

Chapter I

Videoconferencing and the K–12 Classroom: What is it? and Why do it?

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ABSTRACT

This chapter introduces the concept of videoconferencing in K-12 education by providing an overview of what it is and why it should be used. Key terms are defined, and an overview of benefits to uses are presented. When discussing “What is videoconferencing?”, six types of videoconferences which are frequently found in K-12 educational settings are described, and the key roles of stakeholders are introduced. These six types include: point-to-point or provider-classroom videoconferencing; collaborative classroom videoconferencing; multi-point videoconferencing; mass audience or electronic field trips videoconferencing; homebound videoconferencing; and one-to-one videoconferencing. Potential benefits of each type are also presented. Following this discussion, the author discusses “Why do it?” by addressing, in lay language, the results of multiple studies that have documented the benefits of K-12 videoconferencing from the points of view of teachers, students, and providers.

INTRODUCTION

The impact of technology and technology-supported curriculum and instruction is an area of increased interest for educators, providers, and funders. It is estimated that approximately six billion dollars have been invested in providing K-12 buildings with technology in the

past decade (Ringstaff & Kelley, 2002). One of the most interactive modes of online learning is videoconferencing. Unlike other forms of technology-based instruction, videoconferencing requires the participants’ real-time physical presence to communicate with learners at distant sites. Videoconferencing has been defined as “a live connection between people in separate loca-

tions for the purpose of communication, usually involving audio and often text as well as video” (Tufts University, Educational Media Center, n.d., Glossary). As noted by Bose and DeAngelo (see Chapter XI in this volume), this method of videoconferencing is possible in most K-12 schools with varying technological complexity; schools need only a modern computer, a communication connection, a video camera, and videoconferencing software. As a result, classrooms are able to become part of active online learning communities, allowing all students to benefit from a mutual learning context (Menlove, Hansford, & Lignugaris-Kraft, 2000). Proponents of the medium believe that using videoconferencing in the classroom community has many advantages; most notably, these include its capacity to import external resources to the classroom and its ability to accommodate communities of diverse learning styles (Motamedi, 2001). In fact, many state that, when combined with well-planned instruction, it is the combination of synchronous, visual, interactive elements supported by videoconferencing that is the real key to its success (Greenberg, 2004; Omatseye, 1996).

WHAT IS K-12 VIDEOCONFERENCING?

Several major types of videoconferencing communities may be found in K-12 educational settings: These include point-to-point or provider-classroom videoconferencing; collaborative classroom videoconferencing; multi-point videoconferencing; electronic field trips; support for homebound students; and one-to-one support. Each of these types of videoconferencing has unique user characteristics and patterns of interaction that reflect variations in goals, participants, and outcomes. Following is a brief discussion of each¹ that will allow potential users to become oriented to the field. A summary of their characteristics and uses is presented in Table 1.

Point-to-Point or Provider-Classroom Videoconferencing

In *point-to-point* or *provider-classroom* videoconferencing, an external expert or *provider* communicates directly with a classroom of students via videoconferencing modalities. The goal of the communication is to allow students to have access to resources that normally would not be available in a school setting, but to do it in a way that allows for synchronous provider-student interactions and direct sharing of information. Newman, Barbanell, and Falco (2006) note several benefits of provider-classroom videoconferencing: It promotes equal access to resources and increases the quality of educational opportunity for learners in remote or economically-disadvantaged schools; it allows access to subject matter experts and career role models for students across gender, ethnic, and racial divisions; it eliminates security issues related to travel; and it overcomes time and budgetary constraints typically associated with off-site field trips.

Provider organizations that support these virtual field trips (VFTs) may consist of museums, zoos, historical sites, scientific organizations, government officials, and so forth; the presenter may be a member of the educational staff of the organization, a single expert in the field, a group of program sponsors, or others who have unique information that can be shared with a group of students through visual and auditory interactions. Providers sponsored by distance education programs, such as those at museums, art institutes, or zoos, usually have a series of replicable but adaptable curriculum units based on their internal archives, areas of expertise, and mission. In many cases, these curriculum units have been developed with the assistance of K-12 educators to ensure that they meet state and/or national standards. As a result, teachers may easily integrate these external provider-based videoconferences into their instructional practices in ways that can support

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