Using iPads in a dialogic classroom: Mutually exclusive or naturally compatible?

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Abstract

This research study aimed to explore the impact of using iPads on the opportunities for dialogic teaching in an English for academic purposes (EAP) classroom at a English-medium university in the United Arab Emirates. The study found that the use of iPads in the EAP classroom both supported and limited opportunities for dialogic teaching. It was also found that often the institutional constraints were more limiting in promoting dialogic teaching than the use of the device itself.

Key words: dialogic teaching; iPads; teacher talk; student talk; English for academic purposes

Introduction

Classroom interaction has been well researched and documented in English for Academic Purposes (EAP) contexts especially since the adoption of communicative teaching practices. Such practices highlight the premise that interactive pair/group work activities are meaningful when students are genuinely interested in the topic at hand and are prepared to discuss it at length. Barnes (2010) coined the term "exploratory talk", which focuses on the language used in tasks such as group problem solving, where all students are involved and teacher's role shifts from being the provider of 'right answers' to working with the students towards the building up of "common knowledge" and offering guided and specific talk that encourages students to think critically (p. 7). In this type of interaction, teacher and students can negotiate what makes a good discussion and set the ground rules together. Tasks should be collaborative where the communication is not to 'interact' but also to 'inter-think' (Mercer, 2000).

Alexander (2008) identifies 5 criteria for any classroom talk to be dialogic:

- *collective:* teachers and children address learning tasks, whether as a group or as a class;
- *reciprocal:* teachers and children listen to each other, share ideas and consider alternative viewpoints;
- *supportive:* children articulate their ideas freely, without fear of embarrassment over 'wrong' answers; and they help each other to reach common understandings;
- *cumulative:* teachers and children build on their own and each other's ideas and chain them into coherent lines of thinking and enquiry;
- *purposeful:* teachers plan and steer classroom talk with specific educational goals in view (p.14).

Alexander (2003) describes dialogic teaching as "purposeful and productive dialogue where questions, answers, feedback (and feedforward) progressively build into coherent and expanding chains of enquiry and understanding" (cited in Jones, 2010, p.64). Dialogic teaching however, does not come with a magic formula, nor does it have a single method of teaching. It is an approach, not a set of rules and techniques and concerns such practices as reviewing the use of teaching techniques and the balancing of power relationships within a classroom (Alexander, 2010). It is based on evidence and principles and "draws on a broad repertoire of strategies and techniques" (p.1). Alexander (2008) identifies these repertoires to be talk for everyday life, learning talk, teaching talk and classroom organization (p.38-39).

Recent years have also witnessed the entry of an important contributor to classroom interaction: mobile devices. Mobile learning can be defined as the "processes (both personal and public) of coming to know through exploration and conversation across multiple contexts among people and interactive technologies" using hand-held devices (Sharples et al., cited in Hockly, 2013, p.80). Accordingly, research into the use of mobile devices in learning and how they have impacted interaction has emerged in recent years. One example of such research looked at the use of iPads in tertiary contexts in the UAE. Three government universities distributed iPads to first year students in 2012 as a result of a mobile learning initiative (Gitsaki, Robby, Priest, Hamdan & Ben-Chabane, 2013). Accordingly, all students and teachers were issued with an iPad and materials were converted into iBook or similar formats. At the end of the first year of trial, 80% of the students

involved as well as the teachers responded positively to the use of iPads as part of their learning and teaching experience (Gitsaki et al 2013).

The study thus aimed to explore to what extent the use of iPads in an EAP classroom impacted on the opportunities for dialogic teaching.

Methods of research

The study took place in an English-medium university in the United Arab Emirates. A total of 13 classes were involved. In each class there were approximately 18 Emirati students aged 18-22 years old. 12 classes were female, and one class was male. Each class was audio recorded by the researchers for a total of 30 minutes. The audio recording was carried out using an iPad application. From each recording, the researchers chose 5 minutes of lock-step interaction to transcribe. Following the class visit, the researchers sent the class teachers a copy of the audio recording and the transcript of the five minutes interaction. Researchers also took observation notes during the class visit. 7 teachers agreed to be interviewed following the class visits.

Ethical clearance was obtained from the university's Research Ethics Committee, and informed consent was granted by the students and teachers in the research study. Anonymity was ensured through the avoidance of names of teachers or students. All data was stored according to the date of the recording.

Data were analysed by using a the Dialogic Inquiry Tool (DIT) (Reznitskaya, 2012). The researchers listened to the class recordings and used the observation notes to plot the extent to which the teaching was monologic or dialogic. The notes from the DIT were then compared to Alexander's (2008) five features of dialogic teaching. The data was stored and retrieved using the software NVivo (2014). The researchers read their observation notes for major themes, and listened to the audio-recordings for a deeper understanding of the interaction. The researchers also took notes during the analysis of the audio-recordings and noted themes which related to Alexander's (2005, 2008) features of dialogic teaching: collective, reciprocal, supportive, cumulative, and purposeful. Themes which emerged from the analysis were classroom interaction, in particular types of questions asked, the level of challenge in the questions, teacher talk e.g technical language, student talk, and student activity. The transcriptions gave a deeper understanding of the specific language used by teachers and students in a short lock-step interaction, and provided insights into the language used around the iPad.

Findings

In this section we discuss the main themes which emerged from the data in terms of how iPads supported dialogic teaching, or inhibited opportunities for dialogic teaching.

Creativity

From the classroom observations, it was clear that students were engaged in many creative projects using different applications on the iPad. One particular application which was used in a variety of different classes was *Educreations*. A common theme of iPad classes was that students had both opportunity and tools to further practice academic English. During such project work, students worked individually, with the teacher monitoring the class and discussing progress with each student.

In terms of dialogic teaching, such projects allowed for teaching which was supportive and purposeful. Students had specific instructions to follow using

technological tools, and the teacher provided supportive feedback in the form of individual monitoring. Although there was little student-student interaction during these activities, there was student-teacher interaction which focused specifically on the project work. The teacher also gave technological support during this feedback.

Multimodal input and output

Due to the affordances of the iPad applications, students were able to interact with material through multimodal resources. From the observations, it was clear that students could listen to material, read material on the iPads, work on projects through different applications, and watch short videos. Students could also use different applications for competitive activities. From the observation notes, it was apparent that the different forms of input then lent themselves to group comparison of answers and information.

The relevance of such multimodal input is that the students are also involved in a variety of interaction patterns. Some of the multimodal input requires individual interaction, and others, such as competitions, involves class interaction. Dialogic teaching should encourage and promote a variety of different interaction patterns depending on the task. It was noted in the observation notes:

"Technology encourages discussion of the grammar point" (Observation notes).

Thus, a common theme was that the iPad created opportunities for a variety of input which then promoted class and group discussion. Thus the talk then builds on the material from the iPad and encourages cumulative discussion on the topic of the lesson, since students have gained their input in different ways.

Isolation

Although it has been pointed out above that there were many opportunities for students to work individually with teacher monitoring, a common theme from the observations and the interviews is that the iPad promotes a lot of individual work. It was felt that students were more isolated when working with the iPad. One teacher commented:

"... they are working independently, head down, with this technological tool. And some of the students who are not so serious about their learning kind of wander of it, they are visiting other sites, checking their email" (Interview).

In this teacher comment we can see concerns not just about the way the iPad encourages individual work, but also how the students can get distracted when using the screen. This does not promote dialogic teaching in that the teaching is not purposeful, or collective. Students working alone with no follow-up interaction, or sharing, does not support classroom interaction and talk which develops learning. Students could be working alone outside the classroom. Similarly, if students are going off-task, the learning or teaching is no longer purposeful. From the observations, it could be seen that there is a lot of silence in the class due to the individual nature of the work:

A lot of silence in the class as students download and teacher walks around helping / monitoring (Observation notes).

Although, as pointed out above, the teacher is often talking to the students during the monitoring, the exchanges are brief and are often related to the technical aspect of the activity, rather than the content of the activity.

Technical language

From the transcripts, it became clear that the language teachers and students used in iPad-mediated classrooms included a lot of technical language. Teachers had to give instructions which used technical-specific words such as 'download', 'application', and names of various applications. Teachers also asked a lot of questions using such vocabulary to check instructions and progress. One note from the observations pointed to this:

Lots of techno language – meta language – applications. Instructions dominate the lesson (Observation notes).

As can be seen, it is also apparent that in order to carry out the various activities using the iPad, the instructions had to be long and complicated. As a result, a lot of teacher talk was in fact instructions, with little opportunity for dialogue. According to Alexander (2008), dialogue requires questions, cumulative understanding, prompts, and guided discussion (p. 30). In lessons in which instructions and directions take up a large part of the lesson time, such dialogue is not possible.

Institutional constraints

What became clear from the interviews with teachers was that the opportunity for dialogic teaching was compromised by other institutional constraints which were not related to the use of iPads in the classroom. It was felt that such constraints stem from an institutional culture which does not support dialogic teaching. For example, one teacher mentioned the classroom seating and the inflexibility of the seats. From the notes it was also clear that all classrooms had a fixed seating plan which was rows of tables all facing the teacher's desk at the front. One teacher commented:

Classroom seating does not encourage classroom interaction – students look at each others' head.

A fundamental feature of the seating plan is that it represents the institutional culture and the institution's values as to what good teaching looks like. There are few classrooms in which there are circles, or semi- circles so that students can see each other. In all classes students were seated in rows, and when addressing each other, which was rare, students had to talk to the front, and students in front or behind were not encouraged to look at the speaker. Such a seating arrangement does not encourage students to talk to each other, ask questions, probe, prompt, or intervene in discussion to create dialogue.

A second institutional constraint was noted in an interview with a teacher. Materials and specific types of lesson dominated the classroom. The iPads had material on them in the form of ibooks, and there was a strict schedule of activities. All classes followed the material as they were in the ibook. There were some conversations, but little time for greater flexibility in using the materials and extending the discussion and thinking. One teacher commented that there was too much materials and curriculum control: Teachers were "*strangled by it" (Interview).*

Discussion

The aim of this research was to explore the extent to which iPads promoted or limited opportunities for dialogic teaching in an EAP classroom. This discussion will examine and evaluate the impact of iPads on dialogic teaching by relating the data to Alexander's (2008) basic features of dialogic teaching.

Collective

      The application and materials available on iPads encouraged creative projects which sometimes culminated in group learning tasks, but more often students were working in isolation on their iPads. This is not collective learning as students are working individually rather than carrying out learning tasks in groups or as a whole class. The principle of collectivity is fundamental to a group or class structuring of understanding through questions and responses which build on each other. This is particularly relevant in a language classroom where students need to practice their skills in justifying and questioning in English (Haneda & Wells, 2008).

Reciprocal

      This feature relates to the extent to which students and teacher listen to each other and share ideas. There was sharing of ideas in some classes after using iPad material, and there were opportunities for students to share different perspectives, the majority of the time students worked alone. The iPad tended to funnel concentration onto the screen, thus eliminating opportunity for group work. When using technology, it is crucial that the software itself promotes dialogue (Mercer, Fernandez, Dawes, Wegerif & Sams, 2003). There were some teacher - student exchanges while students were working on their iPads, but these were brief exchanges, rather than long conversations with opportunity for an exchange of ideas. The exchanges were often focused on the technology or device, rather than the learning task.

Supportive

      In a supportive dialogic classroom, students help each other to reach common understanding through exploratory talk (Mercer, 1995, 2000). This was not apparent in the observations, and students reached individual understanding through their interaction with the iPad. There were some discussions following individual work, but these were often teacher-led, with little opportunity for students to ask questions or challenge other students' responses.

Cumulative

      Since much of the time spent in the iPad classroom was either long, complicated instructions, or students working individually on the iPad followed by short feedback sessions, there was little opportunity or time for long exchanges as a class or in groups to create and build on each others' understanding of the learning task or concept with the teacher intervening and guiding the discussion. Such dialogue is at the very heart of dialogic teaching (Barnes, 2010). For such an exchange, students need to be able to share ideas, ask questions freely, challenge each other, and justify ideas and opinions. This was not the case. The iPad promoted interaction with a screen with short opportunities for class exchanges following the task.

Purposeful

      Teachers had clear educational goals, and the iPads also included clear goals in its materials and tasks. Students had a clear outcome in the lessons. The iPad classrooms were purposeful. However, the aim of the classroom was not to be dialogic. The aim of the lesson was related to the materials and the specific tasks. The iPad activities demanded long, complex instructions. Although instructions are part of the repertoire of teachers (Mercer, 1995, 2000), and are a necessary stage of the

lesson in dialogic teaching (Jones, 2010), the potential for students to be involved in dialogue needs to be maximised.

It is important to note, however, that the teaching in this research site did not purport to be dialogic. The institutional culture in terms of the role of technology in the classroom was an overriding theme in all classrooms. There was strong encouragement for teachers to use iPads and most of the material was in the form of ibooks. Thus, teachers and students were in an inflexible position in terms of curriculum control. Time was heavily managed by the curriculum goals, the specific aims of the lesson, and the instructions for the tasks. Similarly, the institutional culture was apparent through the promotion of teacher-fronted teaching and teacher control through the seating arrangement. Models of dialogue and dialogic teaching need to be appropriate to the culture of the learning context (Lefstein, 2009) and perhaps in this context a dialogic classroom according to Reznitskaya's (2012) terms is not possible. Similarly, attitudes of teachers and students to dialogic teaching (Boyd & Markarian, 2011) will also impact on the extent to which Alexander's (2008) features can exist in an iPad classroom.

Conclusion

The power of classroom talk cannot be underestimated. It is through talk and dialogue that students and teacher create understanding. Dialogic teaching is not just about the interaction patterns and the everyday conversation between teacher and students. Dialogic teaching challenges, questions, supports, and furthers understanding of the topic. Dialogic teaching calls for 'accountable talk' (Michaels, O'Connor & Resnick, 2007). Thus, in order to create an atmosphere for dialogic teaching and accountable, academic talk in an EAP classroom in which the students are operating in a second language, it is crucial that the teacher has an understanding of the role of talk. Talk in a second language classroom is both language input and a tool for learning. The use of technology is ubiquitous in today's language classroom, but it is crucial to evaluate the extent to which they support learning (Kirkwood & Price, 2013). iPads were introduced into the language classroom in this research context, and although the use of such devices can support dialogic teaching, it would seem that individual nature of work with iPads in the classroom actually inhibits dialogic teaching. Alexander (2008, 2014) points to the quality of the talk, and the quality of the interaction as being fundamental to dialogic teaching. The use of iPad demotes accountable and academic talk. Similarly, it is important to remember that the iPad is merely a device, not a teaching methodology (Coyle, Yanes & Verdu, 2010). Thus, the way it is used in the classroom does depend to a certain extent on the teacher and students' attitude to dialogic teaching (Boyd & Markarian, 2011). Furthermore, institutional constraints emerge as one of the most significant factors in the extent to which dialogic teaching can take place in the EAP classroom in this context. Further research could be carried out into the attitude of teachers and students (Highman, Brindley & Van de Pol, 2013) towards dialogic teaching. Similarly, it would be useful to research the influence of institutional culture on the opportunities for dialogic teaching, as we believe that these may have greater impact than the use of a technological device per se.

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