Interactional Research Into Problem-Based Learning

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SECTION I

EMIC PERSPECTIVES OF PROBLEM-BASED LEARNING DYNAMICS THROUGH INTERACTIONAL RESEARCH

The studies presented in this section have adopted a variety of methodologies drawn from the larger traditions of educational ethnography, interactional sociolinguistics, and discourse analysis, which share an interest in examining the lived experiences of learning processes in situ. A shared theme across these chapters is an exploration of the sociocultural and sociocognitive dimensions of PBL, with researchers aiming to make visible the impact of the “social” on student and group learning. This is achieved through close examination of a range of PBL interactional processes across contexts and years of study. Foci range from exploring human interactions (peer, facilitator, group) to understanding how technologies are reshaping new formulations of PBL in its 50th decade.

To provide a broad framing for the field of interaction research in PBL, we open with Jin and Bridges’s review of qualitative research in PBL, which, while restricted to studies in medical and health sciences education, indicates future directions relevant to a range of disciplines and educational contexts. The remaining studies can be viewed as building from these authors’ closing call for further interactional studies to contribute textured understandings of PBL facilitation, assessment, and the new impact of educational technologies. The remainder of the chapters in this section contribute new perspectives through studies embracing ethnographic approaches to video analysis, introspective protocols such as stimulated recall interviews, and longitudinal qualitative studies using
discourse-based analytic approaches. Skinner and colleagues’ exploration of students’ views of social practices with respect to quietness and dominance in groups is illuminating in terms of how group roles and functions are negotiated and developed, while their ethnographic investigation of PBL group practices notes the dual nature of silence as either generative or negatively impacting learning and social interactions in PBL tutorials. Schettino’s narrative analysis examines interactional aspects of adolescent female students’ mathematics learning in “relational problem-based learning (RPBL)” and constructs I-Poems to identify developing empowerment and agency in problem-based mathematics learning. Svihla and Reeve’s emic analysis of student–teacher interactions, field notes obtained from participant observation, and students’ learning artifacts explores the agentive process of students’ learning in a problem-framing activity within project-based instruction at a U.S. charter school. They demonstrate the power of codesign in PBL, which enables students to take ownership. Almajed and colleagues adopt a constructionist interpretive approach to examining collaborative learning, specifically in case-based discussions in dental education. Their study reinforces prior assertions about the generative and productive nature of sociocognitive “knowledge conflicts” in inquiry-based group discussions. Wiggins and colleagues draw upon discursive psychology to analyze interactions in the first tutorial of a new PBL group. Their study illustrates how students present themselves in a new interprofessional group learning setting and indicates implications for group and academic identity development through interactions. In their discourse-based study of PBL in Japan, Imafuku and colleagues examine student participation patterns in an interprofessional education (IPE) seminar. Their analysis of classroom interactions and stimulated recall interviews sheds light on what and how learners gain in terms of both their collaborative processes of knowledge coconstruction and managing conflict in IPE. In another discursive psychology study, Hendry, Wiggins, and Anderson’s fine-grained microanalysis of students in situ provides a nuanced accounting of personal mobile phone use during PBL to examine the management of psychological issues in talk and text. McQuade and colleagues’ conversation analysis (CA) study addresses the problematic issue of how students manage instances of social loafing in PBL groups and makes visible the social dimension of teaching and learning within the PBL process, including the resilience of PBL learner identity and interactional strategies in mitigating the issues raised as a result of social loafing.
Finally, Lai, Wong, and Bridges’ interactional ethnography (IE) explores how students and their facilitator incorporate a screen-sharing presentation system in face-to-face PBL tutorials to reshape knowledge coconstruction processes in a blended learning environment. Their findings suggest that the use of educational technologies in PBL can expand not only the facilitators’ repertoire of effective strategies for scaffolding learning but also student’s active engagement.

As a whole, this section moves us into new and nuanced understandings of the role of interactional processes for collaboration and inquiry, which are central to the tenets of problem-based learning.