Chapter 2
Dimensions of Design in K–12 Telementoring Programs: A Discussion for Designers and Teachers

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ABSTRACT
Teachers and researchers have been designing telementoring programs for more than fifteen years, yet there are many possible program designs that have not yet been attempted, and enormous potential yet to fulfill. An attempt is made to map out the “design space” of K–12 telementoring by discussing the major decisions made in designing a telementoring program, and the relationship of these decisions to one another. Where possible, research findings and examples of specific programs are cited in this discussion. By providing a look “under the hood” of telementoring programs, the chapter aims to help teachers become more equal partners in the effort to refine existing programs and develop new ones. Encouragement is offered to researchers to more fully articulate the rationale behind their designs in their writing, and to carry out more research on the efficacy of particular design choices, so that the field can develop cumulative literature on telementoring design.

INTRODUCTION
It is surprising to think that teachers and researchers have been at work on telementoring for as long as we have. The earliest reference in the literature goes back to 1993 (Wighton, 1993), and while I continue to believe that this innovation has tremendous potential for impact on the lives of a broad spectrum of school children and their achievement in school, we have been slower in developing this potential than I had expected when I began my initial forays into this field in the mid-1990s (O’Neill, Wagner, & Gomez, 1996). It seems that like innovators before them, the developers of telementoring programs (some of them at least) assumed that once they demonstrated the potential of this innovation, educators would
flock to fully realize it (Cuban, 1986). Needless to say this did not happen, and today telementoring maintains a small, though still growing role in K-12 education.

Another surprise is that after all this time, the literature on telementoring continues to be dominated by reports on programs. Furthermore, these are largely reports on successful programs – or at least programs that are cast as successes. Cravens’ (2003) description of the state of affairs still appears generally accurate:

Most online mentoring programs do not share their own suggested practices publicly or collaborate with other programs; instead, program organizers often promote their specific system of online mentoring as a model for others to follow and, sometimes, as the only approach for schools, nonprofit organizations and others who want to bring together volunteers with youth via the Internet. (Cravens 2003, p. 86. Italics in original.)

Cravens offered some explanation for this situation:

[some program coordinators] fear that someone would copy their program materials and methods without involving them or crediting them; other coordinators feared that publicity about their program could shed light on the unresolved problems of their program, or that talking about factors that didn’t work in their program could reflect negatively on the agencies involved. (Cravens 2003, p. 89)

This is unfortunate, because there are many unexplored possibilities for the design of telementoring programs, and design does not thrive in an environment in which its practitioners avoid discussing their well-intentioned missteps (O’Donnell, 2004; Vincenti, 1990). Work on telementoring programs to serve the diverse needs of students and teachers would be best supported by an energetic dialogue on design; but to have this we need to openly discuss why not to do certain things in our programs, and how challenges or failures demonstrate the limitations of our current knowledge.

Today there is a burgeoning tradition of design-based research in education (Barab & Squire, 2004; Bell, 2004; Collins, Joseph, & Bielaczyc, 2004; Design-Based Research Collective, 2003; Edelson, 2002) that aims to foster a scholarly treatment of the knowledge developed through educational design. In this tradition, teachers and researchers work together to understand how well learning innovations work in particular environments, and why. The designers and implementers of telementoring programs could be important contributors to this literature, and would benefit greatly from thinking about their work in the ways encouraged by a design-based research perspective. This perspective encourages evidence-based reflection on what we learn from each trial of a design, and revision based on what we learn from this reflection.

In this chapter, I will aim to give the designers of telementoring programs and the teachers who use them some of the tools that will be needed to engage in such reflection on design. For designers, I hope to prompt reflection on why we have built our programs the way we have, and whether there might have been better options. For teachers, I hope to provide a view of what unique benefits telementoring programs may offer their students, as well as what their limitations are.

**WHAT IS DESIGN?**

Since this chapter revolves so much around design, it makes sense to be clear about what this term means. The American Heritage Dictionary defines the verb “to design” as follows:

1a. To conceive or fashion in the mind; invent.
1b. To formulate a plan for; devise.
2. To plan out in systematic, usually graphic form.
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