Investigating Virtual Field Experiences Using Video Conferencing in Undergraduate Teacher Education Programs

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Chapter 1: Overview of this Study

Teacher education programs have come under attack in national reviews and criticized for the lack of integration of educational theory into practice. Government agencies are demanding more accountability of public schooling and the need for highly-qualified teachers as teacher education programs face new reforms (Bush, 2002). The National Council for Accreditation of Teacher Education, the major accreditation body for teacher education programs in the nation, promotes the early and often use of field experiences in preservice teacher education programs and promotes the integration of technology throughout the career of a preservice teacher (NCATE, 2004).

Cochran-Smith (2004) describes the current reform movement in teacher education as increasingly moving toward a technical view of teaching that emphasizes testing, scientifically-based research, and regulated deregulation of federal mandates. In response to calls for teacher education reform colleges and schools of education are experimenting with new technologies to address areas of need in teacher education programs (Sprague, 2004). This research study will contribute to the scientifically-based research in the area of video conferencing as one method to provide virtual field experiences to enhance teacher education programs.

Video conferencing technologies are providing new opportunities for restructuring the way teacher education institutions interact with P-12 partners. Video conferencing technologies can eliminate time and distance barriers that have in the past limited collaborative field experiences between preservice teachers, coordinating teachers, and higher education faculty due to the logistics of scheduling as well as fiscal concerns. Teacher education programs are beginning to explore innovative uses of video
conferencing to address specific areas of need in programs and link theory and practice using virtual field experiences (Phillion, Johnson, & Lehman 2003).

Video conferencing technologies are also being used by colleges and schools of education to address diversity issues, preservice observation hours, preservice practicum experiences, and student teaching experiences (Lehman & Phillion, 2003). Purdue University, as part of a Preparing Tomorrows Teachers to use Technology Grant sponsored by the U.S. department of Education, offers one example of how teacher education programs can implement virtual field experiences using video conferencing technologies.

In this study I propose to explore factors that influence the success of utilizing video conferencing in virtual field experiences and virtual student teaching observations at a large teacher education program in the midwest. Attitudes of preservice students, college faculty, and P-12 cooperating teachers will be explored. Student teaching observations will be conducted simultaneously in the field face-to-face and also virtually through video conferencing technologies. Results will be compared to determine if there are significant differences between the face-to-face field supervisor (control group) and a virtual supervisor by using a student teaching observation scoring rubric that has been verified to have inter-rater reliability. Face-to-face field observations (control group) in a diverse setting will be compared to virtual observations made by preservice teachers. Results will be compared to determine if there are significant differences between the pre-service teacher face-to-face observations and the preservice teacher virtual observations.

Wang and Hartley (2003) conducted a review of the literature regarding use of video in teacher education programs and found little evidence to support the effectiveness
Wang and Hartley conclude that use of video does not go beyond traditional approaches and there is little evidence to suggest that knowledge gained from video shapes preservice teachers teaching can be transferred into a working knowledge that shapes their teaching practice.

Vygotsky (1978) social development theory supports an interactive environment that video conferencing can provide if properly planned for. According to social development theory social interaction plays a fundamental role in the development of cognition. Ironically, the benefits of asynchronous learning that have been heavily promoted in higher education through the use of discussion boards offer reasons not to use synchronous communication technologies such as video conferencing. Weller (2002) states that lack the reflection time needed for thoughtful responses may be disempowering to individuals who were empowered by the text-based communication of discussion boards. There is also contradictory evidence that video does not transmit nonverbal responsiveness well for observing preservice teachers. In a research study conducted by Brooks and Woolfolk (1997) researchers found a significant decrease in the ability of distance educators to perceive nonverbal responses from their students compared to face-to-face delivery. Kinnear, et al. (2002) did find benefits to virtual field observations via interactive video that translated to better understanding of pedagogy by preservice teachers. Thus there is contradictory evidence to the effectiveness of video and video conferencing use in a distance education setting.

Significance of this study

This study is not about the technology of video conferencing but rather the effectiveness of virtual field experiences including virtual student teaching observations and how virtual experiences can enhance teacher education programs by linking theory
and practice. Video conferencing technologies are being implemented to assist with gaps in diversity issues and provide adequate field experiences in teacher education programs (Lehman & Phillion, 2003). Much of the research in the area of video conferencing use is anecdotal consisting of self-reported data on attitudes and lacks focused study. There has however been much work in the area of using video as a method to promote reflective practice (Cunningham & Benedetto, 2003; Sherin & Van Es, 2003; INTIME, 2004). This study will focus on virtual field observations and student teaching observations to determine how supervising faculty and preservice teachers perceive video conferencing as a viable alternative to face-to-face field experiences.

Field experiences in most teacher education programs include authentic observations of P-12 classroom teachers in a school setting. The physical logistics of placing students in local schools is often problematic, particularly for larger teacher education institutions and can sometimes overburden local districts. In addition, access to diverse multicultural settings is dependent upon local demographics and is sometimes difficult to implement in a face-to-face environment (Hu, et al., 2002; Lensegrav & Pearce, 2004; PT3, 2002).

More research needs to be completed to determine effectiveness of video conferencing and determine barriers that may exist to wider implementation of video conferencing. Development of best practices when using video conferencing technologies is also needed to help teacher education programs integrate this technology throughout a preservice teachers course of study. Much has been written regarding use of video in teacher education programs (Pierson & McNeil, 2000) but little research has been conducted on the effectiveness of video conferencing technologies, specifically
what instructional strategies are most effective and if instructional strategies differ from face-to-face teaching.

**Research Questions:**

The guiding question for this research study is:

Do virtual field experiences and virtual student teaching experiences for undergraduate preservice teachers offer a high-quality alternative to face-to-face field experiences?

Sub-questions to be addressed include:

- Can virtual student teaching experiences be a high-quality substitute for face-to-face observations by supervising student teacher coordinators?
- Can preservice teacher virtual observation experiences be as effective as face-to-face observations? (Can nonverbal responses be observed effectively via video conferencing?)
- Do supervising student teacher coordinators view virtual teaching observations differently than face-to-face observations?
- What instructional strategies are most effective when using video conferencing as an instructional medium? (content related and collaborative)
- What are best practices for linking theory and practice when using video conferencing technologies?
- Are there barriers of acceptance to virtual field experiences for faculty, preservice teachers, and supervising coordinators?
• Can successful pilot programs be scaled to include larger numbers of preservice students?

The above questions if determined to have positive outcomes have tremendous potential for reforming the way teacher education programs implement field experiences for preservice teachers. If this research demonstrates acceptance by preservice teachers and supervising faculty then video conferencing technologies may become more prevalent as a method to provide high-quality field experiences. Knowledge gained from answering the above questions will further contribute to the knowledge base of effective uses of video conferencing technologies in teacher education programs.

Summary

This proposed study will explore virtual field experiences using video conferencing technologies to determine if virtual field experiences and virtual student teaching observations can be used as an alternative to face-to-face field experiences via the video conferencing medium. Colleges and schools of education are exploring new uses of technology to address areas of need in teacher education programs and further enhance preservice teachers experience by linking theory and practice. Video conferencing technologies hold promise for providing enhanced learning experiences for preservice teachers by providing access to diverse classroom settings for virtual field observations, practicum experiences, and student teaching experiences.

This research will further enhance the literature by providing scientifically-based research in the area of video conferencing use by teacher education programs. Results of this study will offer quantitative and qualitative data on the effectiveness of virtual field
experiences and student teaching observations via video conferencing technologies. The study will identify potential barriers and identify best practices for successfully integrating video conferencing technologies into teacher education programs.

Introducing a new medium such as video conferencing into the teacher education programs will require further research to determine best practices. Teaching methods need to be developed and conveyed to preservice teachers using this new media and instructional strategies need to be developed to match theory and practice. While new technologies challenge traditional approaches new opportunities arise that were previously inaccessible. Finding the proper balance of technology blended with theory and practice will result in significant improvements in teacher education programs.
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