

Chapter XVIII

Point-to-Point Videoconferencing: Impact of Content Providers on the K-12 Classroom¹

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ABSTRACT

This chapter examines evidence that there is significant value added to K-12 educational outcomes that emerge as a result of provider use of interactive videoconferencing and supporting resources in their content delivery. It includes discussion of the outcomes of several presentation approaches that have been analyzed with regard to effectiveness and impact on student understanding. The aim of the chapter is to offer a solid foundation for understanding the impact of interactive videoconferencing on student learning, and to present an overview of approaches to structuring interactive programs to enable comprehensive, systemic change in student encounters with and understanding of curriculum content.

INTRODUCTION

Throughout the world, the growing availability of broadband technologies in education is creating an exciting transformation in school classrooms by enabling teachers to prepare students with the high degree of literacy needed to succeed in the 21st century information age. At the same time, the enhanced access to academic content

through digital connectivity is providing an infrastructure for new approaches to teaching and learning, including unprecedented access to academic content through real-time interactive videoconferencing with geographically-distant content providers.

As part of efforts to improve student learning and raise student performance, K-12 schools are using interactive video communications, point-to-point videoconferencing to create new

curriculum delivery models. The result is the emergence of new methods and infrastructures for content delivery that both facilitate dynamic, self-constructed learning, and enable students to follow a more effective path to learning.

The underpinning of the exciting emergence of cutting-edge interactive communications in the schools is the creation and implementation of innovative approaches and organizational structures for curriculum and instruction. The key to that innovation is the fluid ability of point-to-point videoconferencing to expand the traditional constructs of academic content by facilitating the integration of programs delivered by external providers into standards-based classroom curriculum.

The use of point-to-point videoconferencing provides digital tools that make it possible for K-12 students to communicate directly with external content providers (e.g., educational staff members, content experts or other knowledgeable individuals from museums, zoos, historical sites, scientific organizations, etc.). In this twenty-first century interactive environment, the expansion of teaching and learning structures reaches beyond schoolhouse walls to create a foundation for dynamic educational change and growth.

BACKGROUND

Why Use Point-to-Point Interactive Videoconferencing in K-12 Settings?

Educational professionals are enthusiastically supportive of videoconference opportunities for the classroom, and, in anecdotal statements contained in evaluation studies, they offer praise for the efficacy and relevance of point-to-point, interactive videoconferencing (Newman & King, 2004b). This documentation of supportive responses to point-to-point, interactive videoconferencing is of high interest to educators, administrators, and content providers who are hoping to dis-

cover whether point-to-point videoconferencing provides substantive *value added*, measurable improvement, to student learning and to student academic performance. In other words, they want to know whether there is external formal validation of the positive impact of K-12 videoconferencing on student learning (i.e., on what students know and understand).

The widening support for interactive videoconferencing in the classroom is emerging from programs that provide opportunities for teachers to partner with content providers collaboratively to create educational experiences designed to raise academic performance using structured integration of standards-based videoconference lessons into curriculum. By designing educational delivery that involves students in interactive point-to-point videoconferencing, a classroom learning environment is created, enabling providers to communicate with students in real-time while they share collection objects and content, and engage students in dialog requiring higher levels of information gathering, synthesis, and analysis.

Educators express positive perceptions and observations of student performance during and after videoconferencing experiences. K-12 teachers who use point-to-point, interactive technologies in their classrooms agree that videoconferencing is an exciting tool that can address diverse educational issues and offer solutions to many common problems and unmet needs in the schools.

To begin, interactive videoconferencing can counteract barriers to achievement of equity in education by offering cost-effective, open access to external content providers (e.g., museums, zoos, libraries, etc.) and their collections. Point-to-point videoconference technologies can facilitate equitable integration of provider resources into curriculum, regardless of the disadvantaging finances and demographics of some schools, and it can also increase the quality of educational opportunity for learners in geographically-remote and access-challenged communities.

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