

# Turn-taking and Mode-switching in grounding text-based communication in the classroom

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**Abstract:** Learners nowadays have access to individual, networked computers for collaboration in the classroom merging features of face-to-face and distant collaboration and bringing new opportunities and problems to overcome. This paper describes a study exploring how chat and threaded discussion tools were used to debate. Preliminary analysis suggests that turn-taking has to be redefined and mode-switching is suggested as an important phenomenon to be considered in facilitating learners' text-based communication in a networked classroom.

## Introduction

Increasingly, the mode and medium of the 'screen' will have major effects on how classroom discourse will be organised. This will have profound effects on human, cognitive/affective, cultural and material engagement in the classroom and on the ways we learn and collaborate (Kress, 2003). In this regard, this paper focuses on turn-taking and introduces mode switching in how we conceptualise mediated text-based communication in the classroom. The study described is aimed at exploring how students take turns and switch modes using chat and threaded discussion tools to conduct debates. Turn-taking in the classroom (see Lemke, 1990; Wells, 1999) and in text chat (see Garcia & Jacobs, 1999; O'Neill & Martin, 2003) is not a new theme in CSCL (computer-supported collaborative learning) research. However, taking turns between two modes of communication and mode-switching in particular has yet to capture the attention of CSCL researchers. Mode-switching is defined '... as the juxtaposition within the same speech exchange of different linguistic modes (i.e. spoken and written)' (Baynham, 1995, p156), that is, not just a medium switch between the physical, face-to-face and the online environments. In the classroom the constant flux of oral talk may make expression so easy to achieve that learners may actually stop reflecting on what they are trying to communicate. Text, on the other hand, has permanence that speech does not have, and so learners may not be too quick in making an utterance and think more carefully what they are going to say. Thus, switching between face-to-face and text-based talk may potentially enhance collaborative learning. However, little is yet known about how text-based communication in the classroom should be designed for collaborative work nor how teachers should facilitate this combined modes of communication to ground classroom interactions. Moreover, researchers will need to study the impact of this new organisation in the traditional classroom in order to design effective networked environments.

This study therefore was designed as an observational study utilising grounded and mixed-methods approach. Specifically, it focused on how a typical lesson in the traditional classroom was re-designed and negotiated to include the use of chat and threaded discussion tools and explored how mediated text-based communication was practised by the learners and how the teacher's role might change to facilitate bi-modal (i.e. oral and written) communication in the classroom. Design issues relating to turn-taking and mode-switching within and between face-to-face talk and mediated text-based communication were also addressed.

## Context and Participants

This paper describes an ongoing case study analysing the design, use and implementation of a discussion support system called CoFFEE (Collaborative Face-to-Face Educational Environment) (De Chiara, et al., 2007). We studied two classes (between 7-12 students in each) of A level students in year 12 (i.e. 17 year old students) with their respective teachers. The students participated in two 50-minute lessons. The first lesson used the chat tool and the second one used the threaded discussion tool. They were divided into up to five groups with the following 'positions' regarding the topic on Binge Drinking in the UK to facilitate debate: 1) Drink Industry; 2) Government; 3) General Public; 4) Binge Drinkers; and 5) Emergency Services.

The chat tool in CoFFEE is a simple SMS type interface. The threaded discussion tool structure conversation in a number of ways. First, its presentation is hierarchical, tree-like: each contribution is placed in a branch (thread) of the contribution it is referred to, allowing related contributions to be placed within the same thread. This tree structure allows users to collapse any branch (represented as folders) of the conversation or to even provide more visual space for the pertinent thread. A collapsed thread changes in colour when additional turns are added and the total number of unread messages is incremented beside the thread name.

## Findings and Discussion

In the classroom, turns usually followed the initiate-response-feedback sequence (cf Lemke, 1990; Wells, 1999). The teacher decided the focus and content of the discussion. Parallel conversations or multiple turns only took place in group work. In COFFEE talk was less teacher-centred as he/she lost floor control. For example, although students rarely ignored teacher spoken suggestions they did not necessarily take up messages posted by the teacher. In this scenario, it is still important for the teacher to have information about learners' participation, not so much to control turns, but to 'detect' non-participation and dominant voices. In this case, a system designed for face-to-face collaboration may still benefit from visual representation of online participation such as that used in Babble for distant collaboration.

In CoFFEE, messages were no longer governed by turn-taking in the sense we understand them in oral talk - not by who has the floor, but by what was said or posted. In the chat tool, turns were alternating. And in the threaded discussion tool, there was no single legitimate turn (floor) that any one interlocutor could take. In fact, there were many potential turns that a student could take as any student could respond to any thread. But, the floor was not guaranteed as the speaker could not be assured if he or she would be 'listened to' as the others participants were monitoring different threads and focusing on other turns or taking their own turns. Given this organisation, the students still tried to take turns as they would in a typical oral face-to-face conversation. Their referencing was not influenced by the content of the post but by who said it and when. To reply to an 'old' message was not seen as a legitimate turn at all. The messages were treated as if they were never intended to be retained or revisited. Furthermore, the students did not maintain the flow or topical coherence of the conversation designed in the thread structure of the discussion tool. Instead, they maintained one-to-one exchanges. As a result, it was difficult for other interlocutors to participate or even to intervene. In short, turn-taking as we know it in face-to-face conversation was recreated by students in their use of CoFFEE - turns were primarily triggered by the interlocutors not by a posted message. It has been suggested that this should be more directly supported in the design of the tool (e.g., Smith, Cadiz & Burkhalter, 2000) However, this is not enough. In this study, an important question that relates to how students switch between oral and written communication as they shift to and fro face-to-face and text-based discussion and how this switch may shape and influence their collaborative learning came into focus in our analysis. To truly utilise the bi-modal nature of collaboration, teachers should be able to facilitate turn-taking and also mode-switching beyond an attempt to recreate the affordances of oral communication with appropriately designed tools in a networked classroom.

## Conclusion

This study has begun to explore the implication of the combined use of oral and mediated text-based communication in the classroom. Observing the communication breakdown in switching between oral discussion in the physical set up and the mediated exchanges in the virtual configuration of CoFFEE in the same classroom presented this study with further technological and pedagogical considerations in terms of turn-taking and more importantly, mode-switching. Facilitating turn-taking within the networked environment and in the face-to-face mode is not enough. It has to be facilitated *between* modes too. And we suggest that mode-switching is an important mechanism or strategy alongside turn-taking in facilitating bi-modal or multi-modal communication. In the classroom, mode-switching does not only require a linguistic switch but also social and material transitions to repair the 'loss' of context associated with a mode switch (cf. Kress, 2003). Inevitably, teachers have to take on a new role in mediated face-to-face collaboration and researchers and designers alike have to take into consideration this new role to support them in networked environments.

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