When Hybrid Learning Meets Blended Teaching: Online Computer-Mediated Communication (CMC) Discourse and Classroom Face-to-Face (FTF) Discourse Analysis

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Abstract. This paper reports on a research project about the emerging hybrid or blended learning and teaching environments. These new environments result from the introduction of new technologies (e.g. 'Blackboard' learning and teaching systems) into the educational setting. The new technologies, rendered as innovative tools in the education sector, have helped integrate the classroom and online learning environments into a variety of "productive spaces" referred to by researchers as "the third space" [1]. This research project has explored the major issues arising in this "third space" in a higher education institute in Hong Kong. These issues include 1) the relationship between the traditional knowledge transmission and the current technology-enhanced knowledge generation in education; 2) the changing relationship between the teachers and the students in the new learning and teaching environments; 3) the discourse nature of interactions through differing modes, e.g. face-to-face (FTF), and interactive electronic media. In addition, this project has also addressed, through a case study of two courses offered in the blended mode, the issues concerning the context and content of the two courses, and the opinions of the participants of these two courses towards the new learning and teaching mode.

Keywords: Hybrid learning, blended teaching, computer-mediated communication, classroom discourse analysis.

1 Introduction

Hybrid learning and blended teaching, the emerging modes as a result of the introduction of new technologies into education, have become increasingly popular worldwide. These emerging modes, consisting essentially of a face-to-face (FTF) component and a computer-medicated communication (CMC) component, reflect the hybrid and blended nature of our current schools, universities and workforce, and "the natural process of how people really learn" [2]. Smith & Kurthen [3] have summarized that "combined e-learning FTF courses go by a number of terms, including 'hybrid', 'blended', and 'web-enhanced' learning". They have also proposed a practical taxonomy of four distinct categories including web-enhanced, blended, hybrid learning and fully online.

"Web-enhanced courses incorporate a minimal number of web-based elements, such as the syllabus and course announcements, into an otherwise traditional FTF course. In blended courses, the instructor adds, beyond an online syllabus and a few online documents, some significant online learning activities. For example, a blended course might have online quizzes or have a few online discussions, which account for a certain limited percentage of the course grade. But an important point is that these online activities do not replace any of the regular FTF class meetings and account for only a limited percentage of course activities – less than 45%. If the online activities replace 45% to 80% of FTF class meetings, then the course is hybrid. Class with 80% or more e-learning are considered fully online" [3].

By these definitions, the two courses that are investigated in the research project belong to the "blended" category. However, taking the actual online time of the participants' learning into consideration, the participants can also be regarded as engaging in "hybrid" learning. While this paper acknowledges the distinction between "hybrid" and "blended" learning and teaching, it makes use of the terms interchangeably as both of them share the meaning of combining FTF and CMC components.

The two 'blended' courses involved in this project are "Vocabulary Studies" and "Language and Societal Modernization". They were taught and delivered through a "blended" mode of teaching, i.e. 80% FTF and 20% CMC by means of synchronous 'Blackboard' discussion forums. "Vocabulary Studies" is one of the core courses offered to participants of Bachelor of Education (BEd) and Bachelor of Arts in English Studies and Education (BAESE) programs. There are approximately 180 students studying in this course in the 2006-2007 semester with 36 participants, as a tutorial group, having participated in "blended" mode of learning as research subjects for this project. "Language and Societal Modernization" is a General Education (GE) course offered to students of all BEd programs. For the purpose of this research project, a relatively small number of 12 participants were selected. These participants took the course in a tutorial group.

The purpose of this research project is three-fold interwoven with the three stages of the project. Firstly, although the modes of classroom FTF teaching supplemented by online CMC delivery have been gaining popularity, what has been happening in online CMC discussion forums still remains a "mystery" to some teachers. The first stage of the project is to describe and analyze the online interactions among teacherstudent, student-student, and teacher-student-(re)sources and to tease out certain discourse patterns. The purpose of this stage is to illustrate the interactive dynamics of the online discussions, e.g. topic initiation and development, exploitation of varying (re)sources of input, the changing roles of the teachers and the students. Secondly, the conventional classroom FTF learning and teaching have been revisited through a discourse analysis (DA) approach in the second stage. A number of DA theories, e.g. classroom discourse hierarchy and classroom IRF/E (Initiation-Response-Feedback/Evaluation) patterning [4] have been applied in the analysis of the classroom discourse data of the two courses. The purpose of this stage is to explore how technology-enhanced classroom learning and teaching discourse (including the use of interactive and communicative media) has evolved from the traditional classroom discourse. Thirdly, the issues that arise in the "blended" mode of learning and teaching are addressed and discussed in the third stage. The purpose of this stage

is to explore the characteristics, potentials, implications and the educational significance of the "blended" mode of learning and teaching.

2 Literature Review

Since the project involves the analysis of online CMC discourse and classroom FTF discourse analysis, the literature or the theoretical and analytical framework underpinning the conceptualization of the project covers a "blend" of three areas including discourse analysis (DA), online education, and classroom-based learning and teaching.

Discourse analysis is "the study of the relationship between language and the contexts in which it is used" [4]. As the project mainly looks into language and content-based learning and teaching through different educational media, DA theories permeate across the three stages of the project. As far as the classroom FTF discourse and the online CMC discourse are concerned, the data for the project has been analyzed based on the theories of the "hierarchy of classroom interaction" [5], and the "social conventions of classroom interaction" [6]. The "written" texts in the CMC context are of a very unique type, which not only contains features of "hypertext" [7] but also features of both written and spoken discourse. This type of written texts can be located on a continuum of spoken-written discourse proposed by Leech, Dechar & Hoogenraad [8], where "conversation", "e-mail message", "lecture", "newspaper", and "a serious printed book" are placed between typical speech and typical writing.

Online education is a broad term encompassing any kind of learning that is done online. People have widely accepted that technology transforms knowledge, and that new technologies make "new things" possible "in a new way" [9]. Recent publications on online education, e.g., Warschauer & Kern [10], Kwan & Fong [11], and Juwah [12], have focused on e-learning pedagogy, and the features of interaction and interactivity in the new online learning and teaching environments. While this project takes "online education" as part of its research paradigm, its focus is on the synchronic online "Blackboard" discussion as a supplementary tool for the FTF classroom teaching. In this regard, this project draws on, as its theoretical and analytical framework, the research and publications by Davis & Brewer [13] on the "context and contact in electronic discourse" and by Laurillard [14] on her classification of five different media types for learning and teaching, i.e., "narrative", "interactive", "adaptive", "communicative", and "productive" media. In addition, this project also draws on the literature on the combination, hybrid or blend of online CMC and classroom FTF interactions, including Topper [15], Skill & Young [16], Larson & Keiper [17], Ellis & Calvo [18], Pearson [19], Jones, Garralda, Li & Lock [20], Ng, Yeung & Hon [21], Xie, DeBacker, & Ferguson [22], Condie & Livingston [23], Reisetter, Lapointe, & Korcuska [24], and Smith & Kurthen [3].

On the classroom-based research front, according to van Lier [25], "most current views of language education are based on the assumption that social interaction plays a central role in learning processes, as a quick glance at the dominant terminology shows. Communication, negotiation of meaning, co-construction, cooperative learning, responsive teaching, and many other terms like them testify to a

fundamental shift from conditioning, association, and other laboratory-based notions of learning to human learning as it is situated in the everyday social world of the learner".

The traditional classroom environments have undertaken considerable transformations due to the development in teaching and learning theories and the introduction of new technologies. Nunan [26] has investigated "collaborative" classroom teaching and learning. Ellis [27] has explored the relationship between classroom-based teaching and tasks, and illuminated areas of "task-based" course design and methodology. As far as classroom technologies are concerned, Craig & Amernic [28] have presented a wide-ranging analysis of the use of PowerPoint technology in higher education. Lowerison, Sclater, Schmid and Abrami [29] have investigated the student perceived effectiveness of computer technology use in post-secondary classrooms. Hill [30] has compared the similarities and differences in traditional learning and technology-enhanced classroom, including online flexible learning environments. The purpose of looking at classroom-based learning and teaching is to find out the extent to which the introduction of multimedia in the traditional classroom changes the narrative nature of the classroom discourse.

3 Methodology

This research project involves multiple methods adopting both qualitative and quantitative research approaches. It is based on 1) online CMC discourse data analysis, 2) classroom FTF discourse data analysis, and 3) a questionnaire survey. The questionnaire survey is mainly concerned with the opinions of the participants on the blended mode of learning and teaching of the two courses.

This project consists of three stages of investigation: 1) describing and analyzing the interactions in online 'Blackboard' discussion forum CMC data, 2) describing and analyzing discourse features of the classroom FTF learning and teaching, 3) investigating the characteristics, potentials, implications and the educational significance of the blended mode learning and teaching.

The research questions for this project include: 1) what are the emerging discourse patterns in online CMC discourse? 2) to what extent are contemporary classroom learning and teaching different from the traditional classroom IRF/E (Initiation, Response, Feedback/Evaluation) discourse patterns? and 3) to what extent does the blended mode affect quality learning and teaching as far as the changing roles of the teachers and the students, and the dynamic interactions among the teachers, students and the course content are concerned?

4 Analytical framework

The analytical framework for the research project is primarily based on the "blend" of the three areas of literature as discussed in the literature review section of the paper. It is particularly developed from differing stages for computer-mediated discourse analysis proposed by Job-Sluder & Barab [31].

There are three guiding principles for establishing the current analytical framework for the "blended" learning and teaching discourse analysis. These include 1) the analysis draws on insights from traditional or conventional discourse analysis, including spoken discourse, written discourse, and classroom discourse, and it is grounded in empirical, textual observations of online CMC and classroom FTF interactions for learning and teaching purposes; 2) the analysis accounts for certain unique features of the technology-enhanced classroom FTF discourse and the online CMC discourse in relation to hypermedia or hypertext, (a)synchronicity, netiquette and the use of Netlish/Weblish (as in chatgroup, BBS, Instant Messaging, MSN or Blackboard discussion forums and in Weblogs or blogs); and 3) the analysis characterizes language use that is above or beyond the level of sentence or utterance in both online CMC and classroom FTF discourse, with a focus on the emerging patterns of language use, interaction, and participation.

The analytical framework consists of *context* analysis and *content* analysis. Content analysis includes *structural* analysis, *semantic* analysis, *interaction* analysis, and *participation* analysis. The major components for each of these analyses are illustrated as follows:

- 1) Context analysis
- course information (course titles, objectives, major content, modes of teaching or delivery)
- participant demographics (age, gender, educational background)
- medium variables (language, the degree of technology-enhancement, temporality, synchronicity, and classroom or online discourse conventions, i.e. the netiquette)
- social context (identities and power relationships of participants)
- 2) Content analysis
- *structural* analysis, including classroom FTF and online CMC discourse hierarchy, i.e. lesson-transaction-exchange-turn-move-act versus forum-thread-exchange-posting-move-act; teacher-talk/posting versus student talk/posting; text versus hypertext
- *semantic* analysis, including discourse move and act identification and categorization, functions of the utterances/postings, i.e. recreational (affective and cohesive) or educational (interactive), and topic development
- *interaction* analysis, including interaction as a means of knowledge construction (sharing, negotiating, and applying newly constructed knowledge), teacher-student-content interactions
- *participation* analysis, including the contribution and engagement of the teachers and the students, the changing roles of the teachers and the students.

5 Results

In terms of the *context* analysis, this project has involved two courses offered in the "blended" mode of learning and teaching. They are "Vocabulary Studies" and "Language and Societal Modernization". The former course provides grounding in concepts, theory and research underlying effective approaches to vocabulary teaching

and learning. The major topics covered include morphology, word formation and semantics, vocabulary knowledge, frequency and size, and vocabulary learning strategies. The latter course explores the relationship between societal modernization and language in Asia. It takes into account multiple perspectives on how language is tied to time, place and socio-historical and socio-cultural context. The major topics covered include the invention of writing and printing, the spread of languages through colonization and migration, the people's language, standard language and exoglossic language, language planning, language change and variation, electronic-mediated discourse, and the digital revolution and its effect on societal communication. Both courses are taught and delivered in the form of a combination of lectures, FTF tutorials, and online Blackboard discussion forums with the medium of instruction being English. The ratio for the FTF and CMC tutorial components is 8:2, i.e., eight FTF tutorials and two online synchronous "Blackboard" discussion forums.

In terms of the content analysis, two lectures on "Vocabulary Studies" and two lectures on "Language and Societal Modernization" were recorded and transcribed; two "Blackboard" discussion forums for each of the two courses were downloaded (with the consent of the course participants) for data analysis purpose. Due to the limited space for this paper and the selective nature of discourse analysis, the data of one lecture and one "Blackboard" discussion forum are selected and analyzed in terms of discourse hierarchy, and discourse "act" identification and categorization.

As far as "discourse hierarchy" and discourse "act" are concerned, the lecture consists of transactions, exchanges, turns, moves and acts. Transactions are topic based. There are eight transactions in the lecture including the introduction of the lecture topics, a narrative "word" story, the Old English period, the Middle English period, the Early Modern English period, the Modern English period, language change, and language variation. There are 30 exchanges. An exchange is "the smallest interactive unit consisting, minimally, of two turns" [32]. The teacher has 34 turns, while the students have 30 turns. A turn is "everything the current speaker says before the next speaker takes over" [32]. The teacher has four more turns than the students, because on four occasions, the teacher was "interacting" with the teaching materials, like the sound recording of Shakespeare's Sonnet XVIII. There are also a number of moves to "initiate", "repair", "respond", "re-open", and to "follow-up" in the lecture. A move is "what the speaker does in a turn in order to start, carry on and finish an exchange, i.e. the way he or she interacts" [32]. For the purpose of finding empirical evidence for the classroom FTF discourse analysis, "acts" have been carefully identified and categorized. An "act" signals "what the speaker intends, what he or she wants to communicate". "It is the smallest interactive unit" [32]. Stenstrom [32] has categorized 28 "primary acts" in spoken discourse. These include "accept", "acknowledge", "agree", "alert", "answer", "apology", "call-off", "check", "closer", "confirm", "disagree", "evaluate", "greeting", "inform", "invite", "object", "offer", "opine", "query", "question", "react", "reject", "reply", "request", "smoother", "statement", "suggest", and "thanks". In the 50-minute lecture, a total number of 666 acts have been identified and classified. The teacher performs a total of 644 acts while the students 22. The distribution of the different types of the teacher's acts in the sequence of frequency is as follows (with the number of acts in brackets): statement (189), inform (144), filler (113), opine (62), suggest (59), question (15), invite (14), request (13), offer (12), thanks (6), evaluate (6), check (5), acknowledge (2), agree (1), apology (1), confirm (1), and greeting (1). Note that in Stenstrom's [32] terms, a filler is a secondary act. However, it is listed here as a primary act because of its high frequency of occurrence in the classroom FTF discourse. In contrast, distribution of the students' acts is as follows: accept (11), answer (7), react (2), greeting (1), and query (1).

In contrast with the classroom FTF discourse, the online CMC Blackboard discussion forum has explicit variations. The forum displays a discourse hierarchy of a forum, threads, exchanges, postings, moves, and acts. There are 16 threads, with each thread centering around a loosely defined topic. A considerable number of threads are initiated by the students. The number of exchanges is difficult to determine, because in online discussion forum, multiple participants upload postings, with no explicit pattern of two participants interacting to each other on a traditional turn-by-turn basis. Instead, the number of postings is apparent. There are 127 postings (also named "messages") in the 120-minute synchronous discussion forum. The teacher has 24 postings whereas the students, as a whole, have 103 postings, with each of the students having between 1 to 10 postings among the 36 students. There are also identifiable moves and acts. For the comparison purpose, the primary "acts" in the forum have been identified and classified. There are 999 acts in the forum. The teacher has 277 acts, whereas the students have 722 acts. The distribution of the different types of the teacher's acts in the sequence of frequency is as follows (with the number of acts in brackets): statement (55), inform (54), evaluate (43), thanks (32), opine (17), agree (12), request (11), suggest (9), greeting (7), answer (5), alert (5), closer (4), question (4), offer (3), react (3), reply (3), confirm (3), call-off (2), check (2), accept (1), invite (1) and apology (1). In contrast, distribution of the students' acts is as follows: inform (150), statement (135), opine (80), question (70), greeting (51), agree (43), evaluate (39), alert (34), suggest (23), react (19), thanks (17), answer (13), reply (13), invite (8), object (8), apology (7), check (6), query (4), acknowledge (4), offer (3), closer (2), confirm (2), request (1) and call-off (1). Notice that in Stenstrom's [32] terms, a reply act "responds to a statement", while an answer act "responds to a question or request".

In addition to the classroom FTF discourse and online CMC discourse analysis, a questionnaire survey has also been conducted among the 36 participants in the "blended" mode of "Vocabulary Studies" learning at the end of the course. The questionnaire results are as follows. 83.3% of the participants agree or strongly agree that "it is good to have a combination of FTF and online tutorials"; 97.2% of the participants agree or strongly agree that "FTF tutorials form an integral part of the module learning"; 94.5% of the participants agree or strongly agree that "online tutorials give us a sense of freedom, leisure and autonomy in terms of our involvement and participation in the discussion forums"; and 80.6% of the participants agree or strongly agree that "the current ratio of FTF and Online tutorials (8:2) is appropriate".

6 Discussion

The research project centers around quality learning and teaching through investigating classroom FTF discourse, online CMC discourse and the mixed mode of "blended" learning and teaching. "Good learning is a process of socially based, active co-construction of contextualized knowledge and webs of relations among its nodes" [33]. With the advent of the new era of technology-enhanced or network-enhanced education, traditional notions and practices on learning and teaching have been changing. Interaction and discussion play a crucial role in the learning and teaching processes. Ellis & Calvo argue that "learning through discussions is a key aspect of the student learning experience in higher education" [18]. Smith & Kurthen suggest that "interaction, between instructor-student and between students, is at the heart of education, whether FTF, fully online, or blended-hybrid" [3]. The research data analysis shows that the "blended" mode of learning and teaching can enhance discussion and interaction between the teacher and the students, among students themselves, and between the teacher, students and the course content materials. The classroom FTF and online CMC data analysis also shows the following changes and shifts in terms of the notions and practices on the "blended" mode of learning and teaching.

- 1) There is a shift from knowledge transmission to knowledge construction in the "blended" mode of learning and teaching. The classroom FTF discourse data shows that the teacher plays a dominant role in terms of disseminating knowledge or leading the classroom discourse. Among the total discourse "acts" in a typical lecture, the acts of "statement", "inform", "opine" and "suggest" come almost exclusively from the teacher, while the students only perform the discourse "acts" of "accept" and "answer". In the online CMC discourse, the students play a leading role as far as the "act" variety and distribution are concerned. The "inform" and "statement" and "opine" acts by the students outnumber those by the teacher significantly. In addition, the total acts by the students in an online discussion forum far exceed those by the teacher. All these data indicate that the "blended" mode of learning and teaching facilitates the shift from knowledge transmission to knowledge construction. The "blended" mode helps create rich zones of development "in which all participants learn by jointly participating in activities in which they share material, socio-cultural, linguistic, and cognitive resources" [1]. In addition, these "hybrid" zones also provide a model for "understanding how meaningful collaboration can be created and sustained and how difference and diversity can serve as resources for learning" [1].
- 2) The traditional IRF/E (Initiation, Response, Feedback/Evaluation) pattern of classroom discourse pattern has been challenged in the "blended" learning and teaching contexts. New patterns are emerging due to the introduction of new technologies in education and the emerging "blended" learning and teaching practices. The classroom FTF discourse data shows a significant deviation from the traditional IRF/E pattern in that with the introduction of new teaching technologies, such as PowerPoint and multimedia presentation equipment in the classroom and Blackboard discussion platform in online delivery of the courses, complex and dynamic patterns of discourse are emerging. In addition to the interaction between the teacher and the students, there is also a new dimension of interacting with the course content materials in the form of varying media, text or hypertext.

- 3) The traditional roles of the teachers and students have shifted and become increasingly dynamic. The CMC component in the "blended" mode of learning and teaching has a "democratization effect" [3]. According to Gutiérrez, Baquedano-López, Alvarez, & Chiu [1], learning in the "blended" context requires participants to constantly "negotiate their roles and understandings as they co-participate in various problem-solving activities". It is also essential for the teachers to make new adjustments as far as their roles are concerned in the "blended" context. "Instructors often feel a 'star' quality as they lecture to their students. The online environment divests instructors of their teaching persona, charisma, and years of FTF teaching skills" [3]. The classroom FTF and online CMC discourse data shows that the teacher takes on new roles as an expert learner, a participant, a course designer, an organizer, a facilitator, a manager, a monitor, an assessor, a team-leader, and also a researcher. In the meantime, the students also perform new roles in addition to being learners, participants, and respondents. They have increasingly become information providers, topic contributors, strategic communicators, meaning makers and negotiators, monitors and team-builders.
- 4) New dimensions have been added in the consideration of such issues as participation and interaction in both classroom FTF discourse and online CMC discourse. In the "blended" learning and teaching contexts, "students' participation is based on authentic competence, rather than on traditional school criteria such as age, language background, education, or ability" [1]. The interaction in the "blended" context has increasingly included the interaction among the students themselves and a learning community largely due to the changing roles of the students. In addition, interaction in the "blended" context also involves the interaction with course content materials in the form of multimedia text and hypertext. Even the traditional interaction between the teachers and the students is also increasingly mediated through written discourse. "Students of online classes have to decipher written instructions, announcements, examples, or assignments to understand what is expected of them and what is of importance" [3].
- 5) It can be suggested that teachers and educators should be "synchronous" with the students' positive attitudes towards "blended" learning and teaching. The questionnaire survey data on the combination of classroom FTF and online CMC shows that the students favor both modes of learning and teaching. The majority of the 36 participants consider the combination of FTF and online tutorials to be a good mode. A great majority of the participants agree or strongly agree that online tutorials give them a sense of freedom, leisure and autonomy in terms of their involvement and participation in the discussion forums. In addition, around 80% of the participants think that the 8:2 ratio of FTF and CMC tutorials is appropriate. This shows that the students generally have a positive attitude towards "blended" learning and teaching. This also indicates that the teachers should keep pace, i.e. be "synchronous" with the students' positive attitudes and expectations, and consider ways to include or expand the CMC components in their existing teaching practices.

7 Conclusion

This paper has reported the major objectives, procedures and findings of a research project on the classroom FTF and online CMC discourse analysis in the context of a Hong Kong higher education institute. It argues that the combination of classroom FTF and online CMC helps create a dynamic space for learning and teaching. In this dynamic environment, the notions on education shift from knowledge transmission to knowledge construction. The traditional classroom discourse patterns also shift and become dynamic. In line with these changes and shifts, the teachers and the students also take on new roles in the "blended" learning and teaching environments. New dimensions have been added to the interpretation of participation and interaction in the new educational settings. It is suggested that the teachers should keep "synchronicity" with the students in terms of their positive and embracing attitudes towards the "blended" learning and teaching.

According to Skill and Young [16] "the likely future will be neither solely online learning nor solely instructor-led classroom learning". They propose that "for many of us who have been working with various learning models, it appears that hybrid or blended models most frequently emerge as the most effective learning strategy. This likelihood suggests that the creation of new learning environments should embrace both virtual and real spaces. Understanding how best to integrate these two modes of learning is and will continue to be a significant challenge for educators" [16].

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