Abstract
The aim of this study was to explore dialogic teaching in school classroom and teacher education contexts. Despite moves towards more socially-oriented and student-centred curricula, science classroom communication remains prevailingly authoritative and monologic. In order to address the dialogic gap existing in the field, within this study an intervention was developed and executed to increase student teachers’ awareness of the dialogic aspect and its role in science classroom communication. Drawing on previous scholarly work in the field of dialogic teaching and teacher education, an interventional teaching programme focussing on teacher talk was designed covering the planning, execution, reflection and analysis of student science lessons and orchestrated by student teachers themselves. Thus, in addition to introducing the background theory of dialogic teaching, the empirical aspect was also given cogent weight. Participants of the study within the teacher education context included both science student teachers and primary school student teachers who had been introduced to dialogic teaching. The second part of the study assessed how dialogic teaching manifests in the science classroom without pre-intervention. Participants in this part of the study included volunteer science teachers and their classes.

The most essential theoretical contribution of this study is to further understanding of time as an intentionally manageable dimension when using different types of communication in science classrooms. The theoretical framework proposed by this study explicates how different types of communication and activities can link together and foster continuity, and specifically cumulativity, within meaningful communication. Whilst this study recognises the current foregrounding of dialogicality in educational research, it is considered that science classroom communication should include both authoritative and dialogic aspects. The main results of this study reveal that although student teachers are able to go beyond authoritative modes of teaching and communication, there are still major challenges along the way towards sustainable dialogic reformation. The major challenge is to unhinge the prevailing school culture, which remains reliant on outdated forms of teaching. More specifically, the dominant authoritativeness observed in the classroom should be challenged, which is possible only by preparing teachers with more versatile communication skills.

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