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## Telecommunications Distance Learning and Teacher Preparation. ERIC Digest.

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OVERVIEW

Distance learning (DL) is not a new phenomenon in education. First-century didactic

lessons via written letters may be the actual birth of learning in a non-face to face mode. Formal correspondence courses can be traced back to the early 1800's when adults learned the art of 'shorthand' by subscribing to mail-order lessons. In 1886 Pennsylvania State University began the first series of courses disseminated from a university campus. Twenty years later the National University Continuing Education Association (NUCEA) was formed to coordinate and monitor correspondence and extension courses offered nationwide. In 1934 Iowa State University was the first institution to offer courses via television. By using multiple media modes of interactive television, fax and e-mail, telecommunication courses were expanded in the 1970's to offer learners the opportunities to communicate with the instructor and other students (Matthews, 1999). According to LePage (1996), it is important that new teachers be familiar with the potential uses of technology. This may be accomplished by providing opportunities to learn from and use telecommunication technologies in teacher preparation programs.

Since contemporary children are generally proficient using computers and the Internet, educators are wise to consider going beyond the traditional methods and materials of instruction in an effort to meet their students' needs and interests. From social, political and technological view points, schools need to prepare children to live in a complex and rapidly changing world. DL can enable them to do this by meeting and collaborating with students from other sites. Teachers no longer focus on a single lesson to a single group of children but rather a multitude of activities directed to diverse and distant learners (Nixon & Leftwich, 1998). Through the use of two-way, interactive, full-motion compressed video transmitted through fiber optics, classrooms can now be laboratories with access to the world!

## EXAMPLES OF DL IN THE TEACHER PREPARATION PROGRAM

Teacher candidates need to be ready to embrace rapidly changing technologies throughout their careers. Early exposure and hands-on use of DL affords them experiences both as consumers and producers of this technology (Abdal-Haqq, 1995; Beck & Wynn, 1998; Fatemi, 1999; Wang, 2000; Wright, Rice & Hildreth, 2001). Teacher education programs can extend the "traditional" uses of DL by bringing campus-based courses into school-based classrooms, expanding clinical experiences to a variety of settings and requiring teacher candidates to team-teach with distant teachers to reach more students in diverse settings (Weinberger, 2000).



### Linking Theory with Practice

Teacher educators have long questioned the lack of practicing teachers' input into the campus-based preparation. Goodlad (1990) refers to this phenomenon as a disjuncture

between theory and practice. By using interactive television DL technologies, methods course instructors can now bridge the gap between college learning and school teaching. Since observations in 'real' classrooms can create scheduling problems, may disrupt the visited classroom and can fail to focus on the important details of effective teaching, the use of DL can help teacher candidates become competent observers of learning without disturbing a classroom of students. Teacher candidates can not only observe actual teaching experiences while their campus-based instructors point out pertinent details, they can also participate in follow-up discussions with the classroom teachers about the experience. This provides a common experience between the teacher candidates and their instructors to analyze and discuss during subsequent class meetings (Snell, 2001). Genuine linkages between theory and practice are fostered via DL thus promoting meaningful dialogue between classroom teachers, university instructors and the teacher candidates.



### Linking Teacher Candidates with Supervisors

During clinical experiences, great distances may separate the teacher candidates and their university-based supervisors thus making observations sporadic due to time-consuming commuting. This limited time ultimately hinders the college supervisors' efforts to build mentoring relationships with the teacher candidates. Since clinical experiences are an integral part of teacher preparation, frequent on-going supervision with specific constructive feedback is essential. Furthermore, the methods course instructors rarely have time to supervise their students out in the field so potential linkages between theory and practice are rarely made thus exacerbating the disconnect between the campus-based courses with the school-based field experiences. But the use of DL supplements the face-to-face observations thus affording more consistent contact between the college supervisors and methods course instructors and the teacher candidates (Schlagal, Trathen, & Blanton, 1996). Consequently, the university-based faculty can become a more integral part of the field experiences and not just occasional visitors.



### Linking Teacher Candidates with Peers

Teacher candidates can be disconnected from peers who are not only placed in different classrooms but also in different schools and school districts. They rarely have opportunities to plan and team-teach all the students in their various student teaching classrooms thus limiting this capstone experience to one site with one group of students. By enabling teacher candidates to determine experiences that can be enhanced through DL, planning lessons with distant teachers, and teaching a variety of students across grades, sites, and disciplines, they will be better prepared to meet both

teaching and technological challenges throughout their careers (Schure, 1994).

## CHALLENGES AND GUIDELINES

Perhaps the biggest challenges to using DL in the teacher preparation program are accessing compatible technologies between sites and scheduling observations. Finding the appropriate time to observe classroom teachers, coordinating a supervised visit between the university and school, and planning a lesson between different schools may seem insurmountable; however, the results may be well worth the effort. Riedl and Carroll (1993) note that teacher candidates who use technology in their preparation programs will have direct models to follow when they step into their own classrooms. According to Cosgrove (1998) teaching and learning via DL are very similar to teaching and learning in a traditional mode. There are essential instructional components common to both such as context analysis, behavioral objectives, selection of materials and activities, monitoring student learning, and assessment. However, in order to effectively balance DL technology with teaching, researchers suggest it is advisable to follow these guidelines (Cosgrove, 1998; Elliot, 1995; Rutherford & Grana, 1994; Willis, 1993).

1. Be prepared! Materials, aids and strategies need to be carefully considered for activities within and among the sites. Determine that necessary materials are readily available because a lull in the lesson while the teacher searches for materials will cause students to become inattentive and distracted by the cameras.
2. Immediately establish a rapport among all the students and teachers. Ask the students to introduce themselves and share some pertinent information so that everyone can remember their names by association. Teachers need to refer to the students by name and not by location in order to create a cohesive class environment.
3. Use a variety of techniques throughout the lesson. Respond to learning styles by using a balance of print and visual aids with concise verbal instruction. When using the overhead projector keep all written materials concise with large print. Use black pens on white boards because colors are difficult to see at the remote site.
4. Provide interactive opportunities not just with the instructor but also with the other students at all sites. Cooperative learning techniques are effective by encouraging the students within their sites to talk and participate with each other and then share their findings with the students at the remote site.
5. Feedback maintains motivation and corrects misconceptions as well as monitors student learning. Continuously check the students at the remote sites by asking them to repeat concepts or answer questions. Direct questions to specific students; redirect questions so that students respond to each other and follow-up questions to elicit additional input. Remember to increase wait time to a minimum of 15 seconds for

responses to compensate for the lag in the voice transmission.

6. Use both summarization and closure techniques to continuously review the key points of the lesson. By using the graphics camera, students' responses can be listed, edited and reviewed.

7. Although the temptation is great, do not speak only to the on-site students. Make a conscious effort to look into the camera to establish eye-contact with the distant learners. Frequently ask them if they can see and hear. Due to the compression of images, the students at the remote site appear smaller so invite them to sit in the front seats of the distant classroom.

8. Every aspect of a telecommunications class requires an acute consciousness of one's appearance, movements, voice and techniques because the distant site students will truly be focused on the teacher. Using exaggerated arm and hand movements may distract from the message.

9. The voice is a powerful instructional tool so precise enunciation and articulation are essential. Rate needs to be considered because speaking too slowly will cause boredom whereas speaking too quickly will sound garbled at the distant site. And finally volume needs to be monitored. It is not necessary to scream, but speaking too softly will make it difficult for the students at the distant site to hear.

10. The coordination between sites is often the biggest challenge to an effective and smooth experience to ensure that the technology does not distract from the content. Always have a back-up plan, such as sending materials to the distant site beforehand, because transmission failures do sometimes occur.

As in every effective lesson, teachers must establish a bond with the class, state the objectives and purpose of the lesson, monitor progress of the students' learning, and summarize the key points and relevancy of the concepts. Active student interaction between sites is also necessary to enhance learning in a DL setting (Rutherford & Grana, 1994).

## CONCLUSION

A goal of DL instruction is the ability to use both the mechanical and intellectual tools to facilitate the exchange of information and ideas across the miles. As a result of visiting and observing a variety of classes, aligning campus learning with school teaching and team-teaching via DL, today's teacher candidates can learn to reflect, evaluate, and fine-tune all their teaching both in a traditional sense as well as by using technology. Furthermore by using DL for a variety of purposes throughout the teacher preparation program, teacher candidates can gain the confidence and desire to become life-long learners who will be able to adapt to emerging technologies, schools and students of

the future.

## REFERENCES

References identified with an EJ or ED number have been abstracted and are in the ERIC database. Journal articles (EJ) should be available at most research libraries; most documents (ED) are available in microfiche collections at more than 900 locations. Documents can also be ordered through the ERIC Document Reproduction Service: (800) 443-ERIC.

Abdal-Haqq, I. (1995). Infusing technology into preservice teacher education. Washington, D.C.: ERIC Clearinghouse on Teaching and Teacher Education. ED 389 699

Beck, J. & Wynn, H. (1998). Technology in teacher education: Progress along the Continuum. Washington, D. C.: ERIC Clearinghouse on Teaching and Teacher Education. ED 424 212

Cosgrove, M. (1998). Distance education and the teacher education program at Armstrong Atlantic State University. Bloomington, IN: Phi Delta Kappa Fastback.

Elliot, I. (1995). Taking the fast lane on the information superhighway. *Teaching K-8*, 26(2), 34-39.

Fatemi, E. (1999). Building the digital curriculum. *Education Week*, XIX(4), 5-8.

Goodlad, J. I. (1990). *Teachers for our nation's schools*. San Francisco: Jossey-Bass Publications.

LePage, D. (1996). Distance learning complement to a pre-service mathematics education model. *T.H.E. Journal*, 24(1), 65-67.

Matthews, D. (1999). The origins of distance education and its use in the United States. *T.H.E. Journal*, 27(2), 54-66.

Nixon, M. & Leftwich, B. R. (1998). Leading the transition from the traditional classroom to a distance learning environment. *T.H.E. Journal*, 26(1), 54-57.

Riedl, R. & Carroll, S. (1993). *Impact North Carolina: 21st century education*. *T.H.E. Journal*, 20(15), 85-88.

Rutherford, L. H. & Grana, S. (1994). Fully activating interactive TV: Creating a blended family. *T.H.E. Journal*, 22(3), 86-90. EJ 491 575

Schlagal, B., Trathen, W. & Blanton, W. (1996). Structuring telecommunications to create instructional conversations about student teaching. *Journal of Teacher Education*, 47(3), 175-183. EJ 536 907

Schure, A. (1994). Towards a new distance learning university. T.H.E. Journal, 2(8), 32-34.

Snell, J. C. (2001). Distance learning observations. College Student Journal, 35(2), 258-260.

Wang, Y. (2000, February). Preservice teachers' perception of the teachers' role in the classroom with computers. Paper presented at the annual meeting for Society for Information Technology and Teacher Education International Conference in San Diego, CA. ED 444 537

Weinberger, J. (2000). Students' experience of a distance learning development course in literacy education. Reading, 34(2), 90-97.

Willis, B. (1993). Distance education: A practical guide. Princeton, NJ: Educational Technology Publications.

Wright, V. H.; Rice, M. & Hildreth, D. (2001). Technology growth in an elementary magnet school: A longitudinal study. Journal of Computing in Teacher Education, 18(1), 19-24.



#### ADDITIONAL RESOURCES

Harry, K. (1999) (Ed.). Higher education through open and distance learning. NY: Routledge.

Ludlow, B. L. & Duff, M. C. (1998). Distance education and tomorrow's schools. Bloomington, IN: Phi Delta Kappa Educational Foundation.

Moore, M. G. (1990) (Ed.). Contemporary issues in American distance education. Oxford, UK: Pergamon Press.

Willis, B. (1994) (Ed.). Distance education strategies and tools. Englewood Cliffs, NJ: Educational Technology Publications.

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