Full length article

Developing a coding scheme for analysing classroom dialogue across educational contexts

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ABSTRACT

The research reported sought to develop a framework for systematically analysing classroom dialogue for application across a range of educational settings. The paper outlines the development and refinement of a coding scheme that attempts to represent and operationalise commonalities amongst some key theorists in the field concerning productive forms of educational dialogue. The team has tested it using video recordings from classroom settings in the UK and Mexico, across age phases, subject areas, and different interactional contexts including whole class, group and paired work. Our Scheme for Educational Dialogue Analysis (SEDA) is situated within a sociocultural paradigm, and draws on Hymes' Ethnography of Communication to highlight the importance of context. We examined how such a tool could be used in practice. We found that concentrating on the 'communicative act' to explore dialogue between participants was an appropriate level of granularity, while clustering the 33 resulting codes according to function of the acts helped to highlight dialogic sequences within lessons. We report on the application of the scheme in two different learning contexts and reflect on its fitness for purpose, including perceived limitations. Development of specialised sub-schemes and a version for teachers is underway.

1. Introduction

Dialogue is a distinctive human achievement with evolutionary and social relevance (Müller-Mirza & Perret-Clermont, 2009). Theoretically, dialogue is a complex concept that draws on many different traditions, beginning with Socrates and Plato, and including Dewey as well as more recent authors (as elaborated in Section 2). However, in the literature the term has been elaborated in the classroom context using differing conceptualisations and terminologies (such as accountable talk, dialogic inquiry, exploratory talk, dialogic teaching, also elaborated in Section 2). While each of these has broadened and deepened our understanding of the field, this proliferation has prevented dissemination of a coordinated message that may ultimately have a stronger impact on policy and practice (Higham, Brindley, & Van de Pol, 2014). Nevertheless, there is an emerging consensus about the forms of educational dialogue that seem to be productive for learning (e.g. Littleton & Mercer, 2013; Michaels & O'Connor, 2013). In essence, these focus on attunement to others' perspectives and continuous co-construction of knowledge through sharing, critiquing and gradually reconciling contrasting ideas. Importantly, these forms of dialogue are cumulative over time and often make links to past/future events or wider contexts beyond the immediate interaction. Furthermore, productive dialogue is intelligible both as a pedagogical tool for constructing subject knowledge, and as a valued

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process in itself — linked to increasingly prevalent purposes concerned with critical thinking, making relevant links between and within subject disciplines, active and democratic citizenship and living peacefully (Kazepides, 2012).

Despite growing international evidence for the educational value of peer and pupil-teacher dialogic interactions in the classroom, researchers still lack an analytic framework for making sense of their form and function that is widely applicable to diverse educational contexts and to both teachers and students, consistent with the main theoretical perspectives and employing a single set of descriptors that capture their shared functions in dialogue. We report our progress in the production and refinement of such a tool. The Cam-UNAM Scheme for Educational Dialogue Analysis (SEDA) is the result of a 3-year British Academy funded collaboration (2013–15) between two large teams in the UK and Mexico with extensive collective experience of researching dialogue across multiple contexts.

The work draws on some of the main theoretical approaches to characterising and analysing dialogue. Our mapping and synthesis across a wide range of perspectives in the literature evolved iteratively through subsequent input from colleagues in the field and through initial trialling with video recordings of practice across diverse educational contexts in the UK and Mexico; from pre-school to higher education; across subjects (e.g. mathematics, literacy, science, humanities) and whole class and small group contexts; including activities with and without digital technology. This inductive–deductive cycle allowed us to distil out the essence of dialogic interactions and operationalise them in the form of a new scheme of systematic indicators for these productive forms of educational dialogue. In this paper we publish the scheme for the first time and present worked examples in order to illustrate its application to two different learning situations, one from each country. We exemplify how communicative acts (CA) and clusters that categorise them are assigned and help to characterise dialogic exchanges within lessons. Prior research was mostly conducted in primary schools owing to their greater flexibility and holistic approach that is more conducive to dialogue (Higham et al., 2014), but we include an excerpt from a secondary classroom too. One example is predominantly peer group interaction around a natural science topic, the other is a whole class dialogue in a history lesson. Our reflection on these examples includes the scheme's workability and usefulness of the chosen levels of granularity (CA and clusters) in characterising dialogic interactions.

2. Theoretical and methodological frameworks

2.1. Theoretical framework: sociocultural perspective on educational dialogue

The work is rooted in the growing body of literature on classroom talk and dialogic teaching-and-learning from a sociocultural perspective, which highlights the intrinsically social and communicative nature of human life. Sociocultural theory posits that education and cognitive development are cultural processes enacted through interactions with others, including symmetrical (peer) as well as expert–novice (e.g. teacher–student) relations (Cole, 1996; Fernández, Wegerif, Mercer, & Rojas-Drummond, 2001; Howe, 2010; Rogoff, 1990). Language plays a key role as a tool for thinking and a mediator of activity, on both the social and psychological planes (Mercer, 2000; Vygotsky, 1962, 1978). Participants' social and cultural values, unique background experiences, prior knowledge and assumptions are brought to bear (Wertsch, 1991).

Research over the last four decades has focused on how classroom dialogue allows teachers and students — and students working together — to co-construct knowledge and meanings and develop intersubjectivity (see review by Howe & Abedin, 2013). In particular, Alexander's (2001) ground-breaking work highlights the central role played by the quality of classroom dialogue in promoting student learning, and the cultural variations in how dialogic and other forms of pedagogy are manifested. His term '*dialogic teaching*' characterised and exemplified productive forms of dialogue in the classroom along five core principles: collective, reciprocal, supportive, cumulative and purposeful (Alexander, 2008). Participants in dialogic interactions construct meaning through chained sequences of utterances and chained lines of thinking and enquiry. As part of this enquiry, real questions are posed and the tentative answers are rigorously investigated (Wells, 1999). Values of respect for difference and equitable participation are an essential feature of dialogic interactions. However, several studies suggest that enhancing dialogic inquiry and genuine student engagement in productive interactions is a highly demanding task (Kumpulainen & Lipponen, 2010). Research further indicates that dialogic interactions are not commonly observed in classrooms and that teachers' awareness of how communicative practices unfold and their constitutive role in the process is limited (Nystrand, Wu, Gamoran, Zeiser, & Long, 2003). School culture usually expects participants to follow a particular set of conversational 'ground rules' that discourage students' reasoning, extended contributions, question posing and evaluation of peers' responses (Mercer & Howe, 2012).

Current psychological investigations in this area have been inspired partly by Bakhtin's dialogic theory (Bakhtin, 1981). This author argued that the utterance produced by each speaker is the basic unit of analysis of communicative practices, representing the link that joins chains of dialogic interactions. A dialogic utterance reflects the interaction of at least two voices: those of the speaker and the listener. Each speaker's utterance is directed to an interlocutor (directionality) and is emitted taking into account previous utterances, as well as anticipating future possible ones (responsivity). Each utterance is further constructed as a response to other utterances within a dialogic sequence (sequentiality). Finally, each speaker assumes a position towards him or herself, as well as all the other participants (positioning), while recognising and legitimising the existence of diverse voices within dialogic interactions (plurality) (Fernández, 2014). Subsequent related work by Wegerif (2007) described 'dialogic' as the gap between two or more perspectives held together in the tension of a dialogue, and meaning as emerging from that 'dialogic space'. Out of the tension between viewpoints comes not only criticism and judgement but also insight and understanding.

Mercer (2000) has highlighted the key role of dialogue as 'a social mode of thinking' that allows participants to solve problems jointly, and in which students take responsibility for co-constructing their understandings: a process termed 'interthinking'. His