

FORMS OF INTERACTION AND THEIR IMPACT ON IN-SERVICE SCIENCE TEACHERS' ARGUMENTATIVE DISCOURSE

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Abstract

The aim of this study is to examine the forms of interaction in the in-service teachers as they worked on the argumentative tasks to apply their medicinal chemistry knowledge in the subject methods course. The in-service teachers discussed their ideas and presented their thoughts in groups with the scaffolds of referred authoritative sources. Learning is viewed from a sociocultural perspective in this research. The class was taken as a collective group which audio- and video data collected during discussions will form a case. By adopting grounded approach, 15 forms of interaction were found, namely: (1) agreement, (2) claim, (3) clarification, (4) condition, (5) explanation, (6) figuring it out aloud, (7) information sharing, (8) offering alternatives, (9) perspectives, (10) persuasion, (11) presenting disagreements, (12) questioning, (13) referring authoritative sources, (14) stating assumptions, and (15) strategic or procedural talk. Preliminary analysis suggests that the most dominant two forms of interaction will likely to be 'clarification' and 'figuring it out aloud'. A possible explanation would be that the in-service teachers were inexperienced with the concepts of scientific argumentation and its practice. Therefore, they tried to clarify with one another and figure things out aloud since they were uncertain of how they should perform. The findings also revealed that teachers' interaction as a group seemed to be influenced by their educational background and their teaching context. Finally, we discussed how the results of this study might contribute towards the teacher developmental programs and science classroom practice.

Keywords: science argumentation, in-service teachers, forms of interaction