Chapter III
The Journey into Distance Learning:
Test Drives, Roadblocks, and Destinations

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ABSTRACT

This chapter presents an overview of videoconferencing technology in K-12 instruction from the perspective of a program (content) provider. The chapter provides an overview of the development process, issues, and challenges, and future goals of a distance learning program which provides lessons to K-12 classrooms across the country. Specific topic areas include technology and equipment, establishing partnerships, working with K-12 school districts and educators, expanding a program, and staffing needs. Using the analogy of a road trip, the author takes us on a journey through the development, piloting, and use of a distance education videoconferencing program, and how it is now being sustained and enhanced.

INTRODUCTION

Discovery Center of Springfield (DCS) is a non-profit, hands-on science and technology center located in Springfield, Missouri. Considered a small science center, our annual general visitor count is in the neighborhood of 36,000; however, we reach another 15,000 people through outreach and special programs each year. We have been working with videoconferencing technology since 2001 in a variety of capacities; our primary goal in this endeavor is to deliver educational lessons to K-12 classrooms. In the distance learning community, we are most often referred to as "content providers", and the practice of providing educational programming through videoconferencing

technology is called "distance learning". These two terms will be used on a regular basis as our program is discussed.

DCS received a federal technology innovation challenge (TIC) grant in June of 2001. This three-year grant allowed us to gradually create a distance learning program by hiring an information technology coordinator and a distance learning coordinator, purchasing the necessary hardware and equipment, setting up a high-bandwidth network, creating curriculum, and forging local partnerships to promote this new technology. This gradual implementation has allowed us to carefully expand the program while maintaining quality; in the final year of the grant (2004-2005), we delivered 60 videoconferences. The following year we delivered 180 lessons, and in our fifth year of working with videoconferencing technology, we delivered 230 educational lessons to 20 different U.S. states and Mexico City, Mexico.

As content providers, schools and organizations connect via videoconferencing technology to us, and we deliver an educational lesson to students or adults at their site. Our lessons are approximately an hour long, with topics ranging from DNA to the culture of Mexico (currently a total of 26 topics). Most topics are accompanied by a kit of supplies and props, which is shipped to the classroom educator when the lesson is reserved (approximately two weeks in advance). In addition, we have formed partnerships with other organizations in the community to bring their educational content to our distance learning program.

We also serve as distance learning program recipients. Discovery Center has received lessons through distance learning for field trips, professional development, and other audiences who are visiting the Center. For example, third graders who are learning about astronomy may conclude their curriculum unit by visiting the Discovery Center and taking part in a videoconference delivered by NASA. The myriad of topics available through distance learning can fit almost any curriculum theme or topic. Many people describe distance learning as going on a journey without ever physically leaving the classroom, which is why these offerings are often referred to as electronic field trips (or e-trips).

Finally, DCS utilizes videoconferencing technology to add sustainability to the organization as a whole by offering the technology to businesses and other organizations who rent meeting space in the Center. As part of the TIC grant, DCS also created professional development workshops for teachers and other organizations who are interested in distance learning. These workshops generate income through registration fees and increased future business.

Purpose of Chapter

Our discussion here will cover our experiences with two goals in mind: first, to outline a process for developing and expanding a successful distance learning program, and second, to give educators and other content recipients insight as to what goes on "behind the scenes" when working with a content provider. Our experiences will be related in three sections: Test-Drives (development), Roadblocks (issues and solutions), and Destinations (plans and goals for the future).

TEST DRIVES

Initial Program Development

The initial investment to implement videoconferencing technology can be daunting, especially for smaller organizations. The TIC grant, which was awarded to DCS in June, 2001, provided $500,000 in funding toward educational technology. For many small non-profit organizations and school districts, grants are probably the most likely source of funding for videoconferencing technology at present. The TIC grant was a federal program through the U.S. Department of