

Chapter VIII

Designing, Assessing, and Scaffolding Student Learning in Videoconferences

Harry Grover Tuttle
Syracuse University, USA

ABSTRACT

This chapter provides a three-step framework for improving student learning in videoconferencing. Using the Understanding by Design model, educators can design videoconferencing instruction that focuses on specific student learning. As they pre-assess their curriculum and instruction goals and shape the videoconference plan, as they assess students' learning before, during, and after the videoconference, and as they scaffold the learning to meet these goals and assessment needs, they will automatically build in structured, successful learning experiences. While discussing the transfer of the understanding by design model to videoconferencing settings, the author provides specific examples of each step of this process that will help other educators use the system in their own instructional practices.

INTRODUCTION

Learning is the star or primary goal of videoconferencing (Amirian, 2003; Tuttle, 1996). Videoconferencing is when people learn interactively by hearing, seeing, and sharing over distance in real-time. Since learning is the goal of videoconferencing, it is important for educators to structure the process in a way that will support students' learning and the assessment of that learning.

When educators select videoconferencing, they are using a technology that provides for robust learning blocks of multiple interactivity (student to content, student to instructor, and student to student), audio and visual modalities, authentic connections, collaboration across distances, multicultural connections, access to primary sources, and collaboration with experts and peers (Greenberg, 2004). Educators can use these learning blocks as they design the learning

experience, scaffold it, and assess the student learning.

Depending on their goals for student learning, educators may choose to incorporate videoconferencing with its learning blocks into a particular aspect of class learning, possibly serving as:

- An introduction to the unit
- An activity during the unit
- Several activities during the unit
- The main activity during the unit
- The only activity in the unit
- An end of the lesson summary
- A follow-up activity to the unit
- A special motivator

Educators can increase their students' academic growth through videoconferencing by learning how to:

1. Design the students' learning in videoconferencing around the Understanding by Design model
2. Build in assessments before, during, and after the videoconferencing learning experience
3. Scaffold the students' learning before and during the videoconference for successful learning

BACKGROUND

When educators investigate the possibility of improving student learning through videoconferencing, they find an abundance of references that focus on the students' enjoyment of the videoconferencing experience or the educators' stories of their first experiences with videoconferencing; only rarely do they find examples that focus on student learning (Anderson & Rourke, 2005). Documentation of learning via reliable

and valid assessment also is limited. In fact, the word "assessment" does not appear in many videoconferencing manuals (Classroom and Media Services Information Services and Technology of the University of Manitoba, n.d.; University of Ulster, n.d.). For example, the Bethpage Union Free School District's (n.d.) videoconferencing manual is a listing of content providers and the topics they offer; there is no mention of the assessment of learning.

Videoconferencing assessment resources that are available tend to focus primarily on the evaluation of the videoconferencing experience, not on student learning in the videoconference. For example, none of the 16 "Before I Die" videoconferencing evaluation questions assess student learning (PBSOnline, n.d.) and, although the *Digital Handbook* (2003) asserts that assessing videoconferencing requires a complex set of assessments, it focuses on measuring participation, project visuals, and on-camera presentation, and only refers to content assessment through rubrics. Other methods focus on project assessments. For instance, Bernhardt's videoconferencing evaluation form concentrates on teacher-centered activities with statements like, "How effective was the content of the videoconference? (How well was the content delivered)" rather than on learner-centered activities such as, "How well did the student learn the content?" (Knowledge Network Explorers, 2006b).

Research on content-based outcomes that is available appears to support mixed findings. The early research of Russell (1999) on student learning in videoconferencing showed a "no significant difference" while recent studies, such as Newman, Barbanell, and Falco (2005), showed the positive impact of videoconferencing on student learning. These research studies, however, used videoconferencing in ways that differ from teachers' more complex uses (Anderson & Rourke, 2005).

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