Chapter 1

Online Coaching as Teacher Training:
Using a Relationship of Inquiry Framework

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ABSTRACT

Using the Internet for educational purposes is now commonly accepted. More challenging is the realization of this potential, particularly in the K-12 education environment. According to the growing literature on this topic, using Internet technology during K-12 teacher training will provide more knowledge and skills for teachers wishing to use Internet technology in their own classrooms. In an adaption of the online Community of Inquiry, a revised framework for one-to-one online teaching was developed. In the Relationship of Inquiry framework, the elements of cognitive, teaching, social, and emotional presence outline the educational experience of one student receiving learning support from one teacher. The framework was tested with pre-service teachers using the Math Coach program which offers help with mathematics just-in-time via instant messaging.

INTRODUCTION

With the introduction of the Internet, many new ways to communicate have emerged. Education is one field that has started to make use of the Internet to communicate as part of the teaching and learning process. During the last decades, diplomas, programs, courses, and single learning activities utilizing online environments have been established. Online learning has emerged as an important area of research and practice in education. Design, implementation, and analysis of online learning environments

is seen as crucial to support not only a technological improvement, but more importantly to support a pedagogical progression.

One of the most commonly used communication forms online is one-to-one interaction, when one person is engaging with one other person (Dron & Anderson, 2014). Technology supporting one-to-one interaction is readily available in, for example, short message services (SMS) and in instant messaging settings. Nardi, Whittaker, and Bradner (2000) described instant messaging as a near-synchronous computer-based one-to-one communication tool. They argue that a central use of instant messaging is to support quick questions and clarifications about ongoing work tasks using an informal lightweight communication mode. This type of exchange between teacher and student is a common occurrence in K-12 teaching and learning. Instant messaging can be mediated using text, pictures, and video. The potential for using instant messaging to support learning has been shown in numerous studies (Contreras-Castillo, Pérez-Fragoso, & Favela, 2006; Hrastinski, 2006; Hwang, Huang, & Wu, 2011; Kopp, Matteucci, & Tomasetto, 2012; Nicholson, 2002; Segerstad & Ljungstrand, 2002).

An implementation of instant messaging in an educational context is online coaching. The term online coaching is defined as "an inquiry-based learning activity where a person gets support on a specific subject matter from a more knowledgeable person using the Internet" (Stenbom, 2015, p. 4). This learning activity is theoretically grounded in collaborative constructivism, critical thinking, and proximal development (Dewey, 1933; Lipman, 2003; Vygotsky, 1978). It is motivated by the possibility to address the two sigma problem (Bloom, 1984).

Online coaching is utilized in a program called Math Coach. In the Math Coach program, K–12 students (coachees) get help with their math studies from pre-service teachers (coaches). Coachees range from sixth to ninth year of compulsory school, and upper secondary school (aged 12–19). Coaches are recruited from students at teacher training colleges. The technology used is text-based instant messaging complemented with a shared whiteboard.

A framework that is widely used when analyzing online learning environments is the Community of Inquiry introduced by Garrison, Anderson, and Archer (2000). This conceptual framework represents a process for creating a deep and meaningful learning experience in groups. The Community of Inquiry framework consists of three interdependent elements, cognitive, teaching, and social presence, that together outline an online learning experience within a community. In addition to the original elements, Cleveland-Innes and Campbell (2012) suggested that the Community of Inquiry model should be conceptualized with a fourth element reflecting emotions in the learning setting.

The Community of Inquiry framework has been extensively studied and confirmed. Two empirical instruments are often used, a standardized survey among participants, and a transcript coding procedure (Arbaugh et al., 2008; Swan et al., 2008; Garrison et al., 2000). The Community of Inquiry conceptual framework is seen as one of the most prominent models for analysis of online learning (Akyol et al., 2009; Jézégou, 2010). The framework has, however, been used to examine learning within a group. It has not been conceptualized for the setting of online educational one-to-one interaction.

For our purposes, Math Coach was used to offer pre-service teachers the opportunity to use an adaptation of the Community of Inquiry framework for online coaching. This was done by the conceptualization of online coaching and the adaptation of the Community of Inquiry to a one-to-one Relationship of Inquiry framework.

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