

DEOSNEWS Vol. 9 No. 8, ISSN 1062-9416. Copyright 1999

EDITORIAL

Team-teaching is familiar in primary and secondary classrooms and a teaching method that would appear to be remarkably well suited to Internet-based courses at all levels. There is little or no literature describing the quality of the learning and the quality of instructor-student and student-student interaction for team-taught courses utilizing the Internet as an instructional delivery model. In this case study, the three authors describe their experiences in team teaching a course offered asynchronously and aspatially (anytime, anywhere) on the Internet. The course was designed for professional educators interested in expanding their knowledge and skills in accommodating their classroom instruction to students with special needs. The authors describe and reflect upon their dual roles of instructor and coach as related to the four major aspects of the course: Personalizing Instruction, Challenging and Relevant Assignments, Collaboration and Communication, and Outcomes.

LESSONS LEARNED WHILE TEAM TEACHING

"USING THE INTERNET AS AN INSTRUCTIONAL DELIVERY MODEL"

Ann Nevin, Professor College of Education, Arizona State University West

Susan Stutler, Teacher of Gifted and Talented Education, Deer Valley Unified District, & Faculty Associate, College of Education, Arizona State University West, and

Debby Zambo, Cross Categorical Teacher of Students with Emotional Disabilities and Learning Disabilities, Cartwright School District, & Faculty Associate, College of Education, Arizona State University West

INTRODUCTION

"Applying Best Special Education Practices" (first developed by Nevin, 1997, and subsequently expanded by Nevin, Thousand, & Hood, 1998) was a graduate level course designed for certified professional educators. This course was designed for elementary and secondary teachers to fulfill their teacher certification requirements related to students with disabilities. It was designed for practicing educators to expand their current understanding of special education and students with special needs. First, the course connected the characteristics of students with gifts and talents and/or "high incidence" disabilities such as students with emotional disabilities, students with mental retardation, students with learning disabilities to their specific learning needs (e.g. reading, written expression, mathematics, cognitive behavioral strategies, life skills.) The course also connected students from "lower incidence" special populations such as students with disabilities who are learning English as a second language, students with autism, or students with multiple disabilities to their complex unique needs (e.g., special educators who are bilingual, computerized voice mechanisms, wheelchairs,

occupational and physical therapy.) Second, the course adapted curriculum and instructional methods to meet the individual learning needs of students with gifts and talents and/or disabilities. Third, the course applied teaching and instructional management strategies based on sound research of exemplary teaching practices. Fourth, the course encouraged the use of the Internet as a resource for information related to people and organizations to gain support for meeting specific needs.

Internet instruction differs from traditional teaching methods because of its unique characteristics and the stimulating challenges it poses for its users. Rose and Collison (1997) developed and evaluated an online course for the professional development of inservice teachers in the areas of project-based inquiry oriented science and mathematics instruction. These researchers offered distinguishing characteristics of on-line classes: (1) computer conferencing systems such as bulletin board systems and electronic mail interactions; (2) the arrangement of a pre-determined sequence of learning activities; and (3) the flexibility to allow participants to work at their own pace because internet classes are asynchronous and place-independent. These distinguishing characteristics were built into the design of "Applying Best Special Education Practices."

THE CHALLENGE OF MEETING QUALITY ISSUES OF INTERNET CLASSES

Internet instruction raises several issues as to the quality of instruction and learning for participants who do not interact face to face. Quality issues regarding Internet instruction are centered around specific learning outcomes like meeting course goals and objectives, understanding and applying course material, producing quality products from material learned in the course, and experiencing quality dialogues with the instructor and other participants about questions and issues presented in the course. "Applying Best Special Education Practices" met and expanded these specific learning outcomes in several ways. First, participants directly applied course content to analyze, design, implement, and evaluate an effective teaching plan for a student with special education needs (the Data Based Instruction project). Second, participants searched the Internet to find and evaluate worthwhile educational web sites to help them gain information regarding disabilities. Third, participants actively collaborated and communicated with others involved in the course via a class bulletin board. Fourth, participants evaluated their acquisition of course concepts by an online pre/posttest.

Another quality issue yet unanswered in Internet-based instruction is how to structure meaningful personal interaction between participants and instructors and among participants. Sorg and Truman (1997) recommended that virtual class designers utilize several concepts from educational psychology in the development of their Internet based courses so as to create a quality "student-centered" approach. Their recommendations included:

- (1) personalize instruction through a format that allowed faculty to become familiar with the participants;
- (2) humanize the course pages by including information about the instructor (e.g., photographs, hobbies, interests, and affiliations);

(3) provide advance organizers to stimulate thinking and activate prior knowledge and recall;

(4) include clearly labeled titles that identify the course and professor which allow for easy navigation amongst and between topics.

Nevin (1997) and Nevin, Thousand and Hood (1998) included Sorg and Truman's (1997) features in the design of "Applying Best Special Education Practices." The "student-centered" approach was analyzed and confirmed through a content analyses of instructor-student correspondence. The designers of the course also examined student satisfaction with instructor communication anonymously via several items on an Instructor Rating Scale. The course was humanized by including photographs of the lecturers. Advance organizers included focus questions for each of ten carefully organized topics which guided the participant through information, links to other web-based resources, abstracts of current research related to various topics, and interactive scripts which permitted participants to send their instructors the answers to their focus questions and their applications of course material to their data based instruction project.

There have been no accounts of co-teaching in Internet classes to date. The three instructors of the summer 1998 session "Applying Best Special Education Practices" implemented a co-teaching process that is familiar for special educators in public schools. Each provided experience and expertise in a unique area. For example, Nevin brought the university perspective in the context of teacher preparation while Zambo and Stutler offered the specialized knowledge and experiences that decades of direct classroom teaching engenders.

They viewed their role to be that of a coach as well as instructor. They used procedures and cognitive processes derived from Cognitively Guided Instruction (CGI) which is currently being implemented in many mathematics classrooms (Fenna, Carpenter, Levi, Franke, & Empson, 1997). We think CGI can be helpful in understanding how we implemented the coach and instructor roles because CGI relies on four major components which seem to have been included in the Internet class. First, problem-solving was the focus of instruction with participants deciding how they would solve the problem (as defined by them). Second, many problem-solving strategies (in this case, instructional best practices) were used to solve the problem. Third, participants communicated with their instructor and peers as to how they solved the problem. Fourth, we instructors understood participants' problem-solving strategies and used that knowledge to plan instruction, provide explicit feedback, and stimulate new thinking patterns, as explained in detail below.

In using a cognitively guided instruction approach to teaching Applying Best Special Education Practices, each instructor (coach) brought a rich blend of prior knowledge and experience in teaching students with special needs. In addition, their knowledge of the subject was further refined through university classes, taking the web-based course the previous summer, collaborating and consulting with Nevin (the web-based course designer). The instructors of this course viewed their coaching and instructional role to be that of an educational leader and facilitator as they implemented a CGI approach in the following ways:

(1) stimulated participant's thinking about the best educational practices for students with special needs;

(2) helped students analyze, design, implement, and evaluate an effective teaching plan for a student

with special needs;

(3) lead and assisted students as they navigated through the course material;

(4) helped participants reflect and evaluate their current teaching strategies;

(5) assisted participants in making connections among ideas and integrating what they had read with their personal background knowledge, most evident in the culminating requirement, the Data Based Instruction Project;

(6) helped participants understand research and connect it to the classroom;

(7) expanded participant's current knowledge by probing with questions that clarified ideas.

Participants were often asked to provide more information or elaborate on given facts. The questions that the instructors asked reflected all levels of thinking, especially higher order thinking skills, and were designed to help participants reason and reflect upon educational beliefs. In the following sections, the authors further explain how the dual roles of instructor and coach were implemented: Personalizing Instruction, Challenging and Relevant Assignments, Collaboration and Communication, and Outcomes.

PERSONALIZING INSTRUCTION

The beginning of the course required participants to submit their professional and personal goals, their current understanding of effective teaching practices, and their instructional management philosophy. This introductory assignment provided insight into each participant's current level of understanding, their educational goals, prior experiences with students with special needs, and challenges. As Susan Stutler, one of the course instructors, discovered, "To my amazement I found that I began to "know" these people almost immediately, even without the formal and more traditional face-to-face meetings. Although the participants' communications seemed tentative at first, electronic mail correspondence and assignments that began as a trickle soon became a steady stream. As they gained confidence in themselves, and in the Internet environment, their ideas and words took on new power and unique skills and areas of talent became apparent to me." Another course instructor, Debby Zambo adds, "Participants enrolled in this Internet course were viewed as virtual pioneers. They were open-minded individuals who were willing to accept new experiences and challenges. Getting to know participants virtually was really a very unique experience and clearly reveals the power of the written word."

Each participant worked at an adequate pace to complete all assignments in a timely manner which indicated that participants were self-disciplined and highly motivated with an inner drive for knowledge. Early mornings were a favorite time to log onto the network to complete assignments and transmit work. Several participants commented that flexibility was a prime motivation for enrolling in the Internet class. In fact, this was one attribute of Internet instruction that was appreciated by both the instructors of the course and the participants. For example, Susan Stutler explains, "Although I was thrilled when I was asked to co-teach the Internet class for graduate students, I also had many questions and concerns. I had enjoyed participating in the course as a student; I liked the fact that the course was self paced, and that the instructor provided positive feedback which at once validated my

learning and guided my thinking process." Debby Zambo adds, "Being able to "log on" and provide feedback at flexible times is definitely a benefit of virtual education. Computers are allowing education to better meet the needs of working adults. One of my participants who was a working single parent wrote to say how thankful she was for the flexibility."

The course was designed for practicing teachers from various fields (elementary education, middle school, high school, special education, etc.). Participants who enrolled in Applying Best Special Education Practices had from one year to ten years of teaching experience (with an average of 6 years). Many participants enrolled in the course had worked with students with disabilities and had an intuitive knowledge about teaching students with special needs. Participants may have had prior knowledge of special educational practices but this knowledge was not well organized and was not based on sound research-based information. Participants often reflected on situations in their classrooms but rarely provided evidence of a data-based intervention plan. The role of the course instructors was to understand each participant's current level of understanding and help them apply the instructional strategies and best educational practices presented in the course.

Mutual respect was developed as participants and instructors maneuvered through course material. Participant and instructor knowledge intersected and blended together as participants complete all assignments. Collaboration and teamwork were the foundation of the mutual respect gained.

Because there were no face to face encounters, participants in this class wrote many positive and encouraging messages. All participant answers were respected and valued. The major difference between this Internet course and face-to-face instruction was that positive reinforcement came in writing as opposed to spoken encouragement. Participants were encouraged to communicate with each other via the web-based bulletin board known as the Teacher's Lounge. This provided them with a forum in which to discuss difficulties, insights, and questions with others taking the course.

CHALLENGING AND RELEVANT ASSIGNMENTS

Teachers learn best by doing and the Internet class assignments were designed to help solve everyday real-life problems that teachers encounter in their classrooms. Assignments in this course were practical, valuable, and applicable to today's classrooms. Assignments provided insight into current beliefs and teaching practices to lead participants to expand and change current ways of thinking about students with special needs. Assignments laid the foundation for creating a more equitable learning environment for their students with special needs. The participants were successful in applying course-related concepts such as

- (1) identifying the characteristics and learning needs of students with various disabilities,
- (2) adapting curriculum and instructional methods to meet those needs, and
- (3) creating instructional interventions based upon researched effective teaching practices.

This was particularly evident in the quality of their data based instruction projects. The projects designed for this course were applicable to a broad range of students including kindergarten, upper

elementary, junior and senior high school levels. Curriculum areas ranged from increasing reading, writing and mathematics proficiency, improving work habits, helping students develop a positive disposition towards class assignments, assisting students with special needs to gain proficiency with technology. The types of disabilities included students with specific learning disabilities, students with emotional disabilities, students with conduct disorders, and students at risk for school failure due to socio-economic conditions.

COLLABORATION AND COMMUNICATION

Even though there were no face-to-face interactions, the quality of teacher-participant communication was high. Communicating through written word (as opposed to spoken communication) proved challenging but effective. Written information was slower to convey meaning but still an interesting form of interaction. Teacher-participant communication was frequent. Participants enrolled in the class submitted short messages very often and replies were immediate especially when technical assistance or questions were requested. Because there were no face-to-face encounters, the instructor (coach) was alert to respond to all communications in a timely manner. This was necessary to maintain interest, reduce frustration, and ease apprehension of required course work. Maintaining a respect for all contributions through written communication meant choosing appropriate words to convey this respect. At times, the e-mail exchanges became voluminous during productive spurts, but each instructor managed to respond within twenty four hours to any correspondence or assignment submitted. In fact, the virtual feedback was more substantial, and more personally tailored to participant learning needs and progress than is the majority of feedback in regular university courses. This has been confirmed in the instructor evaluations offered by the virtual learning participants.

Participants were encouraged to communicate with each other via the web-based bulletin board known as the Teacher's Lounge. This allowed provided them with a forum to discuss difficulties, insights, and questions with others taking the course. The class discussion topics were posed by the instructor and by the participants. Five discussion topics were posed by the six participants during the 21 days of the 3-week intensive summer session. All participants met the minimum requirement of participating at least 5 times and 66 percent of the participants exceeded the minimum. The frequency of participation ranged from 5 to 12 with an average of 9.5. Discussion topics included current problem solving strategies when faced with a lesson that is not "working", strategies specifically related to handling students with disabilities like Attention Deficit Disorders, and the practical implications of the policy of inclusion. Frequency of participation for specific topics ranged from 4 to 10 with an average of 7. These data indicate that the online bulletin board provided a viable means of creating a sense of community among this diverse group of participants.

OUTCOMES

Achievement data indicated that all of the summer 1998 participants completed their Data Based Instruction Projects showing from good to excellent application of course content on behalf of a real student. They were successful in improving the progress of students with a variety of special needs such as Attention Deficit Hyperactivity Disorder, emotional disturbance, specific learning disabilities

in language (written expression) and a variety of academic levels (early elementary school, middle school, senior/vocational school).

In addition, pre- and post-test scores improved for all participants. Notably, they acquired the ability to distinguish agreements and disagreements that general and special education researchers have about effective teaching practices for students with special needs. They showed differentiation for key elements associated with direct instruction and cooperative learning adapted for students with special needs. Perhaps most important, they showed an ability to generalize their newly acquired knowledge as well as their creativity and ingenuity in a post test requiring them to develop individualized data based instruction plans for six students (each with a distinct special need).

REACTIONS FROM PARTICIPANTS

The following comments were gleaned from three sources: comments included in the Instructor Rating Scale, comments prompted by reviewing their individual (web based) progress reports which included a common gateway interaction script to provide feedback, and comments spontaneously included in e-mail messages.

"I have thoroughly enjoyed this course. I can hardly wait to implement what I have learned!"

"I really enjoyed having a practicing educator in the field for a teacher. She made me feel very comfortable about calling her or E-mailing her at any time."

"Her feedback was always given the same day that a question or assignment was given to her which means she must have logged on daily. I have recommended this class to other professionals I teach with. Thank you for offering an instructional method which enabled me to keep my summer job and learn at the same time. More courses like this should be offered. They are a big help to working mom's like myself."

"Your class was a joy to take and just what I needed this summer."

REFLECTIONS AND RECOMMENDATIONS

The development of highly rewarding participant-instructor relationships was an unexpected outcome of the Applying Best Special Education Practices course. In two cases, the participants requested a continuation of the interactions (one in the form of an informal invitation to visit the classroom while teaching in the fall and the other in a more formal relationship of an independent study to implement the ideas gleaned from the course).

Susan Stutler elaborated on her role: "I observed that as an instructor in this virtual world, I was at the same time a learner, as is always the case. If my course participant's first messages to me were tentative, then so were my responses. As I received validation that my coaching skills were on target from my Internet coach [the course designer], I grew in confidence and competence. I learned that, as

in any instructional experience, the professional should be extremely familiar with the subject matter." Debby Zambo stated, "As I prompted and coached my course participants, I felt confident in my leadership abilities because of the reinforcement, encouragement and direction provided by the course designer." The instructors in their coach role modeled various ways to communicate with their participants.

Susan Stutler noted, "I found that a variety of feedback was essential. Much of my correspondence took the form of positive motivational feedback which was of the utmost importance for learners working with a new and often intimidating medium (the Internet and the World-Wide Web) in self-paced isolation. Often I used questions in order to encourage them to refocus and expand their thinking. I determined that I could validate their learning by commenting upon their data based instruction projects as it progressed, and then direct them to information sources whether on the web or in the textbook which could lead them to further relevant information. Only rarely was I obligated to use explicit corrective feedback and in each of these instances, the feedback was met with an almost immediate reflective change in the product of the participant. In fact, I became aware that, through a variety of means, I was guiding, prodding, and in some instances, propelling my participants to a greater and deeper understanding of the learning needs of exceptional students and I was doing it online!"

Debby Zambo elaborated: "I prompted and coached; provided positive reinforcement, encouragement and direction; helped participants maintain direction in their project by reminding them that information submitted for the various topics should fit together into a final cohesive piece; gained the participant's trust to develop a working alliance/collaborative team; demonstrated a virtual role model using proper "netiquette;" answered questions about where and how to find course information - web paths to follow or directions to take; provided technical support and referred to university technical staff for further support; helped participants understand how to design programs for students with special needs and connect these goals and objectives to national and state standards; provided sample ideas and information from my experience with the class; enriched and expanded knowledge of topics when gaps were noticed."

The attributes explicated by these instructors in their role of coach are reminiscent of the qualities that good mentors bring to a mentoring relationship. Researchers in the mentoring field (e.g., see the web page "A Mentor's Role" at <http://www.mentoring.org>) suggest that mentors boost self esteem, provide honest feedback to help monitor progress, challenge the mentee to live up to their potential and follow their passions, practice and encourage healthy learning experiences, believe in the mentee's positive future. Our experiences indicate that not only did our participants seem to increase in self esteem as they progressed through the course, but we also learned from them.

We believe that there are several key characteristics that made our team teaching on the Internet a successful experience. First, we shared a common syllabus with which we were very familiar (we had actually experienced the course itself.) Second, we capitalized on each other's unique areas of expertise by referring to each other and our students (depending on their interests and questions). Third, we communicated often (sometimes daily -sometimes twice a day!) and our communications provided encouragement and support for each of us to go beyond our current comfort levels. With this combination, we agree that we would team teach an Internet course again.

REFERENCES

Fenna, E., Carpenter, T., Levi, L., Franke, M., & Empson, S. (1977). *Cognitively guided instruction: Professional development in primary mathematics*. Madison, WI: Board of Regents of the University of Wisconsin System.

Nevin, A. (1998). *Applying best special education practices to improve the learning outcomes of students who are difficult to teach (3rd iteration)*. Online: <http://www.west.asu.edu/westvu/sed598/description.html> Phoenix, AZ: Author, College of Education and the Virtual University of the Office of Extended Instruction, Arizona State University West.

Nevin, A. (1997). *Applying best special education practices to improve the learning outcomes of students who are difficult to teach (1st iteration)*. Online: <http://www.west.asu.edu/icaxn/wsed598.html>

Phoenix, AZ: Author, College of Education and the Virtual University of the Office of Extended Instruction, Arizona State University West.

Nevin, A., Thousand, J., & Hood, T. (1998). *Using Data Based Instruction to Improve the Learning Outcomes of Students who are Difficult to Teach*. Online: <http://www.csusm.edu/COE/faculty/thousand/description.html> San Marcos, CA: California State University San Marcos, College of Education, Concurrent Credential Program.

Rose, R. & Collison, G. (1997, April). *A comparison between Web-based and Notes-based professional development netcourse delivery*. In J. Willis, J. Price, S. McNeil, B. Robin, D. Willis (Eds.), *Technology and Teacher Education: Proceedings of SITE 97-Eighth International Conference of the Society for Information Technology and Teacher Education* (p. 151-154). Orlando, FL.

Sorg, S., & Truman, B. (1997, April). *Learning about teaching through the Internet: Lessons learned*. In J. Willis, J. Price, S. McNeil, B. Robin, D. Willis (Eds.), *Technology and Teacher Education: Proceedings of SITE 97-Eighth International Conference of the Society for Information Technology and Teacher Education* (p. 318-385). Orlando, FL.

=====

[Top of Page](#)