

סמינר מחלקתי

Interdisciplinary dialogic argumentation and change in epistemic practices among science teachers

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תקציר

In my dissertation, I propose an interdisciplinary approach to the professional development of out-of-field and in-field physics teachers. I hypothesize that engaging these two communities in dialogic argumentation activities will enhance their respective epistemic practices (i.e., the ways in which they reason and construct knowledge). The initial phases of the study involved creating design guidelines for such interdisciplinary dialogic argumentation activities and demonstrating through close case studies their potential to enhance both the dialogic patterns and the epistemic practices of teachers. The next phase of research, which I will focus on in this talk, involved the development of a quantitative coding instrument that captures both dialogic and epistemic aspects of teacher discourse across many groups. To test whether interdisciplinary groups engage in more productive dialogues, we analyzed the discourse of 17 teacher-triads: 8 heterogeneous and 9 homogeneous groups. The results indicate that heterogeneous groups were, on average, engaged in more deliberative and epistemically rich dialogues than the homogeneous groups. However, the success of the heterogeneous groups varied considerably, and these results were not significant. This indicates that the heterogeneity of a group in itself does not

ensure deliberation. Further analysis revealed an important factor that makes interdisciplinary groups successful – the ability to engage in direct, cross-disciplinary critique.