

# Conceptualizing and Analyzing the Instructor-Student Collaboration

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**Abstract:** This concept paper conceptualizes the instructor-student collaboration as a continuum, ranging from a lower level of aggregates of individual participation, to a higher level of turn-taking process through which participants form mutual interactions, develop sustained communications, and take joint actions to achieve a shared goal. This paper then proposes an analytical framework including *participation frequency*, *turn-taking discourse*, and *participant perception* dimensions, to analyze instructor-student collaboration in authentic teaching and learning practices.

## Introduction

Collaboration is a coordinated, joint activity among people to achieve a shared goal (Roschelle & Teasley, 1995). In education, collaboration provides an opportunity for learners, instructors and other stakeholders to together create knowledge objects, design materially embodied prototypes, or embody ideas in progressively advanced discussions. Current educational practices foster a more equal, symmetrical relationship between instructors and students, through which they together contribute to varied aspects of education, including learning and inquiry, subject-based research, scholarship of teaching and learning, and curriculum design and development (Healey, Flint, & Harrington, 2014).

## A conceptualization of instructor-student collaboration

Although similar concepts, e.g., student-faculty partnership (Cook-Sather, 2014) have been discussed, there is no one explicit definition of instructor-student collaboration in current literature. In this concept paper, I argue that the instructor-student collaboration is a complex phenomenon, that takes varied forms and occurs at different levels. The instructor-student collaboration can be viewed as a continuum, ranging from a lower level of aggregates of individual participation, to a higher level of turn-taking process through which participants form mutual interactions, develop sustained communications, and take joint actions to achieve a shared goal (Dillenbourg, 1999; Goodyear, Jones, & Thomson, 2014; Jeong, Cress, Moskaliuk, & Kimmerle, 2017).

First, an effective collaboration cannot take place without active participations from instructors and students. For example, to build a community of inquiry, the instructor designs collaborative inquiry, facilitates or directs students' learning and inquiry, and fosters socially supported environments; students actively engage in collaborative learning inquiry activities and learning environment building processes (e.g., Garrison, Anderson, & Archer, 2000). Participants' active, participatory behavior is a prerequisite for developing collaborative meaning-making in a community of inquiry. Overall, no collaboration can take place with a low-level participation; in other words, active participations build working conditions for a more synergistic collaboration (Zhao, Sullivan, & Mellenius, 2014).

However, mere participations from instructors and students do not always lead to effective collaborations; in a higher-level, synergistic collaboration, the instructor and students must take turns to contribute to teaching and learning behaviors or discourses. Through these turn-taking behaviors or discourses, the instructor and students form mutual interactions, develop sustained communications, and take joint actions to complete collective tasks or achieve shared goals. For example, during science inquiry, students and their teacher, working as equal partners, took turns to construct meanings (e.g., Tabak & Baumgartner, 2004). In pedagogical development, students provided their instructor with information about learning experiences with newly introduced pedagogical approach; and the instructor made pedagogical changes accordingly (Nel, 2017). During these turn-taking behaviors, a more equal, symmetrical partnership was built between the instructor and students and a higher level, synergistic form of instructor-student collaboration took place. Overall, in a higher-level, synergistic collaboration, responsibilities are largely shared between the instructor and students, and turn-taking behaviors are carried out by instructors and students.

More importantly, a lower-level, participatory form of and a higher-level, synergistic form of collaboration are not mutually exclusive; rather, they build on each other and shift over time, serving a purpose to advance design, learning and instruction. Active participation is a prerequisite for an advanced, synergistic form of collaboration; grounded upon active participations, a synergistic collaboration is more likely to take place during turn-taking discourses (Zhao et al., 2014). Considering its optimal form, the instructor-student

collaboration is a shared, negotiated work between students and their instructor to construct design, learning, and instruction together (Cook-Sather, 2014; Crawford, Horsley, Hagyard, & Derricot, 2015; Healey et al., 2014).

## A proposed analytical framework of instructor-student collaboration

Due to the complexity of instructor-student collaboration, it is not easy to empirically investigate different forms of instructor-student collaborations in real settings (Jeong & Hmelo-Silver, 2016). Grounded upon the abovementioned conceptualization, I propose an analytical framework, including *participation frequency*, *turn-taking discourse*, and *participant perception* dimensions, to analyze instructor-student collaboration in authentic teaching and learning practices. Here I take the investigation of the instructor-student collaboration in a community of inquiry as an example (Ouyang et al., under review). A community of inquiry (CoI) encompasses three dimensions (cognitive, teaching and social) and 12 categories (four categories under each dimension) (Garrison et al., 2000). First, to analyze participation frequency, quantitative content analysis can be used to code and count participants' cognitive, teaching, and social participations according to the CoI framework. Particularly, to better reflect the symmetric partner structure between the instructor and students, the CoI framework should be used in a less dualistic fashion; that is, all dimensions and categories should be applied to *both* the instructor and students. Second, qualitative discourse analysis can be used to analyze how cognitive, teaching and social contributions moved back and forth between the instructor and students in order to build collaboration. Third, *participant perception* about their collaboration during teaching and learning can support or disconfirm results from the previous two analysis methods. Together, this proposed analytical framework demonstrates the instructor-student collaboration from quantitative, qualitative, and perceived perspectives namely *participation frequency*, *turn-taking discourse*, and *participant perception*. Overall, this paper advances theory and analysis of the instructor-student collaboration. It is critical for researchers to further strengthen the alignment between theoretical or conceptual grounding with actual collaboration practices during design, learning, and instruction.

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