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Technology's Role in Field Experiences for Preservice Teacher Training

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ABSTRACT

The purpose of this paper is to provide a comprehensive review of how technology has been used to enhance or replace field experiences in preservice teacher preparation programs, and discuss the benefits and limitations of traditional and technology-enhanced/virtual field experience approaches. In this paper, three types of technology-enhanced field experiences are discussed: Type I - concrete, direct experience in reality; Type II – vicarious, indirect experience with reality; and Type III – abstract, experience with model of reality. Five specific benefits of technology use in field experiences are identified, namely a) exposure to various teaching/learning environments, b) creation of shared experiences, c) promoting reflectivity, d) preparing students cognitively, and e) learning about technology integration. Several limitations of technology-integrated field experiences are also discussed, including (a) lack of interaction with teachers and students, (b) limited reality and complexity, (c) availability of relevant cases, and (d) technical problems. In conclusion, it is suggested that the overall goals and objectives for a specific field experience must be the focus when field experience options are being explored.

Keywords

Field experiences, Educational technology, Teacher education programs, Preservice teacher education, Distance education

Introduction

Field experiences are a foundation in preservice teacher education programs today. In fact, early teacher educators have found value in the "learning by doing" approach since as early as the mid-nineteenth century (Cruickshank & Armaline, 1986). Consistent with John Dewey's emphasis on experiential education, field experiences today are focused on providing examples of best practices and pairing students with teachers who are not only excellent teachers, but also excellent role models willing to engage in reflective practice with preservice teachers (Frieberg, 1995; Posner, 2005).

Numerous benefits of field experiences in teacher preparation programs have been documented in the literature. They include helping students decide if teaching is the right career choice, providing an opportunity for students to practice skills prior to student teaching, helping preservice teachers start viewing themselves as teachers, and improving preservice teachers' attitudes toward teaching (McIntyre, 1983). Field experiences are also typically offered in conjunction with a course as a way of helping students better understand the conceptual and theoretical knowledge being presented (Hopkins, 1995). Recently, much attention has also been paid to the role that field experiences may play in helping preservice teachers learn how to effectively integrate technology into their teaching (e.g., Bahr, Shaha, Farnsworth, Lewis, & Benson, 2004; Dawson & Dana, 2007; Evans, 2004; Wentworth, Graham, & Tripp, 2008).

These outcomes of field experiences are clearly desirable and emphasize the importance of field experiences in teacher education. While field experiences are certainly a valuable component of teacher education programs, factors surrounding their implementation may influence the quality and impact of field-based experiences. Of major concern to teacher educators is the fact that prospective teachers may not be cognitively prepared to benefit from experiences in the field, especially when they occur early in their education program (Feiman-Nemser & Buchmann, 1985; Goodman, 1986; Hannah, 1995). When student teachers are not cognitively prepared to learn from experiences in the field, they sometimes view the field experience as an off-campus activity as opposed to on-the-job training, and believe that the field experiences do not provide "real teaching experiences" (Aiken & Day, 1999).

A similar concern is that students are not taking an active role in developing, processing, and reflecting on their field experiences (Cruickshank & Armaline, 1986; Feiman-Nemser & Buchmann, 1985; Goodman, 1986; Johnston,

1994). Although reflective thinking has been emphasized in teacher education programs (e.g., Brookfield, 1995), it has been documented that students often participate in field experiences with a very mechanical, "learn the skill" approach and are not thoughtful about the experience as it relates to their education. In addition to promoting reflective inquiry, education faculty may find it difficult to facilitate appropriate reflection and debriefing related to field experiences because students do not share a common experience to serve as a jumping-off point for discussions (Hannah & Abate, 1992–1993). The varied experiences of students in the field also make it difficult to ensure consistent quality of student field experiences.

On a more practical note, with the impending teacher shortage and growing preservice education programs in some countries, especially the United States, schools of education are being forced to place students at sites increasingly distant from campus. This puts financial and time burdens on both the school (who must appropriately supervise) and the students (e.g., Garrett & Dudt, 1998; Knight, Pedersen, & Peters, 2004). A related concern, especially for colleges and universities located in rural and less diverse areas, is how to ensure students gain experience with diverse populations (e.g., Lehman & Richardson, 2003).

In an effort to address some of the afore-mentioned concerns yet preserve the benefits associated with traditional field experiences, educators are exploring the role that various technologies may play in supplementing and perhaps replacing traditional early field experiences. As schools consider the inclusion of technology-enhanced and/or virtual field experiences in their program, they need to understand the strengths and limitations of such approaches, and consider their viability based on the purpose of the field experience. The purpose of this paper, therefore, is to provide a comprehensive review of how technology has been used to enhance and sometimes replace field experiences in preservice teacher education programs, and discuss the benefits and limitations of both traditional and technology-enhanced/virtual field experience approaches.

To examine technology's role in field experiences, relevant studies in the literature of teacher education were analyzed. Library databases (e.g., Academic Search Premier and ERIC) and Google Scholar were used to conduct a search using various combinations of the following keywords: "field experiences", "early field experiences", "practicum", "technology", "virtual", "video" and "preservice teacher". Since the focus of the present paper is on the role of technology in field experiences, studies that (a) discuss general issues of technology integration in preservice teacher education, or (b) do not have a connection to a field experiences component, were excluded in the search process. The constant comparative method (Glaser & Strauss, 1967; Lincoln & Guba, 1985) was used to identify and analyze emerging themes across studies. These common themes were then categorized in terms of types, benefits, and limitations, which are discussed in detail in this report.

Technology–Enhanced and Virtual Field Experiences

There are a variety of ways that technology can be implemented in conjunction with field experiences. Presented here are three types of technology-enhanced field experiences, which is an adaptation of the classification scheme put forth by Paese (1996). As shown in Figure 1, the three types can be categorized according to the degree to which experiences are situated in reality.

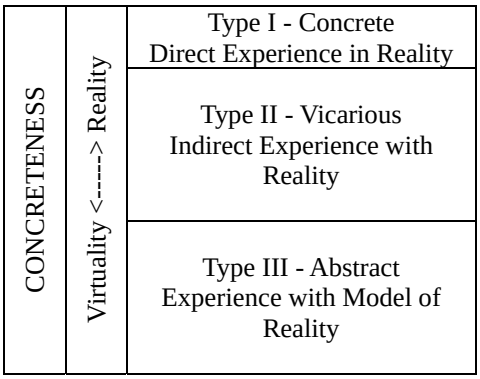

Figure 1. Three types of technology-enhanced field experiences

Type I experiences involve preservice teachers being placed in real classrooms where they teach and/or observe real students as in the traditional field-based approach. Technology tools are used to facilitate supervision, reflection, and/or communication. Numerous studies have examined such uses of technology in conjunction with field-based experiences (e.g., Bonk, Malikowski, Angeli, & East, 1998; Doering, Johnson, & Dexter, 2003; Edens, 2000; Garrett & Dudt, 1998; Gruenhagen, McCracken, & True, 1999; Holstrom, Ruiz, & Weller, 2007; Johnson, Maring, Doty, & Fickle, 2006; Kale, Hur, Yerasimou, & Brush, 2006; Knowlton, 2004; Laffey & Musser, 1998; Liu, 2005; Mason, 2000; Moffett, 2001; Whipp, 2003).

In Type II experiences, preservice teachers gain vicarious experience by remotely observing teachers and students in real classrooms. Two technical options are available in this category. Video-conferencing technology supports synchronous observations of classroom lessons and possibly even interaction with the teacher and/or students, while pre-recorded video cases available on CD-ROMs or via the Internet allow for non-real-time observations. Type II experiences have been described and investigated by several researchers (e.g. Atkins, 1998; Baker, 2005; Green, 2005; Hannah, 1995; Hannah & Abate, 1992–1993; Knight et al., 2004; Lambdin, Duffy, & Moore, 1996; Lehman & Richardson, 2003; Malewski, Phillion, & Lehman, 2005; McDevitt, 1996; McIntyre & Pape, 1993; Putnam & Borko, 2000; Santagata, Zannoni, & Stigler, 2007).

Type III field experiences utilize simulated environments. Zibit and Gibson (2005) call this type of field experience as a “virtual practicum” based on simulated apprenticeship models. Instead of teaching or observing real teachers and students, preservice teachers experience an artificial model of reality by observing and/or teaching virtual teachers and students in a simulated classroom. Unlike the technologies used in Types I and II experiences, there is very limited research on the use of simulated classrooms as field experience components. Technical difficulties and cost issues for developing simulated environments and learners with artificial intelligence functions seem to be major obstacles explaining the lack of research in this area (Brown, 1999; Payr, 2005). Among the few studies on simulated classroom environments, Foley and McAllister (2005), Ferry and colleagues (2005), and Girod and Girod (2006) have explored possibilities of linking simulations and field experiences.

While the three types of field experiences are discussed separately above, it is also common for different types to be used in conjunction with one another. Preservice teachers who remotely observe a classroom using technology (Type II experience) or interact with a simulated classroom environment (Type III experience) may also be participating in a field-based experience that may or may not utilize some form of technology for communication, supervision, etc. (Type I technology-enhanced field experience or a strictly traditional field experience). This blended approach seems to help students cognitively prepare for real teaching experiences, and transfer knowledge and skills learned in virtual environments to real classrooms (e.g., Baker, 2005; Lee & Powell, 2005–2006a; Lee & Powell, 2005–2006b; Liu, 2005).

Benefits of Technology Use

Providing preservice teachers with opportunities to observe and interact with classroom environments, real or simulated, is critically important to educating high quality, well-prepared teachers. While technology's role in relation to field experiences is still being explored, it is important to identify the potential benefits of technology's use that have already been documented in the literature. Such information is relevant to teacher educators and others involved in preservice teacher education to ensure that they design the most effective field experiences given their goals, situations, and resources. Five benefits of technology use in field experiences are presented in this section: a) exposure to various teaching/learning environments, b) creation of shared experiences, c) promoting reflectivity, d) preparing students cognitively, and e) learning about technology integration.

Exposure to Various Teaching and Learning Environments

Students participating in a traditional field experience are often placed in a single classroom with a single teacher, limiting their opportunity to observe various teaching styles and strategies. Although technology used to facilitate communication in a Type I field-based experience (e.g., online discussion forums) may allow for more sharing about students' various field placement environments, the true benefit of being exposed to a variety of classroom

environments is primarily associated with Types II and III experiences where students have access to a range of virtual and/or real classroom environments.

Teachers using video-based observations often note that a key benefit is the opportunity for students to observe a variety of teaching strategies and assessment techniques (Green, 2005; Hannah & Abate, 1992–1993; Lambdin et al., 1996; Putnam & Borko, 2000). Additionally, with the help of technological tools, preservice teachers can interact with students in culturally diverse areas. For instance, Lehman and Richardson (2003) describe a virtual field experience which utilizes two-way video-conferencing to connect preservice teachers in mid-central Indiana with diverse populations in other areas of the state. Seventy-six percent of the students participating in the virtual field experience reported that they felt more comfortable in their ability to understand and teach diverse learners as a result of their virtual field experience.

Virtual classrooms can also offer an environment for experiencing various student characteristics and learning about special teaching approaches not easily observable in regular classrooms. In a study by Foley and McAllister (2005), preservice teachers who engaged in the Sim-School© reported that the complex diversity of the simulated environment in terms of racial, cultural, and language needs of virtual students was a useful context for them to become more aware of those issues, to understand students' unique characteristics, and to plan for differentiated strategies. Compton, Davis, Graham and Swaharu (2008) reported a similar study of virtual field experiences where preservice teachers observed an exemplary Virtual Schooling (VS) teacher to learn about the special set of knowledge and skills necessary to teach in the VS environment.

Creation of Shared Experiences

Since students usually participate in a traditional field experience individually, it can be difficult to hold meaningful discussions when students have not had the same experiences. The benefits of having shared experiences are realized primarily in Types II and III experiences where students have direct access to common experiences which may be in a live classroom via remote observation, pre-recorded classrooms, and/or simulated classrooms. The increased communication and documentation of experiences through technologies used in Type I experiences may also provide benefits related to shared experiences.

Faculty identify the creation of a common experience that can be analyzed and discussed by a group of students as one of the key benefits of using video-based cases over the traditional field experience (Green, 2005; Hannah, 1995; Hannah & Abate, 1992–1993; Rosen, 2003). Kent (2007) argues that from instructors' perspectives, implementing interactive videoconferencing to observe real teaching strategies in a remote classroom is a practical way to ensure that preservice teachers are internalizing and emulating model teaching methods that educators set as standards. Students participating in a virtual classroom observation also recognize the value of having a shared experience which allows them to "check their perceptions of the class with other students and the instructor" (Knight et al., 2004, p. 146). A web-based peer assessment system developed by Wu and Kao (2008) promotes interaction among students by allowing them to view field-teaching sessions of their classmates and provide constructive feedback to each other.

The use of commonly viewed classrooms also offers an element of quality control in that the education faculty member is at least observing the same classroom (in case of two-way video) or perhaps selecting appropriate classrooms/cases (in case of pre-recorded video-based classrooms) (Hannah & Abate, 1992–1993; McDevitt, 1996). Using online discussions to share individual student experiences and hear different interpretations of the same event is also noted as a key benefit of technology-enhanced field experiences (e.g., Kale, et al, 2006; Moffett, 2001)

Promoting Reflectivity

Many researchers have examined the use of online technologies to encourage students to actively process and reflect upon their experiences in the field (e.g., Bonk et al., 1998; Edens, 2000; Mason, 2000; Meyers, 2006; Moffett, 2001; Whipp, 2003). The use of various forms of technology to promote critical reflection can be realized in different ways and to different degrees in each type of technology-enhanced field experience. Incorporating technologies that promote communication and interaction between peers and/or supervisors can enhance reflectivity in all types of

experiences. The use of video (Type II) and simulations (Type III) can offer other benefits that further promote critical reflection.

Video technology can be used to promote reflective practices and focused observations. Stockero (2008) found that preservice teachers who used a video case-based curriculum engaged in deeper reflection more specifically focused on student thinking. The video cases seem to promote an "ability to recognize subtle differences in student thinking by providing an opportunity to compare student thinking both across and within the cases" (p. 504). Similarly, Rosaen, Lundeberg, Cooper, Fritzen, and Terpstra (2008) found that video-supported reflection, compared to memory-based reflection, enabled preservice teachers to shift their focus of reflection from superficial features of classroom management to pedagogical issues.

The use of simulations in Type III experiences also offers benefits related to reflective practices by providing an error-free safe environment where preservice teachers can experiment with a variety of teaching strategies, such as on-the-spot-experiments, suggested by Schön (1987) as being important for developing the skills of a reflective practitioner. Payr (2005) argues that virtual field experiences reduce the complexity of the learning environment and present simplified activities that allow student teachers to engage in focused experiences without the flow of complex and irrelevant information interrupting the process of observations.

Preparing Students Cognitively

Many researchers have investigated the possibility of using video-based classrooms in addition to or instead of early field placements in order to better prepare students for future field placements. The use of video-based classrooms in Type II experiences and simulations in Type III experiences can help students to gain more from classroom-based experiences (Type I or traditional field experiences) they will participate in at all stages of their teacher education program.

Hannah (1995) emphasizes the importance of providing a "safe environment where students can explore their beliefs about teaching" and be introduced to observations in the field before "their upcoming foray into the real world of classrooms" (pp. 276–277). There is evidence to suggest that the use of technology related to field experiences creates such an environment where students are able to develop observation skills with the guidance of a faculty member who is observing along with them (e.g., Hannah & Abate, 1992–1993; Lehhman & Richardson, 2003; Mclntyre & Pape, 1993). Brooks and Kopp (1990) suggest that an interactive videodisk program counters negative aspects of field observation, particularly "untrained eyes and selective memories" that permit novices to "see what they want to see" (p. 500). This is consistent with the more recent research that has emphasizes the role of video for guiding explicit and focused observation skills (e.g., Brophy, 2004; Calandra, Gurvitch, & Lund, 2008; Sherin & van Es, 2005).

When preservice teachers are trained to learn from their early field experiences through the mediation of technology, they can fully benefit from their subsequent field-based experiences in classroom settings. Santagata et al. (2007) found that the use of virtual-video-based field experiences helps preservice teachers move from simple descriptions of classroom actions to focused observations about student learning and teacher interaction, and subsequently apply these skills in authentic settings. In another study, Baker (2005) found that preservice teachers who participated in multimedia case-based instruction (M-CBI) reported that the "analyses, reflections and discussion of M-CBI made their field experiences richer" (p. 428).

Learning about Technology Integration

It is obvious that technology will continue to have a large impact on the future of education, and should therefore play a prominent role in teacher education. However, it has been reported that preservice teachers often fail to integrate technology in field experiences due to the situational complexity and pedagogical difficulties (Dawson & Dana, 2007). Utilizing technology in relation to field experiences provides another opportunity for prospective teachers to become familiar with technology and understand its potential application in their future classrooms (Lehhman & Richardson, 2003). All types of technology-enhanced field experiences (Types I, II, and III) expose students to different types of technology and allow them to see how they can be used to enhance learning

experiences. For instance, Mason (2000) found that experiences with technological tools in technology-enhanced field experiences not only encouraged student teachers to integrate technology in their teaching practices, but also changed their perceptions and attitude toward technology use.

Limitations of Technology-Enhanced/Virtual Field Experiences

Because published articles tend to focus on the positive impacts and roles of technology, challenges and issues arising from the experiences of integrating technology-enhanced field experiences are not often reported or discussed in detail. However, it should be noted that while there are many advantages to using various forms of technology in relation to field experiences, there are also some serious concerns that must be addressed. This section presents four potential limitations: (a) lack of interaction with teachers and students, (b) limited reality and complexity, (c) availability of relevant cases, and (d) technical problems.

First, preservice teachers may view technology-enhanced or virtual field experiences as a lack of opportunities to observe real classrooms and interact with students in classroom settings. Knight and colleagues (2004) reported that although students did see value in their participation in a virtual field experience, they were troubled by the limited interaction capabilities of observing in this manner. Students noted that they were not able to interact with the students as they likely would have been able to do in a "live" observation, and some felt that the experience "depersonalized" the students (p. 147). Students were also concerned about the authenticity of the classroom they were observing, fearing that the "intrusive nature of the cameras" may have altered both student and teacher behaviors (p. 146).

Other researchers have reported that students who participate in a Type II or III experience may resent the virtual experience and view it as a missed opportunity to participate in a more authentic setting (Atkins, 1998; Lambdin, et al., 1996; McDevitt, 1996). In a virtual field experience described by Malewski and colleagues (2005), the impersonal nature and limited interaction of such experiences was addressed by adding two site visits to the school they were observing via two-way videoconferencing. A site visit at the beginning of the experience gave preservice teachers the opportunity to interact with and get to know the students and host teacher. A site visit at the conclusion of the activity "provided preservice teachers with a sense of closure" (p. 425).

Secondly, another issue is related to the limited reality and reduced complexity in vicarious or virtual classroom environments (Types II and III). In a review of the use of simulated classrooms in teacher education, Brown (1999) expressed that because the tradition of real classroom-based field experiences has been firmly established, it is difficult for students and teachers to see the value of technology-based field experiences as alternative activities, and they tend to perceive these experiences as being not real enough. For instance, Sharpe and associates (2003) examined the role of a videoconferencing tool to guide and supervise student teachers placed in different schools in Singapore. Participants were required to prepare and stream a short video clip demonstrating a particular teaching competency for discussion during the conference time. Participants reported the artificiality of video clips was a disadvantage since most of them tended to document their best teaching competency, which reduced the opportunity to observe and discuss several problematic issues in real classrooms. Reduced complexity may be beneficial for the purpose of teaching particular strategies, but the complex and ill-structured nature of classroom situations should be included to guide and teach other sets of skills and knowledge (Putnam & Borko, 2000).

Thirdly, an additional concern is related to the extent to which the video and virtual classrooms reflect students' teaching interests. When placed for a traditional field experience, students are often placed with teachers of the grade level and/or subject focus they are interested in pursuing (e.g., a music education major wanting to teach elementary students would be placed with an elementary music teacher). When students are not able to view classrooms that they see as representative of their future classroom, they may view the video cases as irrelevant and fail to see how they apply to their educational context (Ma, Lai, Williams, Prejean, & Ford, 2008; Pape & McIntyre, 1993).

Lastly, technical problems may negatively affect perceptions about technology-integrated field experiences. O'Connor, Good and Greene (2006) reported a case study that explored the use of teleobservation through a videoconferencing tool to enhance preservice teachers' observation skills prior to their final internship. While participants saw value in the teleobservation, over 95% of them reported technical problems with the quality of audio and video technology. Rhine and Bryant (2007) identify several concerns that need to be addressed when

implementing a technology-enhanced field experience, including the accessibility of necessary technology tools, the diverse range of technical skills among student teachers, and their comfort levels with the use of online discussion forums. While Rhine and Bryant attempted to address these issues, they found that student teachers' reactions to technology-enhanced field experiences were fairly consistent with their attitude toward and skill levels related to technology. Overall, these studies imply that technology may become a barrier when issues surrounding the use of technological tools are not appropriately addressed.

These are legitimate concerns that must be considered when technology is used to supplement or replace a traditional field experience. While the technology may offer some advantages (as suggested above), it may also present new challenges. The benefits and limitations of using technology related to field experiences must be weighed carefully.

Discussions and Conclusion

It should be noted that the purpose of this paper is not to suggest that technology-enhanced/virtual field experiences are more effective than traditional field-based experiences. Indeed, many research studies reviewed in this paper suggest that technology alone does not make field experiences effective, but pedagogical considerations are critical to the design and implementation of successful technology-integrated field experiences that meet intended goals. Thus, when alternative field experience formats are being considered, strengths and weaknesses of each of format summarized in Table 1must be weighed equally.

Table 1. Benefits and limitations of traditional and technology-enhanced/virtual field experiences

	Benefits	Limitations
Traditional	• Face-to-face interaction with students and teachers • Apprenticeship • High reality and complexity	• Time and travel constraints • Supervision of remote students • Access to rural and diverse settings
Technology-enhanced / Virtual	• Exposure to various teaching/learning styles • Creation of shared experiences • Promoting reflectivity • Preparing students cognitively • Learning about technology integration	• Lack of interaction with teachers and students • Limited reality and complexity • Availability of relevant cases • Technical problems

As is documented in the literature, field experiences can serve a number of purposes ranging from exploring teaching as a career option to linking theory with practice to developing skills necessary to be an educator (e.g., Aiken & Day, 1999; Hopkins, 1995). The overall goals of each specific field experience should be the cornerstone of all field experience format decisions. The technology-enhanced or virtual field experience options may be more effective in meeting some field experience objectives than others, and the same is true for more traditional field experiences. Let us consider some specific purposes of field experiences in relation to each type of field experience format.

One purpose of field experiences identified by Paese (1996) is to explore teaching as a career option and practice the teaching skills needed for carrying out that professional role. If this is the primary goal of a field experience, then it is necessary to ensure that the field experience format allows for interaction and dialogue with classroom teachers to learn more about teaching as a career. While it may be possible to construct a virtual field experience that allows for such opportunities (interactive Type II or III experience), special attention should be paid to common limitations identified by those participating in virtual field experiences – limited interaction and impersonal nature of the interactions (e.g., Knight et al., 2004; McDevitt, 1996). Similarly, the experience would need to provide opportunities for preservice teachers to actually teach students so they can develop the required skills. A study conducted by Atkin (1998), found that many students felt the lack of a traditional field experience actually impaired their ability to develop the required content knowledge. They felt that they needed the opportunity to teach students and test out their ideas with them in order to fully develop the necessarily knowledge and skills. It would seem that these goals would be more directly and effectively met through a traditional or Type I technology-enhanced field

experience where preservice teachers are able to experience a “real” classroom first-hand and interact with both teacher and students.

If the focus of a field experience is for students to decide if teaching is an appropriate career choice and/or decide upon a certification area (as suggested by Aiken and Day, 1999), it is critical to ensure exposure to a variety of classrooms. Technology may offer a way for students to easily observe a range of grade levels and subjects, thereby providing input for making such decisions. However, additional research would need to be conducted to determine if the somewhat limited observation that happens in a non-live setting (as in Type II experiences) would be sufficient for helping students truly get a sense of what teaching entails and what grade level/subject they would be best suited for.

Another common goal of field experiences is to help students better understand the conceptual and theoretical knowledge being presented in their college courses (Frey, 2008). There are many aspects of technology-enhanced/virtual field experiences that support students’ ability to see the theories they are learning about in practice. Some benefits technology offers in the Types II and III experiences are the creation of a shared experience that preservice teachers and their instructors can look at and analyze together; the ability to easily share experiences and reflections and receive valuable feedback; the exposure to a variety of teaching styles and techniques that can be purposefully selected or identified by an instructor; and, the opportunity to review classroom events multiple times (assuming the classroom is recorded in some format) to further analyze events and make connections to educational theories and concepts. Technology may be a useful aid in helping students better understand how theories are put into practice.

Traditional approaches for field experiences have been criticized for promoting utilitarian perspectives and uncritical acceptance of the current teaching practices (e.g., Beyer, 1984; Goodman, 1985, 1986). Technology may be a viable option to increase access to quality classrooms embodying types of pedagogical practices consistent with educational reform, and to encourage preservice teachers to explore new ideas in a safe environment. It is hoped that the information provided here will be of use to individuals who are considering technology-enhanced or virtual field experiences as an alternative to the traditional field experience. It is clear that the overall goals and objectives for a specific field experience must be the focus when field experience options are being explored.

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