THE CONVERSATIONAL DIMENSIONS OF CLASSROOM AND SOCIAL MEDIA LEARNING INTERACTIONS

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ABSTRACT

The focus of this article is on learning conversations in school classrooms, what they are about, and how they form the basis of pedagogical activities and social communication in schools. The purpose is to develop an understanding of the features and benefits of learning conversations in classroom interactions, and how they may be extended by the growing use of social media. For this purpose, Conversation Analysis (CA) studies of classroom interactions are analysed and a summary is offered of the features of meaningful learning conversations. Examples of social media interactions are then analysed in terms of these features, to consider the implications for sustainable learning in school classrooms.

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INTRODUCTION

Sustainable school learning environments have been described by Mahlomaholo (2010; 2011) and others as environments which are responsive to learner needs, and designed to enable/empower learners to fulfil their potential and overcome the historical backlogs and lack of access to learning resources. These authors argue for the research agenda on sustainable learning environments to focus on macro and micro issues in such environments (Mahlomaholo 2010), which would include a focus on context as well as classroom practices and interaction. Such an agenda obviously needs to include studies of social communication and discourse practices in classrooms.

The problems of school education in South Africa have been described on levels of policy and policy implementation (Jansen 2012; Van der Westhuizen & Basson 2011); curriculum (Taylor 2009); school learning environments (Mahlomaholo 2010); and classroom inequalities (Bloch 2009; Van der Westhuizen 2012). Many of these are still being attributed to historical legacies of the education system of the past, and have been accepted as part of the agenda of education transformation in the country (Sayed & Ahmed 2011). At school level, the need for change is especially evident in the inequalities of social interaction and discourse, as has been argued by Mahlomaholo (2011) and Francis *et al*. (2010). Inequalities in access to knowledge and inadequacies in learning seem to remain in many classrooms, reflected in what Morrow (1989) called poor epistemological access, and resulting in inequitable learning (Van der Westhuizen 2012).

Studies of classroom discourses need to be part of the research agenda for sustainable change. Such inquiries should help us understand the nature and complexities of interactions, participation in learning, and the use of language. This is an important research agenda internationally (Mahlomaholo 2012; Snow 2012), and needs to be prioritised given the rapid emergence and inclusion of social media in school education. Social media is being defined as electronic communication that allows people to take an active role in the creation and distribution of content, or "dissemination of content through social interaction" and "complex conversations" (Renard 2011). The significance of these developments has been confirmed by policy and practice reviews of the emerging impact of social media in schools internationally (Lewis, Pea & Rosen 2010).

Recent studies on interactions in classrooms have focused on discourse practices of pedagogy (Van der Westhuizen 2012). Discourse analyses of classroom interactions have resulted in a strong focus being placed on the use of language. In this context Mercer (2004) argues that talk rather than speech is the most relevant to functional dynamics of dialogues (rather than language system). According to Mercer (2008), the studies of classroom interaction should be about much more than studies of language and of speech; it is theoretically found

rather to be about classroom talk, conversation and dialogic interaction. Edwards (1990) argued that analyses of classroom discourse need to look at teacher-pupil talk as well as pupil-pupil talk – both involving different discursive patterns and functions reflecting asymmetries in terms of knowledge and power. This is necessary since the "cognitivist" models of learning as theorised by Piaget with his emphasis on learning as experience, and Vygotsky (1978) with his emphasis on socio-cultural interaction as the basis for conceptual development are limited and not accounting for the dynamics of interaction (Edwards 1990). In analyses of classroom discourse, talk cannot be taken as a window upon children's thought processes – at best, the discourse itself is the reality where teacher and children construct, in their interaction, "a shared account", "a common interpretive framework for curriculum knowledge" (Edwards & Mercer 1987, in Edwards 1990: 55; cf. Edwards 2005; Mercer 2004).

The research tradition of ethnomethodology established in sociology brought the attention to the study of "members methods" (Maynard & Clayman 1991) and conversational dimensions of human interactions (Sacks 1992). This strand of research has been extended into social psychology, education and other fields of study by Edwards (1990), Seedhouse (2011), Mercer (2004) and others, opening up new ways to understand the nature of human interactions in school settings. Conversation Analysis (CA) research has developed methods and techniques of studying the dynamics of interactions in classrooms as demonstrated by Edwards (1990; Discursive Psychology), Seedhouse (2011, Language learning), Mercer (2008, multiple classroom environments), and others. Seedhouse (2011) offered a review of CA studies in education and described the general features of conversational interaction, and pointed to the need to clarify what learning conversations are about.

The focus of this inquiry is on the conversational dimensions of learning interactions in school classrooms. A cursory review of Conversation Analysis literature is used to develop an understanding of the nature of learning conversations and how they are relevant to meaningful learning in school classrooms. From this review the features of meaningful learning conversations are derived which are then used to explore the potential of social media for the advancement of sustainable learning.

To achieve this purpose, the article aims to a) clarify the interactional nature of classroom learning; b) define the features of learning conversations based on an analysis of CA studies of classroom learning; and c) explore with reference to examples how social media may advance learning conversations, based on these features. The article concludes with a summary of pedagogical guidelines for sustainable social media learning in schools.

CLASSROOM LEARNING AS INTERACTIONAL ACTIVITY

Schools are rich environments of social life. For teachers they are work environments typical of education institutions in society – these are the places where they teach and conduct the full spectrum of curriculum work required by the contract they have with their employer, the children they work with, and the parents and community they serve. For students, schools are the places where they get their formal schooling designed by education authorities. And then of course, for communities, schools are the institutions which reflect the local particular and broader societal culture.

Characteristic of classroom interactions is the varied roles participants play. These are assigned roles of social identity-classes of teacher/student which determine participation rights and a certain orderliness and orientation to rules of interaction (McHoul 1978; 1990), and dominated by the teacher's prior knowledge, concerns and aims/expectations (Edwards 1990: 55). In such interactions, participants assess the state of affairs, speakers index their independent opinion in different ways, and claim their epistemic authority (Heritage & Raymond 2005; cf. Stivers *et al*. 2011).

School environments are characterised by a plethora of interactional engagements, between and among teachers and learners. Interactions for purposes of learning, inside or outside the classroom, involves language and talk as social forms of thinking; the instrument for teaching and learning and knowledge construction (Mercer 2004). The basic structure of interactions can be described in terms of Sinclair and Coulthard's (1975) threefold model of initiation-response-follow-up/feedback. Teachers have the epistemological authority (Lyle 2008) and lead the interactions by means of different pedagogical methods and discursive techniques. Teachers use questions in leading ways and ask "known information questions", elicitations and information questions (questions demanding knowledge/information), and organise interaction sequences in situations where they know the answer (Mehan 2001).

In classroom interactions, the role of learners are more or less fixed and institutionally determined. This was argued by Edwards (1997) in the rhetoric or argumentative nature of learners' verbal utterances and thoughts dialogically situated within an expanded discourse between the teacher and learners, in a type of cross-questioning by the teacher. In such situations the learner's contribution is handled argumentatively by the teacher and other learners, with the contributions being questioned, which makes it very difficult to determine what learners are thinking as this is entangled with efforts to react on the formulations of others in a conversation (Edwards 1997; Edwards 1990).

The way in which the teacher determines the classroom interactions is demonstrated by the study by Edwards (1997) on a classroom conversation after a school outing – a conversation that could eventually not escape from the limitations of classroom conversations where the teacher takes control, determines participation, asks questions and guides the complete conversation, and changes the conversation about the outing into a joint-recall session. This interaction/discourse is part of others, builds on previous interactions, and has a place as conversation that focuses on recall – not only a reduplication of experience, but also rich in constructive and reconstructive conceptualisations strongly shaped/adjusted and changed by the one recalling.

Classroom interactions for purposes of learning are discursive in nature, with active participation involving the use of semiotic tools as instruments of learning and communication. Interactional learning is also described by Wickman and Östman (2002) as discourse change related to meaning. Meaning is derived from/constructed from differences and similarities in what is immediately intelligible when we act in an interaction (Wickman & Östman 2002: 603). Learning and knowledge is part of a dynamic process in human encounters with others and the world. In these encounters, à la Wittgenstein's notion of language games, meaning is evident in the rules of the interaction/language game (Wickman & Östman 2002: 604). This means that the conceptions participants have of knowledge and learning shape their response and participation in interactions.

Learning in interactions is also seen as symmetrical interaction and task-based argumentation where scaffolding towards joint understanding and reasoning takes place. The goal of learning through interaction is collective meaning making, shared understanding, and enculturation into practices, discourses and norms of the community (cf. Lave & Wenger 1991).

In teacher/adult/child interactions, intersubjectivity is at play (Edwards 1997; Potter 2007; Pike 2010). This goes beyond notions of Vygotsky's Zone of Proximal Development where interaction is understood in terms of predetermined categories of speaking, to consider interaction as joint activity characterised by turn-by-turn participation (Pike 2010: 163). Such interaction shows how talk is generated in what Mercer (2000; 2008, in Pike 2010) called the IDZ (Interactional Development Zone) which is the contextual, joint activity determined by both teacher and learner, relying on their individual presuppositions (Mercer 2000, in Pike 2010: 164).

Key to the understanding of classroom learning interactions is the purpose of joint cognitive engagement aimed at achieving development and learning outcomes (Mercer 2004). This pedagogical dimension is obviously determined by the teacher who is the knowledgeable person, the curriculum agent/actor, and the

learning conversation guide. Teachers guide interactions with learners by means of, for example, making summaries of the main points of a lesson or actions (recaps), and do it in a literal or reconstructed way where the teacher rewrites history, as it were, in versions that suit their teaching plans better, through the expansion and reformulation of learning contributions to the dialogue in the class (Mercer 2004: 145). Teachers make use of typical, common teacher-discursive techniques to elicit knowledge from learners, to react on what learners say, and to summarise the meaningful aspects of shared experiences (Mercer 2004). These and other techniques are aimed at promoting learning (Mercer 2008) by means of, for example, "thinking together" lessons, and the use of "exploratory talk", etc. The complexity of teachers' role in interactions in language classrooms for example, is described in terms of the following consecutive foci (Seedhouse 2004: 62, extending Edmondson 1985: 162): teacher pedagogic intention; reactions to personal meanings learners choose to share; reaction on language errors; orientation to other learners.

According to Mercer (2004: 146), archetypical forms of learner speech in classroom interactions include: disputational talk, cumulative talk and exploratory talk, heuristically regarded. Nevertheless, learner conversations and interactions rely on a specific relationship between teacher and learner. This is a pedagogic relationship which is also dialogical as opposed to monological; an epistemological distinction made by Bakhtin in his analysis of pedagogical dialogue as "nonproductive monologism" (1984, in Nystrand *et al*. 2003).

In conclusion, central to classroom learning interactions is the talking done by participants: how the talking is authentic to the settings of classrooms and the institutionally-based intentions of teachers. They are rich social interactions with socio-cultural influences at play. In the next section, insights from Conversation Analysis research is used to further explore the nature of classroom interaction and talking in terms of notions of learning conversations.

CONVERSATIONAL DIMENSIONS OF CLASSROOM LEARNING INTERACTIONS

Conversation Analysis (CA) research on classroom interactions draws extensively on insights originally developed in sociology by authors such as Harvey Sacks, Garfinkel and Heritage who studied the order in interaction (Seedhouse 2005), and in social psychology where researchers such as Potter (2007), Edwards (2005) and Drew (2005) described in detail the social dynamics of interaction in everyday life. This work has been extended in studies of the social psychology of educational knowledge which considered the social and communicative nature and foundations of knowledge (Edwards 1990: 66).

Classroom studies in the domains of language teaching and learning has been pursued by Seedhouse (2011), and studies on classroom collaborative learning (Mercer 2010; cf. Nystrand 2006).

Conversational perspectives on educational interactions have been described by Edwards (1997) as a public process where participants share the accountability of "doing" education, acknowledging the discursive nature of interactions. From this perspective, interactions are characterised by a public display of intelligence by participants (Edwards 1997). This is done through "sequential occasioning", i.e. talk conducted in context of sequences, and participants orienting themselves to talk in the way they talk, e.g. in a particular lesson interaction. Interactions are furthermore rhetorically designed where participants share the interactional concern with what the other thinks, knows, and claims in relation to own thinking, knowing and claiming; concerned with sameness and difference, and also alternative understandings. These understandings are based on "participant categories", i.e. categories of knowing and thinking used by participants as interactional resources (conceptions of mind and reality). Lastly, interactions involve participant accountability: participants treat themselves and others as accountable for what they say and do in an interaction (Edwards 1997).

The contribution of CA research to understanding classroom interactions, according to Seedhouse (2005) is in the focus on and analysis of talk-in-interaction from an emic perspective, i.e. within the system/context of the actual conversation, analysing actual specimens of talk. The study interactions are done by observing the development of intersubjectivity in a sequence, how participants respond to each others' utterances, how they understand, analyse and respond in turn to each other's turns at talk (Hutchby & Woofitt 1998, in Seedhouse 2005). Classroom interactions involve turn-taking, preference organisation (how participants prefer to respond on utterances others make), adjacency pairing (pairing of utterances where the second part is conditionally relevant to the first, and creating space for following sequences), and repair actions (the treatment of trouble occurring in interactional language use) (Seedhouse 2004). The ways in which sequences of interaction are organised become a window on the intersubjectivity of participants, reciprocal understanding and interpersonal alignment (Seedhouse 2004; cf. Swieringa 2009).

From a CA perspective, conversational interactions are context-forming and context renewing: contributions to interaction are shaped by the context, and they in turn shape the context and flow of the conversation; a situation where "... participants talk a context into being" (Seedhouse 2005: 166). In this regard, all detail in interactions are relevant; no detail in an interaction can be rejected/ignored a priori as irrelevant, accidental or chaotic (Sacks 1992; Heritage 1984, in Seedhouse 2005). Analysis of conversations is data-

driven and background and context speak from information from within the interaction (Seedhouse 2005).

The wave of studies on the conversational dimensions of interactions contribute immensely to our understanding of how classroom learning is enhanced through conversational actions. These studies confirm that the organisation of speech/talk in a learning conversation is intersubjective in the sense that children's representations of knowledge are directly organised, in interaction, by the discursive actions of the teacher who controls the turn-taking (cf. Edwards 1990). In such conversational interactions, knowledge is key to the access, rights and responsibilities of participants. Knowledge is treated by interactants as a moral domain with clear implications for relationships in a conversation, and described by Stivers *et al*. (2011: 9) in terms of three dimensions: epistemic access, primacy, and responsibility.

Epistemic access, in a conversation, according to Stivers *et al*. (2011: 10) is about the extent to which participants know/do not know about the topic, their degree of certainty and the knowledge resources they use to elicit, claim and qualify their claims of access to the topic. This is evident, for example, when participants pose a question and presupposes recipient access and willingness to answer (cf. Heritage & Raymond 2005).

Epistemic primacy is about the participant's relative rights to know and claim authority of knowledge (Stivers *et al*. 2011: 13). This is based on the asymmetry in participants exercising their right to know and to tell, inform, assert or assess something in a conversation. Participants claim authority based on the depth, specificity, or completeness of their knowledge, depending on their relational closeness to the other person, which means they only make assertions with sufficient access and rights; those with more authority have greater rights to make assertions (Stivers *et al*. 2011: 14).

Epistemic responsibility is exercised in terms of "types of knowables", ranging from knowing your name to asking questions, recipients routinely treat themselves as responsible for being able to answer, and determining recipient designs of turns (Pomerantz 1980, in Stivers *et al*. 2011: 17). This shows that interactions are also influenced by social norms of alignment and affiliation: interactants "show themselves to be accountable for what they know, their level of certainty, their relative authority, and the degree to which they exercise their rights and fulfil their responsibilities" (Stivers *et al*. 2011: 9).

In the study by Drew (2005: 166) into "cognitive states" and the role they play in interactions, their "visibility" and how states of confusion play out interactionally, the thesis was that participants display their awareness of errors conversationally, and that cognitive states determine organisational patterns

in conversations, indicating that participants may well be aware of a mistake/error but let it go without repairing. In Drew's analysis, sequences of actions in a conversation were found to be contingent upon a state of mind and therefore interactionally relevant (Drew 2005: 171). This means how participants engage in a learning interaction depends greatly on their cognitive state as demonstrated by sequential patterns of actions. At the same time, in an interaction, a cognitive state is generated interactionally in the talk, which means that what a participant realises is generated by a previous turn (Drew 2005).

According to Mercer (2004: 171), sequences of action in a learning interaction depend on the cognitive state of participants. The relevance of such a state to participation/action is demonstrated by consequent social action, which means that the sequential patterns of which the actions form part are systematic and recurrent, making it a social phenomenon rather than an individual or psychological phenomenon. When the cognitive state is not made visible or does not manifest in any display of the state, it is not pertinent/salient to the interaction in terms of its use as interactional resource (cf. Edwards & Potter 2012). Lastly it happens that a cognitive state is interactionally generated in the conversation, because it is generated by the following turn when a participant realises something (Mercer 2004: 171).

Pike (2010: 165) pointed to the difficulty in CA studies to make claims about whether or not learning has "actually" occurred. He argues that, at best, CA "can only ever seek to specify the conditions of talk in interaction that participants themselves orient to and treat as evidence for it". Pike's (2010) study of misunderstandings in teacher-pupil discourse shows evidence of how learning is displayed in extended sequences constituting a display of intersubjectivity with regard the what-to-do-tasks, following cycles of repair, as display of learning (Pike 2010: 178).

Edwards (1990: 66), from the perspective of social psychology, notes that it should not be underestimated what children learn from conversing with each other – which would include the skills of disputation and the idea that knowledge, including the teacher's, is open to scrutiny and justification and that participants do not always have to agree. Important would also be for the teacher to open up her knowledge for such scrutiny – her plans, assumptions and methods (*ibid*.).

In his/her CA study of conversational repair in classroom speech, McHoul (1990) makes the analytical distinction between self-repair and other-repair. This is the repair sequences in which the repair is made by the person who made the problematic/faulty utterance in the first place, or by the other participant in the conversation. McHoul's study investigated the degree to which, due to the singularity of classroom interaction, other-repair appears to occur more

regularly in classroom context. The study looked at bigger patterns of repair trajectories as created by the repair action as well as its pre-initiating by a faulty statement/utterance made by a participant in the classroom. The social identities of the teacher and learners were taken into account here and the study wanted to obtain an image of the structural preferences regarding repair sequences in classroom conversations.

Finally, in considering the conversational dimensions of classroom interaction, participants continuously have to assess and attend to how learning is indexed or displayed. In this regard, Koole's (2010) distinction is useful. He makes the distinction between displays of understanding and displays of knowing, both being different interactional objects located at different sequential positions in a classroom. The teacher uses interrogative questions to check understanding and knowledge, and learners' explanations and demonstrations indicate their claim of understanding and knowing.

Learning may also be indexed, according to Wilkinson and Kitzinger (2006), by expressions of surprise tokens, e.g. "oh", "wow", "gosh". Surprise responses may be delayed, hidden, or "ritualized disbeliefs". Apart from their role in reflecting and promoting culture they may also be taken as indicators of progress in learning.

For Pike (2010: 164) proleptic utterances, i.e. utterances which anticipate an objection, can be taken as a conversational indicator of "common ground", of intersubjectivity. When the listener is forced to make inferences that implicitly recreate the presuppositional basis of the speaker's prior turn, and this is done successfully, learning may be said to have occurred (Pike 2010: 164; cf. Stone 1993, in Pike 2010). In situations where participants take a "mutual stance" and use conversational markers such as "that's right" to indicate a shared understanding, they also claim epistemic access and rights, and align themselves with conversational "action(s)-in-progress" (Drew & Holt 1998).

FEATURES OF LEARNING CONVERSATIONS IN CLASSROOMS

From the overview of theoretical perspectives and research studies of classroom interactions a summary can be offered of the features of learning conversations (LC). Firstly, it is clear that interactions taking place in classrooms for purposes of learning have both pedagogical and conversational dimensions. Such interactions are relational, reciprocal, and intersubjective. The main participants are, by design, teachers and learners. Learning conversations are mainly, but not exclusively, initiated and managed by the teacher, and structured around

curriculum requirements. They are intentionally designed and used by a teacher to facilitate learning of a curriculum topic.

Apart from settings where teachers planfully engage in conversation with learners to pursue learning goals of the curriculum, classroom interactions may be defined as learning conversations. This depends on how learning is defined: as improving understanding (Mercer 2008), changing interpretations/making meaning (Lyle 2008), or gaining new knowledge, i.e. reporting conceptual change (Vosniadou 2008).

LC are public displays where interacting participants share the accountability for making the interaction work, drawing on their knowledge and experience, and utilising conversation techniques similar to, and distinguishable from everyday conversations.

Learning conversations, their flow and conversational accomplishments, are context formed and context forming. This means they are authentic in their happening and a function of setting, context, participation and topic.

LC includes features that display cultural and social norms of appropriate interactional behaviour. This means they include courtesy habits of polite interactions of greeting, changing topics, closing, and content-focused episodes. For example, a lesson may start with greeting and then move on to one content topic after another, until closing.

Learning conversations involve understanding in at least two ways – the everyday "I understand what you say", and interpretive on level of content "I know what you say" (Koole 2010).

Conversational dimensions of learning interactions include sequence organisation at the level of structure, order and flow; response preferences is a function of the interaction purpose and setting. Utterances in learning conversations fulfil social functions/actions – they do work towards the object of the interaction, learning. The most frequently used sequencing in learning conversations is Q&A. In Q&A sequences, knowledge learning outcomes are appropriated by the teacher. Other sequence forms also occur, including statement/response, repair/response, etc.

Learning, as realisation of understanding or knowing, is indexed in ways that include gestures, approval utterances, and by repair actions. Self-repair and other-repair serve purposes of clarifying understanding, developing shared understanding and knowledge. Other indicators of learning include conversational actions of agreement (utterances, gestures, responses to explanations, accounts, etc.)

Participants draw on their knowledge and experience, including what Edwards and Potter (2012) call their psychological thesaurus, i.e. cognitive

and affective/psychological tools of knowing and feeling in purposeful and interactionally relevant ways.

In learning conversations, knowledge is at stake – participants take the responsibility to acknowledge and use interactional resources to indicate that they know or do not know, how certain they are, where they got their knowledge from, and what they can say about it (epistemic access). They exercise their rights and claim authority as knowers and as learners.

In summary, learning conversations are defined as interactions which involve learning achieved conversationally, in forms of understanding and knowledge. Participants draw on their experience and knowledge resources to exercise their rights and responsibilities in learning conversations.

EXPANDING LEARNING CONVERSATIONS THROUGH SOCIAL MEDIA

The question considered here is how learning conversations (LC) in classrooms may be extended and enhanced by means of social media. Social interactions in classrooms are changing because of the innovations in technology and electronic media, and the challenge is to consider how social media benefit LCs. This section explores how dimensions of learning conversations may be challenged/changed/enhanced/strengthened by social media. Social media is used in this article to refer to mobile learning media used in classrooms, and include instant messaging, blogging, Facebook, Twitter, etc. These are developing e-learning formats. While the availability and possibilities of social media is being expanded rapidly, and the ownership of smart phones and ICTs are expanding, with accompanied benefits, the gap is also widening between those who have access and those who are left behind.

Social media is occupying the lives and activities of learners at a rapid pace, offering learners and educators new ways of interaction and learning. The value for learning has been experienced by all involved, perhaps more by learners who participate actively, creatively and with adaptive response to benefit in ways that educators and curriculum developers are only now beginning to research and understand.

What follows next, is an exemplary analysis of the scope for learning conversations offered by social media. This is done by means of references to a selection of media, and illustrations of the scope/benefits from virtual classroom conversations (see Table 1).

Social media and the levels of participation in LC

Learning conversations require active participation, in sequence construction and turn-taking. Social media offers participation opportunities in varied settings and contexts, and a shift from conversations between teacher and many, to conversations between many and many, and novice and expert (Shirky 2009). Instant messaging via Twitter, Facebook and others allows for talking with many – unfamiliar audiences; more complicated turn-taking. Instant messaging is also changing roles in learning conversations – while the teacher is talking, texting if allowed, with others in class. Connections are also social, which means that they go beyond curriculum topics. New authenticities are possible, and responses immediate. Most often, participants lose control over utterances (Shirky 2009).

Social media is also bringing about changes in the conversational roles of participants – from controlling and directing to convening. Social media is also making users more and more producers of new ideas, more than consumers (Shirky 2009).

The exemplary transcript of the virtual global classroom chat on Wikispace in Table 1 illustrates how participation of three, and later four, participants play out. (For ease of identification, the three main participants are identified as I = ICT_Integrator; B = bhallowes; M = MrsSchmidtB4). Participation initially seems balanced with I leading the conversation through questions. The first question in 2:30 captures the purpose of the chat and subsequent questions in 2:33, 2:38 and 2:41 serve the purpose of unpacking the main question and leading the conversation to answers. It is interesting to note B's question in 2:41 and 2:55, as invitation to check understanding but also to add to the learning topic. The question in 2:41 is actually rephrasing and repeating I's question in 2:38, indicating her acceptance of the importance of the question, but also noting dissatisfaction with the conversation not reaching an answer.

The example illustrates the varied roles of participants in the learning conversation. While the interaction was set up to take place at a specific time, the written record of tweets allows people joining late to catch up and contribute. The written record freezes the action and becomes a record for all to see and use for further contributions. This is an advantage above verbal interactions where utterances remain in memory to be recalled or restated.

TABLE 1: GLOBAL CLASSROOM TWITTER INTERACTION

ICT_Integrator	2:30 AM	@wens5130 Hi Wendy! Welcome! The topic is Is technology connecting or dividing us? #globalclassroom
bhallowes	2:30 AM	Hi Wendy welcome.
MrsSchmidtB4	2:31 AM	Hello Wendy! #globalclassroom
ICT_Integrator	2:31 AM	@MrsSchmidtB4 Love this - will retweet this many times :)! #globalclassroom
bhallowes	2:32 AM	Technology definitely does connect us - classrooms are now global. And that can happen with a cell phone. #globalclassroom
ICT_Integrator	2:32 AM	Technology divides us from our teens in many ways too - even though they think they're connected! #globalclassroom
ICT_Integrator	2:33 AM	@bhallowes Possible, but has implications - airtime, data - for whose account? #globalclassroom
MrsSchmidtB4	2:34 AM	@ICT_Integrator Teens today are constantly connected to friends. Can't even go to the movies for 2 hours w/o texting. #globalclassroom
bhallowes	2:35 AM	Tina, I can remember my own children as teenagers. They used to come home from school and phone their friends. #globalclassroom
bhallowes	2:36 AM	They couldn't bear to be separated from them - even before cell phones. #globalclassroom
ICT_Integrator	2:37 AM	@MrsSchmidtB4 Teens are alike everywhere - social etiquette falls by the way side, so common sense is the order of the day #globalclassroom
ICT_Integrator	2:38 AM	Technology only empowers those who have access to it - Jason Graham - quote from the blog. Any thoughts? #globalclassroom
bhallowes	2:40 AM	I have seen with some of our teachers who have acquired laptops. They feel safe asking colleagues who know more. #globalclassroom
MrsSchmidtB4	2:40 AM	@ICT_Integrator I guess that is true unfortunately. #globalclassroom
bhallowes	2:40 AM	@ICT_Integrator I would have to agree. But they in turn could be there for "newcomers"when the opportunity arises. #globalclassroom

ICT_Integrator	2:41 AM	*opportunites* Sorry!!! Typing not up to speed tonight! #globalclassroom
bhallowes	2:41 AM	@ICT_Integrator Again I'll ask your question - should that hold us back? #globalclassroom
ICT_Integrator	2:41 AM	I value my global connections immensely, but what about those that don't have these pooprtunities? #globalclassroom
ICT_Integrator	2:43 AM	@bhallowes I don't think so, but I'm just throwing it out there! Do we have a responsibility to try and reach out to them? #globalclassroom
MrsSchmidtB4	2:43 AM	@ICT_Integrator I think they don't realize what they are missing out on. #globalclassroom
bhallowes	2:44 AM	we need to build relationships. If a colleague is technophobic all the more reason to build a trust relationships. #globalclassroom
ICT_Integrator	2:44 AM	@MrsSchmidtB4 True - makes it all the more sad for me though. #globalclassroom
ICT_Integrator	2:45 AM	RT @MrsSchmidtB4: Technology is a tool to use..not the be all and end all of education. #globalclassroom
bhallowes	2:46 AM	They said they tell kids to go home and find an adult with a smart phone and google info. And they do it.... #globalclassroom
ICT_Integrator	2:46 AM	@bhallowes Yes, relationships are key - a mentoring system maybe? #globalclassroom
MrsSchmidtB4	2:46 AM	Global connections can occur whenever empowerment is available..no matter what the age. #globalclassroom
bhallowes	2:46 AM	I did course with teachers in deep rural area. There was no access to internet.... #globalclassroom
ICT_Integrator	2:47 AM	@MrsSchmidtB4 Agreed - one person just needs to take the initiative! #globalclassroom
MrsSchmidtB4	2:47 AM	Hopefully those who do not have access now will have resources at some point in the future. #globalclassroom
bhallowes	2:47 AM	I take comfort in the fact that kids are really fast learners. When they get tech they catch up fast! #globalclassroom

bhallowes	2:48 AM	@ICT_Integrator Yes, that's what the Microsoft Peer Coaching programme is about. #globalclassroom
ICT_Integrator	2:49 AM	@bhallowes Kids also more willing to try new things - they also experience a measure of fear of the unknown(have seen this) #globalclassroom
bhallowes	2:49 AM	Look at ways we can improve a lesson - is there a way of adding tech via photos, video etc on cell phones? #globalclassroom
MrsSchmidtB4	2:49 AM	I am just making these connections as an adult, along with my students, and they are so exciting to me! #globalclassroom
bhallowes	2:50 AM	@ICT_Integrator Yes, everyone needs encouragement. #globalclassroom
ICT_Integrator	2:50 AM	@MrsSchmidtB4 I am trying to encourage our teachers to do the same, to join the global classroom!! #globalclassroom
MrsSchmidtB4	2:52 AM	@bhallowes That sounds like fun. #globalclassroom
bhallowes	2:52 AM	I'm thinking about a new project for Global classroom - something around the Olympics. How do the Games build connections? #globalclassroom
bucharesttutor	2:53 AM	Hello everyone, is the #globalclassroom still going on?
bhallowes	2:53 AM	I'm just not sure about how to set up a project. #globalclassroom
MrsSchmidtB4	2:54 AM	Support from a group like the Global Classroom is very helpful for a teacher newer to technology. #globalclassroom
bucharesttutor	2:55 AM	@MrsSchmidtB4 ok I'd love to pitch in, what's the current topic trending #globalclassroom thanks for letting m know Tina :))
ICT_Integrator	2:55 AM	@bucharesttutor Hi Vijay, yes we are here for another 5 min or so - thanks for popping in! #globalclassroom
bhallowes	2:55 AM	@MrsSchmidtB4 Would you set it up in Edmodo? or where? #globalclassroom
MrsSchmidtB4	2:55 AM	@bucharesttutor Yes! We are a small group but still chatting. #globalclassroom

ICT_Integrator	2:55 AM	@bhallowes Excellent topic - endless possbilities. See Global Classroom wiki http://t.co/WD7jQGsj #globalclassroom
ICT_Integrator	2:56 AM	@bucharesttutor The topic is Is technology connecting or dividing us? #globalclassroom
bucharesttutor	2:57 AM	Technology is the right direction in classrooms n has to be adopted wherever the case, that's the future n need to embrace #globalclassroom
MrsSchmidtB4	2:57 AM	@bhallowes Yes, we could use Edmodo or a wiki. I am not very creative. Better at taking others' ideas and joining in:) #globalclassroom
ICT_Integrator	2:57 AM	@bhallowes You can use Edmodo or a wiki or even VoiceThread - the wiki has love ideas. #globalclassroom
bhallowes	2:58 AM	@bucharesttutor Agreed Vijay. However one of the things we discussed is the divide between haves and have nots. #globalclassroom
ICT_Integrator	2:58 AM	@bucharesttutor You said it Vijay! #globalclassroom
bhallowes	2:58 AM	@ICT_Integrator I'll explore the possibilities for Olympics project. Wiki sounds good but Edmodo also fun. #globalclassroom
ICT_Integrator	2:59 AM	@bhallowes If you set up a project, the choice is yours but there might be one you'd like to join. #globalclassroom
bucharesttutor	3:00 AM	@bhallowes @ICT_Integrator had this talk before in #edchatsa mobiles are a must for Ss provided they are taught how to use #globalclassroom
MrsSchmidtB4	3:00 AM	@bucharesttutor Yes, so the stubborn teachers who won't use it need to join in or get out of education. #globalclassroom
bhallowes	3:00 AM	If I had my own class I'd do lots of stuff around Olympics. I only see each class for an hour a week. #globalclassroom
bucharesttutor	3:01 AM	@MrsSchmidtB4 well telling them to "get out" won't serve the purpose so we try and educate them so that they get the point #globalclassroom
bhallowes	3:01 AM	@bucharesttutor Agreed Vijay. #globalclassroom
bhallowes	3:02 AM	Yes I certainly found it stimulating. Now I will do something about that Olympics project! :-) #globalclassroom

(http://theglobalclassroomchats.wikispaces.com/April+2012)

Interaction design/sequence organisation and response types/preferences

Learning conversations are shaped by interaction organisation. The most frequently used sequence type is Q&A, and understanding and learning is indexed by explanations and feedback. With social media, such as Facebook, more complex Q&A sequencing is possible (one question, series of answers, delayed feedback, multiple other repair, delayed and better informed self-repair).

The exemplary transcript of the virtual global classroom chat on Wikispace in Table 1 illustrates participation, sequencing, and utterance preferences related to learning. The intention is not to offer a full analysis of the conversation, but rather to focus on learning and how it is enhanced by social media. Here we have participation by three people who have only met virtually, and collaborative learning happening around the question, "Is technology connecting or dividing us?" Learning needs are stated in the form of questions and requests for clarification. Exchanges in answers to the same question by B and I in 2:32 and with M in 2:34 seem to develop a shared understanding. This is the sequence pattern after I's statement in 2:32 that technology divides us (parents, teacher) from teens. B in 2:35 and I in 2:37 extend the shared position and confirm the shared understanding, with M and B appropriating the understanding in 2:40. B starts the second episode by asking a question in 2:41, indexing a need to learn, and offering answers following other participants in 2:44 ["we need to build relationships"] and 2:46 [" ... tell kids to go home ..."]. B's understanding is acknowledged and appropriated by I as the facilitator of the conversation in 2:46 and 2:47.

It is clear from this cursory analysis of the first few episodes of interaction in this classroom chat that the conversational organisation of sequences and utterances resembles real classroom learning conversations. This is evident in the question-answer sequence in 2:30 to 2:32, and the statement-response seeking and obtaining agreement in 2:46. Interesting to note the lack of display of gestures and what Clayman and Gill (2004) refer to as the microgenic components of conversations, such as tone, loudness, intonation, etc. except for the emoticon smile ":)" in 2:31, 2:55 and 2:57, the emphatic "True –" in 2:44 and the use of "!!!" in 2:41 indicating embarrassment. Participants do not have the benefit of observing body language, which could perhaps allow for more varied response options.

Enriching content and conversation sources

Learning conversations in traditional classrooms happen in the moment, requiring of participants to speak their minds drawing on their memories of knowledge and experience. In social media, multimodal learning conversations are possible, combining talking, texting, images, and video in real-time or spread over time.

In learning conversations, utterances draw on multiple sources of information. Individuals draw on own thinking, background, reading, and experience. These resources are used conversationally to do topic changes. Social media goes beyond the conventional; resources are a keyboard away, not only to access sources of content and knowledge in an instant, but also to allow for the building of a record/trajectory of interactions. Social media helps archiving conversations (Ostrow 2011), experiences, records, outcomes. It creates online memories; a "life time of data digital".

The sample Twitter chat in Table 1 is part of "The Global Classroom Twitter chats" (http://theglobalclassroomchats.wikispaces.com/April+2012) and contains records of interactions around various topics. In the example, participants refer to other Twitter sites covering similar content and immediately others can follow and understand the contributions (see 2:57 and 3:00). The Twitter chat, because it consists of written display, allows participants to read and reflect, and respond later. Evidence for this is in the time difference between the contributions made by M (ranging from 2: 34 to 2:40 to 2:43 to 2:46). Such delayed contributions allow perhaps more careful consideration of submissions.

Social media and epistemological access

Learning conversations allow/demand of participants to gain epistemological access, and exercise their epistemological rights and responsibilities. This means that they acknowledge levels of understanding and knowing, and do what they need to do conversationally to gain access and improve their knowledge.

In the sample Twitter transcription in Table 1, claims of access are made in terms of experience (2:40) and social networking (2:46). Social media can work in empowering ways, providing access to information to enable participants to make and substantiate knowledge claims.

Knowledge appropriation is not only the prerogative of the teacher; social media allows for varied agencies doing that. In the sample chat this is evident in the "Yes!" utterances by the facilitator, but also by participants, e.g. 2:48.

Social media and improved outcomes/sustainability of LC

The learning benefits of interactions may be observed in terms of indicators of understanding and knowledge appropriated. In this regard, social media allows expression of views in new ways, to broader range of audiences, e.g. allowing voting.

While LC work in empowering ways, social media, through, for example, blogging and Facebook, enables learners to develop their own story,

obtaining comments from others and shaping their own learning space and trajectory of progress.

In the example transcript, learning gains have been indexed by for example the "Yes" utterances of the facilitator in 2:46, 2:50, 2:55 and 2:57. Other examples of shared understanding are in M confirming B's view in 2:49, and B sharing M's understanding in 2:36.

CONCLUSION

The main argument of this article is that learning conversations are key to social communication and educational progress in school classrooms. The conversational features of interactions are identifiable in detail, and this helps education practitioners focus on ways to improve and sustain learning. The analysis of exemplars of social media interactions seems to indicate that new ways are opened up to improve social communication. Part of this is that social media allows different forms of participation, varied learning and sources for interaction, placing the learning responsibility in the hands of the learner, and in the process promoting independence.

The rapid growth in availability and use of social media in school classrooms will, with guideline texts such as the one by Magano *et al*. (2010), bring a refinement of learning conversation pedagogy which will contribute to sustainable learning. The value of learning conversations supported by social media will also go a long way towards promoting generative learning communities (Lewis *et al*. 2010), and equitable learning. Such learning needs to be characterised by equal access, adequate learning outcomes, and fairness in terms of opportunities and resources (Van der Westhuizen 2012).

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