Exploring Student Collaboration during Data Generation in the Statistics Classroom: An Inferentialist Perspective

av

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Abstract

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This dissertation explores student collaboration during data generation in statistics. The first aim is to put the semantic theory of inferentialism to work and develop a theoretical lens for exploring student collaboration during data generation. The second is to use the previously developed inferentialist lens regarding collaboration to better understand data generation processes in the statistics classroom. Two studies were conducted in Swedish 5th and 7th grade classes. The first involved 7th-grade students collaboratively engaged in experimentation with paper helicopters and their flight durations. The second study involved 5th graders experimenting with paper frogs and their jump lengths. The analyses reveal that inferentialism is a meaningful perspective for exploring student collaboration. One salient theoretical contribution of this thesis is that the inferentialist concept of norms helps avoid the dichotomy between social and individual facets of collaboration and learning that have plagued research on collaboration. However, by using the inferentialism lens, the social and individual can be regarded in their intertwined and dynamic natures. The thesis also illustrates how the formulation of tasks, social conditions, and norms mutually condition students' learning opportunities. It is also demonstrated that data generation processes can also involve conceptual learning opportunities. The results offer ideas concerning which classroom conditions and manners of formulating tasks may contribute to such conceptual learning opportunities.

Keywords: Inferentialism, Collaboration, Data generation, Statistics.

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