

Influence of Perceptions of Past Collaborative Experiences on Quality of Pre-service Collaboration and Outcomes

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Abstract: This qualitative interpretive study used content and discourse analysis to examine pre-service teachers' (N=24) perceptions of past collaborative experiences influenced current collaborations. Analysis identified pre-service perceptions of past collaboration as either a flexible orientation or inflexible orientation toward collaboration. The flexible orientation to collaboration supported higher quality interactions and collaborative outcomes than the inflexible orientation.

Introduction

Professional teachers often work collaboratively in various settings with multiple colleagues on improving instruction (Gellert, 2008). Such collaboration is associated with positive outcomes for teachers and students (Vescio, Ross, & Adams, 2008). Thus, pre-service teachers need to learn and practice collaborative interactions employed by teachers (Dobber et al., 2014). The quality of collaboration and outcomes may be influenced by beliefs and perceptions about the significance or effectiveness of collaboration (Khosa & Volet, 2014). Pre-service teachers may have only vague ideas of how teachers collaborate, and their expressed beliefs may not match actual in-service practices. Furthermore, teacher education typically affords little reflection or assessment of collaboration with peers (Ruys, Van Keer & Aelterman, 2010).

The current study is part of a larger program of research that takes a social metacognitive perspective on pre-service collaboration (Molenaar, Slegers, & van Boxtel, 2014). In a previous mixed methods study, pre-service teachers were distinguished in terms of whether they held only *simple beliefs* that professional teachers cooperatively share expertise, ideas, resources, and planning, or held *expanded beliefs* that professional collaboration also includes collective assessment, analysis and evaluation (Brown & Jordan, 2017). Students with expanded beliefs collaborated through higher quality interactions that included collective development and evaluation. The current qualitative study builds on these results, by examining pre-service perceptions of past collaborative experiences and how perceptions influenced the quality of collaborative interactions. Our two research questions were: (RQ1) What are pre-service teachers' perceptions of their previous collaborative experiences? and (RQ2) How do pre-service teachers' perceptions of their previous collaborative experiences influence the quality of interactions during design and delivery of a collaborative instructional project?

Methods

Participants were first-semester pre-service students (N=24) collaborating in four-member groups across five sessions to design and implement instruction for classmates. Using a qualitative interpretive design (Miles, Huberman & Saldana, 2014), data was collected from written-reflections on students' past collaborative experiences, semi-structured interviews, and audio-video observations of collaborative work sessions. Quality of the instructional projects was evaluated through independent ordinal ranking of the projects by both researchers.

To understand how students perceived past collaborative experiences (RQ1), we applied content analysis to students' written reflections and the semi-structured interviews. To interpret the extent to which students' perspectives of past collaborations influenced the quality of their current collaborative interaction (RQ2), we applied conversational discourse analysis (Jordan & Daniel, 2010) and interaction analysis (Jordan & Henderson, 1995) to the audio-video recorded observations. The quality of collaborative interaction was examined first by individuals, and then by group as a collective. We used the framework of heedful interrelating to operationalize the quality of collaborative interactions among group members. *Heedful interrelating*, developed by organizational theorists Weick and Roberts (1993), describes individual and group interactions in collective tasks focusing on the quality of three types of actions: *representing*, *contributing*, and *subordinating*. Further, we drew on Jordan and Daniels (2010) coding scheme for discourse markers indicating heedful interrelating to code transcripts of groups' interactions before comparing the quality of interaction across individuals and groups. Finally, all analyses were compared to the ordinal ranking of groups' collaborative instruction, which was independently coded by both researchers.

Results

Content analysis indicated perceptions of previous collaborative experiences supported either *flexible orientation* to collaboration or *inflexible orientation* to collaboration (RQ1). The flexible orientation described collaboration as a dynamic experience requiring their own careful, attentive and integrative efforts toward the group and the project, and as improving with practice and experience. In contrast, students with an inflexible orientation described collaboration as a static experience in which their effects exerted minimal influence on group interactions or product, and expected their experiences to remain similar and unchanging over time.

Conversational discourse and interaction analyses indicated that students' orientation toward collaboration influenced the quality of their interactions during the collaborative project (RQ2). During all phases of collaboration, students with a flexible orientation to collaboration interacted with higher quality and greater variety, depth and richness in their talk. Students with an inflexible orientation used fewer and lower quality interactions, and less descriptive or explicit talk. Group members with a flexible orientation attempted to integrate their interactions with the group and the current state of the project, and support their group mates' efforts to do the same. In contrast students with an inflexible orientation were less likely to attempt to integrate with the group. Some contributed very little, while others over-contributed monopolizing group work sessions. Group members with a flexible orientation more carefully considered topic ideas, pedagogic strategies for topic instruction, and probed for depth of comprehension of both content and pedagogy. In contrast, students with an inflexible orientation less deeply considered topic ideas or pedagogic strategies using few details and often used described topics or pedagogy as "thing" or "it." Finally, collaborative groups with more members having a flexible orientation created and implemented higher quality collaborative instructional projects than did groups composed solely of members with an inflexible orientation.

Discussion

This research contributes an important step toward understanding factors that influence the quality of pre-service collaboration. The study suggests that students' orientation toward collaboration influenced the quality of individual interactions, and therefore, the quality of group interaction and collaborative outcomes. Better understandings of pre-service perspectives of teacher collaboration and the beginning and end of teacher preparation can inform preparation programs.

Future research should continue to explore factors that impact the quality of pre-service interaction as they learn to collaborate. Studies might include examining changes in students' perspectives on the quality of their collaboration across the phases of a task, and comparing student-reported to researcher-observed quality of interaction as it relates to collaborative instruction. Implications for educational practice includes support of pre-service collaborative programs and continued exploration of how to best address student needs in collaborative processes as they prepare for their critical careers.

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