Discovery Center of Springfield

Executive *Summary*

Technology Innovation Challenge Grant 2003-2004 Evaluation

by the
Institute for School Improvement
Southwest Missouri State University

Outcomes. . .

On average, students and teachers participating in the Discovery Center's Technology Innovation Challenge grant video conferencing activities believe…

- ***lessons were presented in a manner that allowed for "real life" connections***
- ***the presentations promoted student learning in a new and exciting way***
- ***the activities were "hands on" and worth class time***
- ***the material was aligned with district curriculum and instructional goals***

Mission & Goals

The goals of the Technology Innovation Challenges Grant administered by the Discovery Center of Springfield include:

- **Equipment and Staff**
  - To purchase equipment, hire staff and begin the curriculum planning and development process to offer distance learning programs.
- **Access to Technology**
  - To provide students in high poverty Springfield Public Schools and rural Ozark region schools access to distance learning technology.
- **Promote Distance Learning**
  - To promote the use of distance learning to Springfield Public Schools, rural, and private schools as a means to communicate challenging and enriching curriculum to excite and empower students and teachers.
- **Professional Development**
  - To work with administrators of school systems and higher education faculty throughout the region to design professional development opportunities on technology.
  - To provide local, regional, and private school systems meaningful, effective professional development opportunities.
- **Promote Collaboration**
  - To create collaborations with other educational sites and consortiums that can provide exciting and innovative programming that meets the needs of educators.
- **Evaluation**
  - To create an evaluation plan that fulfills the needs of the grant and provides valuable evidence and assessment information to the DCS and collaborating school systems.

Student Comments

What would you change about the video conference???

- ***"Nothing…it was very well presented"***
- ***"I would not change anything because it was really, really fun."***
- ***"I would make the lesson longer because my class seemed to enjoy it a lot."***
- ***"The presentation was awesome but I would make more experiments."***
- ***"It was fantastic!"***
- ***"It was wonderful!"***
- ***"Nothing…it is already too fun."***
- ***"Nothing…it was great and taught me stuff I didn't know."***
- ***"It should be longer."***
- ***"I think it was absolutely good."***

Overview

This evaluation of the Discovery Center of Springfield's Technology Innovation Challenge Grant examines the level of use, user profiles, usability and overall effectiveness of the distance learning programs operational during year three (6/1/03 to 5/31/04) of the project's three-year funding cycle – 6/1/01 to 5/31/04. This third evaluation, again, focuses on the amount and types of professional development and support provided to teachers as well as the value and appropriateness of the curriculum/content and materials provided to students in the Dial-In / Dial-Out video conferences. Survey questionnaires were used to collect information. Finding from this evaluation are compared to findings from the year two evaluation as appropriate.

Methodology

A mixed design utilizing both qualitative and quantitative approaches was used. Age/grade appropriate survey questionnaires were developed and administered to children who participated in the activities provided by the grant. Teacher survey questionnaires were also developed and administered to provide perceptional data regarding the quality of the video conferencing sessions and their own professional development. Chaperones, referred to as "other" in this report were also asked to complete the teacher survey. "Others may include school administrators, parent chaperones, student teachers, or anyone who is not a classroom teacher. Itinerate, unstructured observations of program activities were conducted and documents were reviewed unobtrusively by the research team. In addition, professional development workshops were also provided for teachers interested in videoconferencing technology. Participants also completed survey questionnaires.

The above methods were used to examine Dial In / Dial Out videoconferencing activities for students in grades K-8, and professional development for their classroom teachers. For program enhancement / curriculum and instruction, these students were divided into three cohorts (grades K-2, 3-4, and 5-8). Data were disaggregated accordingly and analyses / reporting reflect same.

Major Findings

Impact on Students:

- Overall, students rated the Dial In and Dial Out videoconferencing activities very high, indicating satisfaction with the program. Students were impressed with the ability of various presenters to interact with them, both seeing and hearing them and vice versa. Students generally agreed that the videoconferences were worth their time, that they learned new information, and that the presenters made the programs interesting – connecting them to real life situations.
- Differences in student opinions about the two types of video conferences were noted students rated the "hands-on" nature of the lab activities as well as the level of involvement they had in the lab activities. Students participating in Dial In conferences rated these questions higher than students participating in Dial Out video conferences.

Teacher Comments

What would you change about the video conference???

- ***"The presenter was great with kids. I wouldn't change anything."***
- ***"Nothing!"***
- ***"Need more time."***
- ***"Have pictures to help with the large vocabulary for students."***

What barriers exist that would prevent you from participating in video conferencing activities?

- ***"The equipment needed is housed in the high school building."***
- ***"There is not enough band width at our school to support the technology."***
- ***"The equipment in our district is shared among all schools."***

- While students participating in the 2003-04 video conferencing activities ranged from grades 2-10, the majority of student participants were 3rd grade students (61.4%).
- The number of students participating in video conference activities decreased in year three from 1,074 students impacted during the 2002-03 academic year to 789 engaged during the 2003-04 academic year. The greatest decrease came in the form of dial-out video conferences while the number of student participating in dial-in video conferencing remained relatively stable from year two to year three.

Teacher Perceptions of Student Impact:

- Overall, teachers participating in both Dial-In and Dial-Out activities rated the experience high, noting that the presentations allowed students to learn in a new way, the presentations was worth classroom time, the presenter provided appropriate feedback to students and the videoconferences had a positive impact on student learning.
- Interestingly, during the 2002-03 evaluation teachers noted that the activities may have been too difficult for K-2 students, yet too easy for 5-8 students which may account for the increased focus on 3-4 grade students during the 2003-04 academic year and the decrease in K-2 and 5-8 grade participants. Third and fourth grade students represent 84% of all students participating in video conferencing activities.
- The majority of classroom teachers (88.2%) responding to the questionnaire were associated with Title I school sites. In addition, teachers whose schools were in a more rural setting (n = 34) participated in more dial-in video conferencing activities (91.2%), while those teachers who considered their schools to be in a more urban setting (n = 30) represent 80% of classrooms that participated in dial-out video conferences.
- Teachers' perceptions regarding the above findings did not differ significantly from between the two conference types, rating both Dial-In and Dial-Out conferences generally the same.

Teacher Professional Development:

- All ten questions related to professional development were rated very high by teachers, ranging from $\underline{M}$ = 4.77 to $\underline{M}$ = 4.42 on a five-point Likert-type agreement scale. Teachers participating agreed that the presentations were well organized and that students in their classrooms would benefit from participating in video conferencing activities.
- The majority of teachers that participated in the professional development video conferencing workshops were from rural districts (77.8%) and were associated with schools that receive Title I funding (69.1%)
- The most common reason teachers gave for not utilizing video conferencing technology was lack of technology support and lack of equipment in their school building.