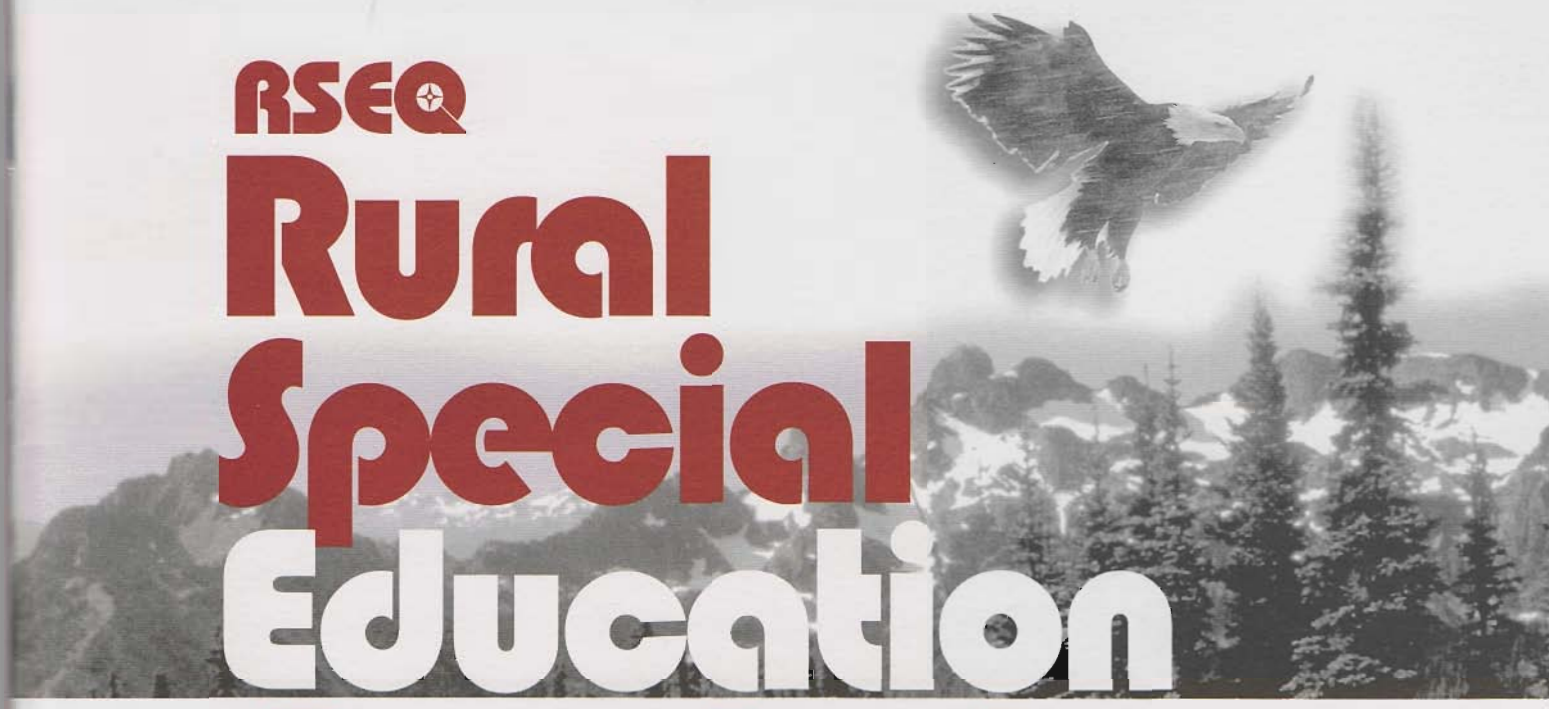

RSEQ Rural Special Education Quarterly

Winter 2007
Volume 26, Number 1

ACRES

American Council on Rural Special Education

Increasing Online Interaction in Rural Special Education Teacher Preparation Programs

Lora Lee Smith Canter
Karen S. Voytecki
Diane Rodríguez
East Carolina University

Abstract

This article will highlight strategies to promote interactive distance education activities through special education teacher preparation programs. We begin the discussion by addressing the need for qualified special education teachers in rural areas. We then introduce the potential of distance education via online instruction as a platform for preparing special education teachers to alleviate the current shortages experienced by rural communities. Effective interactive distance education strategies are introduced as a means to improve the quality of distance education preservice teacher preparation programs.

Special education in American public schools is on the edge of a serious crisis situation. There are currently 6,933,902 children (ages 3-21) with identified disabilities that need special education services in public schools, a 35.8% increase in student population over the last 13 years (U.S. Department of Education, 2005). As the need for special education services continues to increase, the number of qualified special education teachers is decreasing. This trend of fewer qualified special educators is evidenced by the number of school districts reporting shortages in recent years. In one study, 98% of school districts in the U.S. reported special education teacher shortages (SPeNSE, 2002). These shortages are further exacerbated by the large number of individuals currently filling special education positions that are not certified (McLeskey, Tyler, & Flippin, 2004). This is of particular concern because researchers have demonstrated that there is a link between teacher qualifications and student achievement (Archibald, 2006).

The trend of decreasing numbers of qualified professionals to serve the increasing number of children with disabilities is especially prevalent in rural areas (McLeskey, Tyler, & Flippin, 2004). One promising practice to increase the number of special education teachers is to recruit preservice teachers from rural areas. Once recruited, teacher preparation programs must be in place to meet the needs of students living in rural settings. Preservice teachers from rural backgrounds often face non-academic challenges that prevent them from pursuing a degree in education. One very prominent challenge is the preservice teacher's proximity to a university.

Efforts have been made by various institutions of higher education across the United States to provide access to special education teacher preparation programs. One such avenue of access is that of distance education and in particular online instruction. At the university level, distance education has become an effective method to deliver instruction, allow access to higher education, and to supply special education instruction to preservice and veteran teachers in rural areas.

To fully maximize the benefits of distance education and online instruction, it is important to create active learning experiences to enhance the meaningfulness of content knowledge. Students need to be engaged to become active participants in the class and productive consumers of the information they are learning. Electronic learning (E-learning) can be "exciting, interactive, purposeful, and beneficial for online learners" (Watkins, 2005, 35). For these reasons it is important that distance education courses using online instruction do not become self-paced individual study type experiences; instead, instructors of online courses should use strategies and techniques that promote interactive participation. Further, instructor-facilitated interactions are essential components of distance education courses and differentiate online instruction from web-based tutorials (Lehmann, 2004). To ensure course quality in a distance education program it is essential to include interactions as an integral component of the delivery of instruction.

Interactive Strategies

Course interaction occurs between learners and other learners, learners and instructors, and learners and content (Moore, 1989). Interactive tools and strategies are used in distance education to foster engagement between students, their instructor, other professionals outside of the course, and the course content itself. Savenye (2005) found that online interactive tools and strategies can be used to facilitate interactive debates, computer-based simulations, role-playing activities, case studies, group projects, Internet-based research, experiments, problem solving scenarios, peer reviews of classwork, online reflective journals or logs, electronic

field trips, guests lecturers, reports, presentations, and discussions. How interaction is developed and utilized in distance education course instruction is dependent upon factors such as the instructor's philosophy of instruction, course content, learner's ages and developmental levels, and availability of specific course technologies (Moore & Kearsley, 2005). Regardless of the factors that influence course development, it is essential for distance education courses to incorporate active learning through purposeful online interactions.

Learner to Learner Online Interaction

Computer-mediated communication facilitates peer interaction. This online interaction in distance education courses allows students to ask peers for their opinions, elicit information, seek clarification, and offer feedback to others (Zha, Kelly, Park, & Fitzgerald, 2006). Learners acquire and retain new information by engaging in dialogs with their classmates through written communication (LaPointe & Gunawardena, 2004). Forums that can facilitate computer-mediated communication include: electronic discussion boards, instant messages, emails, listservs, chat, video conferences, audioconferences, teleconferences, and blogs. Of these, one of the most widely used is the course discussion board, which is used to facilitate learner to learner, learner to instructor, and learner to content online interactions.

An electronic discussion board is an electronic asynchronous message board, which allows text to be input and documents to be uploaded as a message attachment. Discussion board forums can be used to stimulate conversations regarding a particular topic. The use of electronic discussion boards can create a natural learning environment that promotes social interaction between learners, thereby developing an authentic discourse community (Al-Jarf, 2004). Benefits of online discussions can include increased participation of all students (rather than just vocal students in a face-to-face class who often volunteer); reflective, well-planned responses; and archived discussions that can be accessed and reviewed as needed. Discussions can occur in the following formats: whole class, small group, instructor-student, student-student, and in social frameworks (i.e., a Cyber Café forum that allows students to converse informally about issues related to being a university student in a distance teacher preparation program). It can be more effective to divide larger classes into smaller groups to foster increased participation and reflective interaction among the students, while small classes can effectively participate as a whole.

Learner to Instructor Online Interaction

Synchronous chats can be useful for holding online office hours, students working on group projects, and presenting whole group instruction. For example, after whole group instructional presentations, small grou may break off to work on certain aspects of t corresponding assignment, chatting within their grou As a culminating activity, students would then regro and present their small group discussions to the enti class. Synchronous chats can enhance online interactio however, there are some drawbacks of synchrono chats. Students must be online at the same time, whi can be difficult to coordinate. Synchronous chats c often occur quickly, thereby making it difficult for sor students to type fast and keep up with the multip entries. Large groups can create a lot of dialogue, whi can quickly lead to a lot of instant reading and becor confusing when trying to process the discussion wh simultaneously composing responses.

Audioconferencing via telephone calls, either on on-one or as a conference call with more studer involved, can be used as a forum to answer cour questions and develop/strengthen the course's onli community. Benefits of audioconferencing are that it c be either spontaneous or planned in advance, is n technically complicated, is reliable, and is cost-effecti (Jenkins, 1982).

Learner to Content Online Interaction

Discussion activities can be designed to me multiple learning objectives. One such objective is enrich the interaction between the learner and the cour content. Discussions assist students to develop critica informed understandings about topics (Brookfield Preskill, 1999). Electronic discussion board forums c be used to provide experiential learning opportunit within the context of problem-based questions. F example, electronic discussion board forums can be us for posing content questions, soliciting experient responses, and providing problem-based learni opportunities that engage students in critical, high order thinking tasks. It is important for the instructor consider the following when developing discussi board forums: (a) the topic; (b) the instructor a learner(s) roles; (c) the methodology; and (d) t question prompt used to introduce the foru (Magnuson, 2005). These components should interrelated and focused on content goals and objecti that promote learner engagement and critical thinki Effective management of discussion board forums critical to the overall instructional outcomes of activities and can be used to establish forums t encourage thoughtful, reflective dialogue.

Interaction between learner and content can a occur through Internet-based activities such as web design and management. Instructor websites, stud websites, and university websites can be used to bu online classroom activities. Learners can w collaboratively to design, create, and implement interactive class website. These websites could incl

Table 1.

Distance Education Strategies

Distance Education Strategies	Definition	Focus	Sources
Computer-Mediated Communication	Utilizing computer and Internet technology for human communication.	Learner to Learner Learner to Instructor	Thurlow, Lengel, & Tomic (2004)
Video Conferencing	Collaborative communications that "seamlessly integrate audio, video, and instructional multimedia tools to provide a comprehensive video communications-enabled classroom" (p. 7).	Learner to Learner Learner to Instructor Learner to Content	Colbert, R. (2005)
Electronic Discussion Board	An asynchronous electronic message board, where text can be inputted and documents uploaded, used to stimulate communication regarding a particular topic.	Learner to Learner Learner to Instructor	Authors
Asynchronous Discussion	Online discussion occurring through users transmitting input at different times (e.g., e-mails).	Learner to Learner Learner to Instructor	Zha et al. (2006)
Synchronous Discussion	Online discussion occurring through users transmitting input at the same time (e.g., instant messaging).	Learner to Learner Learner to Instructor	Zha et al. (2006)
Listserv	LISTSERV, produced by L-Soft, is an email list management software that allows for the creation and management of opt-in email lists, such as email newsletters, announcement lists, and discussion groups.	Learner to Learner Learner to Instructor Learner to Content	L-Soft (2007)

Table 1. (Continued)

Email	Electronic mail (email) is a channel for online asynchronous communication, which allows text to be inputted and documents uploaded.	Learner to Learner Learner to Instructor	Fichter (2005)
Chat	A venue to participate in a synchronous exchange of comments with one or more people utilizing a computer network.	Learner to Learner Learner to Instructor	Barab, S. A., Merrill, H, & Thomas, M.K., (2001)
Teleconference	Use of electronic telecommunications to enable people to interact in spite of physical separation; four types: video, computer, audio/ graphic, and audioconferencing.	Learner to Learner Learner to Instructor	Egido (1990); Rogelberg, O'Connor, & Sederburg (2000)
Audioconference	Communication occurs via basic telephone equipment (e.g., conference call option); communications are solely auditory.	Learner to Learner Learner to Instructor	Rogelberg et al. (2000)
Blogs	Weblogs (blogs) are a source of information sharing whereby one individual typically publishes a Weblog, and users add to the discussion. Participants are notified of new posts.	Learner to Learner Learner to Instructor Learner to Content	Fitcher (2005)
Instant Messaging	A type of service available on the Internet that allows users to exchange written messages with others who are using the service at the same time.	Learner to Learner Learner to Instructor	Cambridge Advanced Learner's Dictionary (2007)
Internet-based Activity	An assignment requiring students to use Internet resources and tools.	Learner to Content	Authors

personal pages of all members of the class, samples of student work (e.g., lesson plans, classroom activities, management plans), electronic portfolios, links to professional organizations, research briefs, and potentially a plethora of educational resources. The interaction of learner to content is a feature that can assist students as they work toward internalizing course objectives and goals to use in their professional growth.

Distance Education Strategies

Multiple strategies can be used to facilitate online interaction. Table 1 delineates distance education strategies that can enrich online instruction by promoting learner to learner, learner to instructor, and learner to content interaction.

Conclusion

There is little doubt that the U.S. is facing substantial special education teacher shortages, especially in rural areas of the country. Institutions of higher education must take steps to produce professionals to work with children with disabilities by providing innovative and progressive teacher preparation programs that target rural areas. Distance education via online instruction is an avenue to prepare qualified teachers entering the field of special education and, simultaneously, to increase the number of special education teachers. This article highlighted beneficial interaction strategies to improve the quality of online instruction by increasing student engagement. When preservice teachers have opportunities to implement and apply interactive strategies, their knowledge and understanding of skills necessary to teach special education are significantly enhanced.

Offering online courses via distance education is an increasing trend in teacher preparation programs. The flexibility to acquire a degree through online classes offers opportunities to members of rural communities to continue their education. High quality distance education programs need to include (a) a way to communicate; (b) a mechanism to share documents; and (c) some means to discover other members of the community (Fitcher, 2005). In special education programs delivered via distance education, interactive strategies may promote preservice teachers' understanding, comprehension, and analysis of pedagogical concepts that can be implemented throughout their teaching careers. Savenye (2005) stated that a great online teacher is one who includes interactive strategies throughout all of their courses. The immediate result is preservice teachers who are engaged, attentive, and participative in meaningful learning experiences. Later, the benefit of effective instruction will be transferred from distance education teacher preparation programs to classrooms when these preservice teachers provide direct services to children with disabilities.

References

Al-Jarf, R. S. (2004). The effects of web-based learning on struggling EFL college writers. *Foreign Language Annals, 37*(1), 49-57.

Archibald, S. (2006). Narrowing in on educational resources that do affect student achievement. *Peabody Journal of Education 81*(4), 23-42.

Barab, S. A., Merrill, H, Thomas, M.K. (2001). Online learning: from information dissemination to fostering collaboration. *Journal of Interactive Learning Research, (12)*1, 105-143.

Brookfield, S., & Preskill, S. (1999). *Discussion as a way of teaching: Tools and techniques for democratic classrooms.* San Francisco: Jossey-Bass Publishers.

Cambridge Advanced Learner's Dictionary. (2007). Retrieved January 25, 2007, from http://Cambridge.org.

Colbert, R. (2005). New technologies for the education market smash barriers in distance learning. *Distance Learning, 2*(4), 7-8.

Fitcher, D. (2005). The many forms of e-collaboration: Blogs, wikis, portals, groupware, discussion boards, and instant messaging. *Online, 29*(4), 48-51.

Egido, C. (1990). Teleconferencing as a technology to support cooperative work: Its possibilities and limitations. In J.Galegher, R. E.Kraut, & C.Egido (Eds.), *Intellectual teamwork: Social and technological foundations of cooperative work* (pp. 351–371). Hillsdale, NJ: Erlbaum.

Jenkins, T. M. (1982). What it takes to teleconference successfully. *Administrative Management, 43*(10), 28–44.

L-Soft. (2007). *L-Soft Website.* Located on 1/15/07 at http://www.lsoft.com/default.asp.

LaPointe, D. K. & Gunawardena, C. N. (2004). Developing, testing, and refining of a model to understand the relationship between peer interaction and learning outcomes in computer-mediated conferencing. *Distance Education, 25*(1), 83-107.

Lehmann, K. J. (2004). *How to be a great online teacher.* Lanham, MD: Scarecrow Education.

Magnuson, C. (2005). Experiential learning and the discussion board: A strategy, a rubric, and management techniques. *Distance Learning, 2*(2), 15-21.

McLeskey, J, Tyler, N., Flippin, S. (2004). The supply of and demand for special education teachers: A review of research regarding the chronic shortage of special education teachers. *Journal of Special Education, 38*(1), 5-21.

Moore, M. G. (1989). Three types of interaction. *The American Journal of Distance Education, 3*(2), 1-6.

Moore, M. G., & Kearsley, G. (2005). *Distance education: A systems view* (2nd ed.). Belmont, CA: Thomson Wadsworth.

Rogelberg, S.G., O'Connor, M.S., & Sederburg, M. (2002). Using the stepladder technique to facilitate the performance of audioconferencing. *Journal of Applied Psychology, 87*(5), 994-1000.

Savenye, W.C. (2005). Improving online courses: What is interaction and why use it? *Distance Learning, 2*(6), 22-29.

SPeNSE. (2002). *Recruiting and retaining high-quality teachers* (SPeNSE summary sheet). Retrieved January 25, 2007 from http://www.spense.org.

Thurlow C., Lengel L, & Tomic, A. (2004). *Computer mediated communication.* Wayne, New Jersey: SAGE.

U.S. Department of Education.(2005). *Digest of Education Statistics.* Retrieved January 5, 2007 from www.nces.ed.gov/programs/digest/d05.

Watkins, R. (2005). Developing e-learning activities. *Distance Learning, 2*(1). 35-36.

Zha, S., Kelly, P., Park, M.K., & Fitzgerald, G. (2006). An investigation of communicative competence of ESL students using electronic discussion boards. *Journal of Research on Technology in Education, 38*(3), 349-368.