

## Chapter 3.9

# Telementoring and Project– Based Learning: An Integrated Model for 21<sup>st</sup> Century Skills

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### ABSTRACT

While common models of telementoring (ask-an-expert services, tutoring, and academic and career telementoring) can serve a variety of learning objectives, these models are limited with respect to sustained inquiry learning such as project-based learning (PBL). To reach the full potential of PBL with telementoring, this chapter proposes a telementoring model that integrates inquiry learning, information literacy, and digital media literacy and is implemented by a team of experts – subject matter experts as telementors, classroom teachers, school librarians, and instructional technology specialists. The model provides for multifaceted learning experiences for students that involve disciplinary knowledge and habits of mind, critical thinking, collaborative problem solving,

and information, media, and technology skills. Brief overviews of inquiry learning approaches, information literacy, and digital media literacy are described in relation to telementoring. Design considerations, the benefits and challenges of the model, and broader implications for educational change are also discussed. Using the integrated telementoring model, the PBL team exemplifies the interdisciplinary collaboration and new literacy skills that students need in today's workplaces and communities.

### INTRODUCTION

Often associated with apprenticeships in a community of practice, mentoring is the age-old process of wiser, more experienced persons taking younger protégés under their wing. As role models, mentors guide their young initiates into

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the art, craft, ways of thinking, and values of their community, helping to shape not only knowledge and skills but also the identity and personal and professional maturity of their protégés. Mentoring is rewarding for both the mentee and the mentor. The mentee has a deepening relationship with a special person in his/her life - not a parent, teacher, or friend, but a wise guide who listens, cares, encourages, and gives advice. For the mentor, this is a unique opportunity to make a difference in a young person's life and give back to one's profession and community.

Since the rise of the World Wide Web in the 1990s, a variety of online tools has been available to support mentoring beyond the barriers of time and place. Telementoring, also known as online mentoring and e-mentoring, can be defined as:

*... using telecommunications technology (including e-mail, conferencing systems, or telephones) to develop and sustain mentoring relationships where face-to-face ones would be impractical. In the field of education, telementoring often involves linking students up with knowledgeable adult volunteers who have an interest in fostering their development. This sort of arrangement allows the participants to take part in intellectual partnerships that would not otherwise take place. (O'Neill, 2000, p. iii)*

While communicating online makes telementoring different from traditional face-to-face mentoring, telementoring offers some distinct benefits. Mentors are not limited to the local community and can be drawn from any profession, organization, or geographic location around the world where adults are willing to help a young person develop. And mentors and mentees can communicate at any time, using a wide range of online tools.

Telementoring uses various mentor group configurations to provide different kinds of expert support to students seeking help. MENTOR/ National Mentoring Partnership's "Elements of

Effective Practice" ([http://www.mentoring.org/find\\_resources/elements\\_of\\_effective\\_practice/](http://www.mentoring.org/find_resources/elements_of_effective_practice/)) identifies these five types of contemporary group mentoring: (1) traditional mentoring (one adult to one young person); (2) group mentoring (one adult to up to four young people); (3) team mentoring (several adults working with small groups of young people, in which the adult to youth ratio is not greater than 1:4); (4) peer mentoring (caring youth mentoring other youth); and (5) e-mentoring (mentoring via e-mail and the internet).

Expert support online comes in many forms – ask-an-expert services for one-time, discipline-based questions; tutoring for supplementary or remedial study; telementoring for career guidance and academic advice; and telementoring for inquiry learning. Examples of each of these types, as well as their strengths and limitations, will be discussed later in the chapter.

This chapter's main focus is on telementoring for sustained inquiry in the classroom through project-based learning (i.e., project-based telementoring). It is written at a time of extraordinary economic and technological changes and associated challenges to the U.S. educational system. The Partnership for 21<sup>st</sup> Century Skills, a group of leading education, business, community, and government organizations, has identified essential skills beyond reading, mathematics, and science that students need to "increase their marketability, employability and readiness for citizenship" (Partnership, 2008, p. 10):

- Thinking critically and making judgments about the barrage of information that comes their way every day – on the Web, in the media, in homes, workplaces and everywhere else.
- Solving complex, multidisciplinary, open-ended problems that all workers, in every kind of workplace, encounter routinely.
- Creativity and entrepreneurial thinking – a skill set highly associated with job creation (Pink 2005; Robinson 2006; Sternberg,

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