

# **Models for Integrating Computer Technologies into Agricultural Student Teaching Programs**

## ***Poster Abstract***

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## **Introduction**

Many would argue that student teaching is the most important component of any teacher education program in agriculture. A successful student teaching experience requires a team effort involving the student teacher, the cooperating teacher, and the university supervisor. The success of this three-way relationship is dependent upon substantive communication. Regular communication between the student teacher and the university supervisor and the cooperating teacher and the university supervisor often presents the greatest challenge. Conflicting schedules and travel difficulties frequently reduce the time that university supervisors are able to spend with student teachers.

The purpose of this project was to develop cost-effective sustainable models for integrating computer technologies into agricultural student teaching programs. The primary emphasis was on using computers as communication tools with a secondary emphasis on enhancing access to teaching materials and improving the quality of teaching materials used by student teachers.

## **Methods**

Five internship programs that had reputations for successfully integrating computer technologies into their program were identified by surveying academic deans in agriculture and heads of agricultural education departments in the United States. Based on the results of the survey, Fort Valley State University, Oklahoma State University, Texas A&M University, the University of Florida and Washington State University were selected for study. Four of the five internship programs were agricultural student teaching programs. Greg Miller or Wade Miller visited each of the five programs and collected data to describe the approach used in the program, determine its advantages and disadvantages, analyze the cost effectiveness of the approach and determine if an educational theory or philosophy undergirded the approach. The findings from the five case studies influenced decisions about the approach to take in the agricultural student teaching program at Iowa State University.

At Iowa State University, the use of desktop videoconferencing (DVC) to supervise student teachers was evaluated. During the spring semester of 1999, one half (n=9) of the student teachers experienced supervision facilitated by DVC. Student teachers in the control group received three on-site university supervisor visits while students in the DVC group received two on-site university supervisor visits and two DVC supervisory experiences. Student teachers in the DVC group sent a videotape of themselves teaching a class and the corresponding

lesson plan to their university supervisor. The university supervisor viewed the tape and took notes. To conduct the post-observation conference the university supervisor and the student teacher initiated a conference using Microsoft NetMeeting and a QuikCam camera. Attitudes of all student teachers, cooperating teacher, and university supervisors toward the use of DVC were measured before and after student teaching. In addition, student teachers' level of reflective thinking was measured after student teaching. Finally focus group interviews were conducted with all student teachers to gain deeper insights into the experiences of student teachers in both groups.

In addition to DVC a web site was developed for the student teaching program in agricultural education at Iowa State University. The web site included the student teaching handbook, the university teacher education handbook, a list of e-mail addresses for student teachers, cooperating teachers and university supervisors and links to agricultural web sites. The site also provided access to Web Ct for asynchronous discussion among student teachers.

### **Results to Date**

Data collected from the five internship programs studied by the project staff are being organized into a manuscript for publication in a teacher education journal. These programs had been using E-mail and Internet tools to facilitate asynchronous discussion. DVC had seen limited use in these program and no evaluation data had been gathered to determine its usefulness. Persons interviewed indicated that the primary motivation they had for using computer technologies in their internship programs was to stay current with technology. In addition, these same persons had difficulty identifying an undergirding philosophy or educational theory guiding their approach to integrating computer technologies into the internship program. Fort Valley State University had experienced success in supervising student teachers using a statewide compressed video network referred to as G-SAMS. Their experience provided a stimulus for Agricultural Education faculty at Iowa State University to experiment with similar technology in Iowa.

Student teachers at Iowa State University in the Spring of 1999 were undecided about DVC before and after student teaching. In addition, student teachers who received supervision facilitated by DVC were no more positive or negative toward DVC at the end of student teaching when compared to those who received traditional supervision. Cooperating teachers and university supervisors had positive attitudes toward DVC before and after student teaching. Student teachers receiving traditional supervision and those who received supervision facilitated by DVC were no different on their student teaching grade or in the level of reflective thinking that they achieved. At Iowa State University, DVC was determined to be an effective communications tool, but a lack of adequate technology resources in secondary schools is a serious barrier to wide spread reliable use of DVC.

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