems.

Kate said that either online or face-to-face sessions should be integrated without disconnection; thus, instructors need to guide intern teachers to integrate their activities in both environments. Another example was integrating an assignment of “watching videos online” with discussion activities in class. Kate asked the interns to download and watch “Misunderstood Minds” online. She said that the activity was for helping interns design a “special education fact sheet” which studies special education cases. In session seven, Kate provided opportunities for the interns to discuss the movie and their special education fact sheet. Even though the interns did not have opportunities to share their opinions online, Kate provided assignments and activities to integrate the online activities with authentic assignments.

Third, Kate explained that she felt that a blended approach is effective for intern teachers who have different learning styles or abilities. After Session 5, Kate was asked, “How did you encourage shy students in online discussion? Did you find any students who like to participate in face-to-face more than in online discussion? Then, what did you do for them?” Kate agreed that she had some shy intern teachers in her classroom, and they did not participate in discussion assertively. Kate said that those students did not like talking in class because of their personalities and concerns for mistakes.

She used an individualized and collaborative approach for encouraging these students. In class, she organized groups and let them discuss their ideas within the groups. Kate extended their discussion to the whole class and to online discussion. Kate said that differentiating classroom activities and organization seemed to be effective for most intern teachers’ learning styles. She mentioned the following about some students: “You know, they did not talk much in classroom, but as you can see they participate in online discussion more assertively.”

**Kate’s Perceptions of Her Managerial Roles.** With regard to her managerial role, Kate said, “I don’t really think that the role is any different than face-to-face.” However,

she said that instructors need some managerial roles, which are to (a) produce practice that their intern teachers need to get used to using online modules in some ways, and (b) manage the balance between face-to-face and online activities. Kate found that many intern teachers did not pay attention to written instructions online.

When the intern teachers had online sessions, she spent some time pointing out what she wanted from the online modules. Kate said that, no matter what she explained about the purposes and assignments in the online module, many intern teachers e-mailed her, asking questions about their assignments.

“You know, all of our students at some time in teacher preparation programs, should have some, whether it’s one module or several, online experiences because those are things that I hope they will do with their own students.” She explained that intern teachers need to experience and practice how to use online modules.

Kate organized individual, group, and whole class activities with balance in each class. In the face-to-face sessions, Kate provided more activities than in the online sessions, because she wanted her intern teachers to have hands-on experiences. In the online sessions, Kate provided two to three clear activities, which were fewer than the face-to-face activities. Kate perceived that online activities would be too time consuming for the students if she demanded too many of them. Rather than burdening her intern teachers, Kate provided minimal activities, such as doing an assignment and discussing it.

Her pedagogical role was more assertive in designing and facilitating classroom activities, while her managerial role was to organize groups for active online and classroom activities. However, Kate said that her managerial approach in the blended course was limited by the teacher preparation program.

She explained that intern teachers had lots of things to do in the internship year, such as taking classes, participating in field experiences, and searching for jobs. She wanted to give more freedom to her students; during their field experiences Kate never gave assignments. Kate seemed to think that the internship needed to cut out activities and focus on the teachers practical teaching experiences.

**Kate’s Perceptions of Social Roles.** Kate perceived her social roles as (a) creating social rapport and a learning community, (b) sustaining the learning community, and (c) connecting communities to field experiences. First, to build social rapport, Kate spent the first face-to-face session helping her students get to know one another. Contrary to Kate’s expectations, the intern teachers did not create rapport easily. “It seemed actually kind of silly because I thought, well, they’ve been together for two classes for a semester,” she said.

They were aware of each other, but they did not know each other well. Kate did not intend for the introduction activity to build social rapport, but she ended up using that activity for everyone to get familiar with each other and to build social rapport. Kate perceived that her first session was effective in that the intern teachers did become familiar with each other and felt the sense of community in their course.

After the first session, Kate often provided opportunities for the intern teachers to develop and sustain social rapport through group projects and activities in both environments. “My goal was that everyone should have an opportunity to talk with someone at some point....My hope was in having them [intern teachers] have the air time or space to communicate with one another and among one another,” she said.

Second, to sustain learning communities, Kate provided group projects, such as “constructing social concept in the community,” “designing websites for special education,” and “creating learning communities for each subject.” Within these groups, intern teachers shared their opinions and worked together.

Kate explained that providing the opportunities to work in groups in both environments helped the intern teachers feel that they were in the same group and community. From constructing their own community in the face-to-face session, they extended the community to online and professional communities in which they will participate in the future.

Third, Kate tried to connect communities to field experiences. An online community is “a group of people who communicate with each other on the internet to share information, learn more about a topic, and/or work on a project of mutual interest” (Mason, 2006, p. 1). Having field experience is one of the biggest differences between teacher preparation and other higher education programs. Whenever Kate designed classroom activities, she aimed to connect these activities to the intern teachers’ field experiences. She also let the intern teachers share their field experiences when they used the methods they learned in the course.

Kate said that she was satisfied, because some intern teachers used some effective pedagogical strategies they learned. Kate found that learning communities, whether they are groups or the whole class, allow intern teachers to share their experiences and ideas through online and face-to-face sessions.

There was another issue about learning communities, however. In the seventh session, when one intern teacher reported her field experiences in class, she shared some problems during her coteaching time. Even though this intern teacher had other intern teachers in her schools, a field instructor, and mentor teachers, she was struggling with some issues, such as classroom management. After Session 5, the intern teachers did not have either online or face-to-face sessions for one month. “If our online learning communities were continued, she maybe [could] get some advice or support from others, maybe not,” Kate said.

**Kate’s Perceptions of Technical Roles.** Kate did not introduce many technological tools to her students; rather, she let her intern teachers apply the technology they knew, such as discussing via Angel, presenting through websites/homepages, creating lesson plans or subject resources with a digital camera and other tools, and communicating with e-mail or Skype tools. Kate thought that her intern teachers had no trouble with technology. Because of the features of the course, she usually used Angel for providing and sharing information and uploading their assignments. She did not introduce or teach new technology tools; instead, she encouraged her intern teachers to create online websites with the skills and knowledge they had.

Regarding the special education assignment, the intern teachers had to create online websites, and Kate found that her intern teachers were creative in using technology tools for this. “They’ve got several really excellent Web pages that were created,” she said. She did not teach them how to create online modules with technology; rather, she provided opportunities for the intern teachers to design and evaluate each other.

## **Blended Approach's Benefits and Challenges**

**Kate's perceptions of a blended course benefits.** Kate noted that her own pedagogical strategies evolved in several ways while teaching this blended course. She said that the blended course affected her beliefs about her teaching in ways that she would not have envisioned before. Kate also said that she was pleased to have this experience, because she thought it had made her think more critically about the way she teaches. She explained that the new experience made her reflect on being an early career teacher again in a way that she thought had been really good, such as thinking about how she presents instructions and facilitates discussions.

Second, Kate said that she changed her perception of the blended approach. Even though she expected that the approach was effective for intern teachers and herself, she was not sure because it was her first experience using this approach. Kate said that she had agreed with those who claim traditional face-to-face courses are more effective than online courses for teacher education. However, after finishing the blended course, she said,

It's been a really, it's been an excellent experience for me as a teacher and then thinking about teacher as student. And I'm looking forward to sort of taking what I know and I've learned and sort of making it better for next time, because there's always places to make it better.

This study showed how Kate tried to connect and integrate online and face-to-face activities. Even though online learning in teacher education programs has some limitations, when online learning is integrated with face-to-face courses, such as connecting online learning to face-to-face activities (and vice versa), the blended approach can produce satisfactory results for the instructor, as exemplified in this case.

Third, Kate evolved her professional practice by using various tools. She adapted classroom resources and the materials she designed for her online and face-to-face sessions, such as using color markers and picture books for a gallery activity, color crayons for a role activity, and video clips for exploring the concept of social studies. Kate mentioned that she did not have many face-to-face sessions; thus she had to integrate these activities into her online and face-to-face sessions. For example, she extended the gallery activity to online group projects that studied similar interests and subject matters, and she applied role activity to making social concept presentations.

Another example was using technological tools. Kate adapted online tools to save time and promote face-to-face activities. For example, Kate noted that "after this session [watching video online], I feel the decision to make this an online session was a good choice. Students paid closer attention [as evident from the discussion responses] to the video." Her responses implied that Kate valued and adapted online discussion boards for sharing and encouraging intern teachers' discussions.

**Kate's Negative Perceptions of the Blended Course.** Even though Kate considered her blended course to be effective, she had some negative beliefs about this approach. First, Kate said that her students were not prepared well for this approach. One comment she made was about the familiarity of using a blended approach with intern teachers. As this study showed earlier, Kate was concerned about her intern teachers' technology experiences in the teacher preparation program. She found that her intern teachers did not check their e-mail as often as she thought and did not respond well to her e-mails.

Teacher preparation programs need to provide opportunities and experiences to practice such important online communication skills, Kate said. She explained that online experiences, such as e-mail consulting, website information, and other technological skills, should be provided to intern teachers.

Kate also said that instructors and institutions need to consider this blended approach seriously. Regarding instructors, Kate shared her difficulties implementing a blended approach. She knew that many instructors used a blended approach the previous semester, but only a few instructors continued using the approach. As other researchers have reported, Kate felt that this blended course required too much time and effort, even though she often mentioned that the blended approach was worthwhile. Even though she had some meetings with other instructors before the course began, she never had a meeting where she could discuss and share her experiences about her blended courses.

Kate said that learning communities, whether online or face-to-face, could be helpful for instructors who use a blended approach. She also pointed out the institution's economic and political rationale for using a blended approach, but said that a blended approach ultimately should be an option for students because it has the potential to better connect and perhaps even educate them.

Third, Kate pointed out that she was struggling with connecting both online and face-to-face activities. Even though she knew the importance of integrating and connecting two activities in both environments, whenever she tried to integrate them, she noted feeling something was missing. "I think the other challenge is connecting with students... how effectively and authentically to connect with your students in a blended course," Kate said.

She said that she improved her pedagogical methods to connect these two activities, but she still wanted to learn more about methods and skills she can use. In addition, She listed a number of other concerns: evaluation of intern teachers' activities, busy schedule, many assignments, and the limitations of technology.

### **Conclusions and Discussion**

This study presents one instructor's perceptions of her roles, focusing on her activities in a blended course. During the blended course, Kate developed her roles: pedagogical, managerial, social, technical, and connection. Even though Kate's roles confirmed that there are four important instructor roles in the online environment (Berge, 1995), this study showed that instructors need to solidify and expand their roles in a blended environment. For example, Kate modified her online pedagogical strategies and online tools to integrate online and face-to-face activities into field experiences through continuous online learning communities.

Kate also emphasized and developed students' internet literacy skills, such as e-mail responses, computer use, online participation and collaboration, and online etiquette. In addition, Kate indicated that she needed to change and adapt thoughtfully her previous teaching philosophy and methods to her students and the blended environment. As a result, her experiences with this new blended approach helped evolve her own pedagogy and professional practices both in face-to-face and blended course teaching.

The findings from this study raise some important issues to be discussed for future study. First, this study used activity theory as a theoretical framework for examining an instructor's activities and the relationships among six components of an activity system (participants, tools, objectives, rules, community, and division of labor/role). Activity theory is an effective framework to examine one instructor's activities in classroom and online settings, the nature and functions of the tools the instructor uses, the social relationships among the participants, the rules and division of labor (roles) for those relationships, and the objects or outcomes for those activities. Activity theory is also effective when the researcher tries to examine an instructor's growth and change in her teaching and activities.

By following one instructor's activities in an activity system, this study showed that the change and growth of the participant's activity and perceptions of a blended approach were influenced by the six components. However, this study focused only on one instructor's experience within her blended course activity system. As Kate said, she was also included in the other activity system, that is, the institution-based activity system. Her teaching and activities could be influenced by institutional demands and its relationships. For supporting instructors' use of a blended approach, future studies are necessary to examine instructors' personal experiences, as well as the relationships between instructors and the demands of teacher preparation programs.

Second, regarding methodological perspective, a weekly interview protocol can help researchers follow the change and development of participants. I interviewed Kate every week using a weekly interview protocol. The protocol was useful for investigating Kate's perceptions of and practices in a blended learning environment, because they changed over time, as she experienced the effectiveness and limitations of the course. Without this protocol, it might have been more difficult to follow Kate's changes in her approach.

The weekly interview protocol also helped with understanding how Kate experienced unexpected difficulties, solved problems, and reconstructed her instruction. Therefore, in order to examine and support instructors' experiences in a blended learning environment, this study suggests that educators need more micro (narrow) analysis of instructors.

Third, this study showed the potential benefits of blended learning communities, which include online and face-to-face communities. In this study, the intern teachers created learning communities through group projects. They shared their experiences and information and extended them to online learning communities. Several researchers have lauded the benefits of fully online or face-to-face learning communities (Ajayi, 2009; H. Lin, 2008; Q. Lin, 2008). Ajayi (2009) examined teacher candidates' discussion boards and concluded that they enable teachers to participate and contribute to discussion of different topics in a more open community. H. Lin (2008) also found that content management systems provide "a richer learning environment to accommodate various learning styles, personalize individual learning experiences, and reduce lecture time" (p. 9). Q. Lin (2008) argued that "students felt that online discussion boards were more useful than in-class discussions because students could take the time to compose a response" (p. 56). She said that teacher candidates felt connection and active participation through online discussions.

These studies, however, focused only on online learning communities. As with the blended learning approach, researchers need to examine how blended learning communities influence participants' experiences and perceptions in blended communities.

Fourth, when applying a blended approach in teacher education programs, this study shows that educators and program designers should be aware of the differences between other higher education programs and teacher education programs; social-interaction skills, field experiences, and pedagogical content knowledge are very important components of teacher candidate development. When teacher educators utilize a blended approach, they need to be aware of preservice and in-service teachers' experiences in a blended environment, because this unique environment can influence the connections between future and current K-12 classrooms.

For example, the field and school experiences of pre- and in-service teachers have provided opportunities for their professional development and identity as a teacher, their conceptions of teaching and learning, and their ability to work with other teachers in community (Britzman, 1991). Therefore, blended course designers should be aware of the need to connect field experiences and intern teachers.

Online and blended approaches are alternative modern methods for teaching at all educational levels. Yet, some educators still object to developing online courses because of the need for face-to-face social interaction (Blin & Munro, 2008; Miles, Yanes, & Casebeer, 2009). In order to succeed with the blended teaching approach, educators need to provide goal-driven, constructive, and student-centered methods for designing classes and to create learning communities within the larger educational community to share empirical evidence of the effectiveness of the blended approach.

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