A Reflective Analysis of Instructional Practice in an Online Environment

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Introduction

We analyzed data collected during a problem-based learning (PBL) activity implemented entirely online as part of a learning sciences course for pre-service teachers. During the activity, the first author (MD) served as the facilitator for a collaborative group of 5 students. This study was performed in the context of the eSTEP (Elementary and Secondary Teacher Education Project) research program. One focus of eSTEP is the reflective analysis of instructional practice utilizing multiple analytical frameworks and methodologies. In one previous study (Derry, Seymour, Fassnacht, & Feltovich, 2001), a novice PBL facilitator collaborated with experts to analyze her practices. This study continued in this vein and provided us with the opportunity to "experiment" with a framework, developed by Radinsky, Leimberer, and Gomez (2000), for analyzing patterns of student reflection in collaborative discourse. We analyzed data collected from an educational psychology course for preservice teachers focusing on the learning sciences. A goal of the course was to educate students to utilize the learning sciences to both analyze and design classroom instruction. The course used the eSTEP system (Derry & STEP Research Group, 2002), a web-based instructional environment that supports learning through video case analysis and instructional design activities. This study focused on a video analysis discussion that MD facilitated. In this discussion, students were instructed to utilize a small number of learning sciences concepts to interpret and analyze a video case of classroom instruction. The video analysis discussion occurred in a threaded discussion board within eSTEP.

Methodology

In the Radinsky (2000) framework, reflection is recognized as purposeful thought or activity directed at making sense of problematized situations. Reflectiveness is seen as a dispositional and enduring characteristic of an individual that develops within an activity system. There are three "contexts," or categorical topics of reflection: data, role, and task. The data context spans the curricular domain and content of the activity. The task context includes the procedures and components of the activity structure. The role context refers to the relationship and interaction that the individual has with the activity. In each context there are five subcategories referring to specific issues or entities upon which students may reflect. Learning is recognized as a maturing reflective disposition. In practice, this would be recognized as a student competently and fluidly reflecting upon all aspects of all three contexts in the process of solving a complex problem.

Results

The analytical framework of Radinsky et al. uncovered clear patterns in student reflection that we were able to connect to the questioning and facilitation strategies of MD. These connections were triangulated with data collected from a journal that MD kept during the activity in which he reflected upon his perceptions of how the activity was progressing and his plans for shaping the evolution of the activity. The Radinsky et al. framework proved to be adaptable and insightful. Through further adaptation of the framework to the context of online teacher education, we intend to investigate how facilitation strategies, instructional activity, and online tools collectively shape student reflection and understanding.

References

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