

Sharing and collaborating between an online community of novice teachers: CMC in language teacher education

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New and emerging technologies have transformed the classroom (Mishra & Koehler, 2006) and continue to do so, and it has been reported that teachers and teacher educators now work in ever evolving environments (Elliott, 2009). Research indicates that varied forms of CMC can be implemented to foster collaborative and social learning (Arnold & Ducate, 2006), and the formation of communities of practice (CoPs) (Arnold *et al.*, 2005). Therefore, this paper investigates the implementation of online and face-to-face (F2F) communication in an English Language Teaching (ELT) teacher education programme, with the aim of illuminating the potential such modes have for sharing and collaborating, for providing a space for situated learning and open communication. Results are analysed using a corpus-based methodology, drawing on three aspects of community membership, namely a joint enterprise, mutual engagement and a shared repertoire (Wenger, 1998). This paper closes with a discussion of the implications of such data for

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Language Teacher Education (LTE) in a technologically-oriented world.

1 Introduction and background

New and emerging technologies are said to have transformed or have the potential to transform classroom practices (Mishra & Koehler, 2006), and it has been reported that learners and teachers are gaining further opportunities with flexibility and interaction being promoted and assuming new forms (Elliott, 2009). Current technologies are advocated for promoting interaction and collaboration (Kamhi-Stein, 2000; Nachmias et al., 2000; Arnold & Ducate, 2006). They have also been shown to foster the formation of Communities of Practice (CoPs)¹ whereby teachers can share information, offer support and advice, and inevitably, learn from each other online (Arnold et al., 2005). This paper situates itself within the realm of open communication in that student teachers work in a reciprocal manner freely sharing their pedagogical experiences, learning from each other and participating in a CoP. This paper draws attention to some of the key results of a three-year study employing F2F, blog, chat and discussion for interactions with three cohorts of students on an MA in ELT programme, and a peer tutor. Such interactions aimed to facilitate sharing and collaboration, and create a space where situated learning and open communication could blossom. Results are analysed using a corpus-based methodology. drawing on three aspects of CoPs (Wenger, 1998) in order to illustrate how such practices can foster open communication and sharing.

We propose that social and collaborative learning and CoPs intermingle, as through engagement with a CoP, members can learn from each other via discussion and negotiation. The concept of open communication is also intertwined with notions of social learning as the student teachers, within their CoP, can interact, share and openly communicate with each other and the peer tutor. Therefore we have both situated and social learning within CoPs (*Ibidem*). These issues are re-addressed in the analysis section, but the specific details of the research are addressed first.

2 Methodology

The research presented here is a snapshot of a larger project, which uses a variety of data collection techniques, such as questionnaires, interviews, and F2F and online discussions. Data emanating solely from the interactions are presented, although we recognise that results from the questionnaires and interviews would add further weight to relevant findings. The data was collected in the autumn semesters from September to December 2007, 2008 and 2009

CoPs are groups of people with shared goals who strive to promote learning through communication and interactions, with the inherent belief that the community knowledge is greater than an individual member's knowledge (Wenger, 1998).

from students enrolled in a one-year University MA in ELT programme (the first year being the pilot study)². Once students volunteered to partake, a one-hour training session was held whereby they were introduced to the different tools that would be used in the study. The relevant activities and their aims are summarised in Table 1 below.

TABLE 1
Participation and word count

Mode	Participation				
	2007	2008	2009	Word count	
F2F 1	7	14	16	E0 702	
F2F 2	5	9	9	50,782	
Blogs	4	1	7	18,221	
Chat	4	7	10	7,492	
Forum	5	4	6	6,203	

These corpora were compiled following the criteria set out by Farr et al. (2004) on the Limerick Corpus of Irish English (L-CIE), and were analysed using Wordsmith Tools (Scott, 2004). The means of data analysis chosen for this research is corpus-based discourse analysis as it can combine both quantitative and qualitative analyses through the generation of word lists, keyword lists, and the scrutinisation of concordances. Other studies employing corpus-based techniques for analysing CoPs include Ahmad & Al-Saved (2006) and Healy (2012). Of more relevance to this study, Vaughan (2010) uses a corpus-based methodology to examine community activities for practising teachers. She draws on frequency lists to analyse the type of language used by the teachers. and concordances to examine pronoun usage in terms of illuminating identity and engagement, as well as salient linguistic features (hedging, politeness, humour and laughter). While her community participants are experienced teachers, compared to the novices in this study, her corpus-techniques and findings are used as a backdrop to inform this study. To date, no studies have been found that employ a corpus-based methodology to analyse online CoPs of teacher interactions. The following section now draws on the use of corpus linguistics in order to dissect the data in terms of learning within CoPs.

² The pilot study (2007) was very successful in terms of participation and is deemed important for inclusion within the analysis. The methodology employed for the pilot study and the main study was similar, in fact the only minor change was a rewording of some questions, for reasons of clarity, on the questionnaire. We therefore feel justified in our inclusion of the data, and similarly, others argue for the inclusion of pilot study data if it offers valuable data, and if the research design remains stable (van Teijlingen and Hundley, 2001; Altman et al., 2006).



3 Analysis

3.1 CoP Features

Applying the concept of CoPs to this paper is perceived as beneficial as the CoP framework "is part of a social theory of learning in which identity, practice, community, learning and meaning are all interconnected" (Clarke, 2008, p. 35), thus encompassing a variety of pertinent issues at play. We first analyse the data under the three oft-cited aspects of CoPs, namely mutual engagement, a joint enterprise and a shared repertoire (Wenger, 1998; Davies, 2005; Clarke, 2008), before moving into the analysis of how these areas can feed into social and open learning. Due to the limits of such a paper, we focus on one aspect of language for each of the above, although we do make reference to other features that would also prove insightful.

Mutual Engagement

Mutual engagement is the practice of members actively engaging together in the negotiation of meaning, and in turn defining membership (Wenger, 1998). It refers to our own competence as well as the competence of others, our own knowledge and actions as well as the knowledge and actions of others, and the ability to make meaningful connections with what others contribute (*Ibidem*). This thus involves community members engaging in joint activities by building relationships and sharing and learning from each other (Wenger, 2001).

Question words:

We may assume that for student teachers, mutual engagement is participation within the context of learning to be teachers. In order to illuminate this, we have chosen the use of question words to draw attention to the act of requesting and offering support in order to possibly demonstrate negotiation of meaning. We compare the use of questions in the online and F2F corpus, the results of which are presented below. We have chosen four question words, generated their total occurrence within the corpora, and their actual use as question markers, which we have divided between peer tutor and student teachers.

TABLE 3
Question words in corpora

	F2F (50,782)				ONLINE (31,916)			
	Total	Actual	Peer tutor	Sts	Total	Actual	Peer tutor	Sts
What	364	102	83	19	148	31	21	10
Why	55	18	15	3	38	20	12	8
Who	77	3	3	0	68	5	0	5
How	172	50	31	19	135	50	34	16
Total			132	41	Total 67		67	39
Percentage			76.30	23.70	Percentage 63.20		63.20	36.80

What we can see here is that the peer tutor is the one who asks the most questions, therefore signifying her role in mediating the discussion. This is not necessarily a negative outcome as we stipulate that the peer tutor is proving effective at facilitating the discussion, and indeed from previous research on participation levels within the same data, we found that although the peer tutor takes a lot of turns in the discourse, her turns are quite short and thus facilitative (Riordan & Murray, 2010). Clearly, the student teachers are engaged in the discourse, as in F2F they ask questions 23.70% of the time, which rises to 36.80% in the online data. This confirms previous findings that online interactions may offer more in terms of increased student participation (see for example Kern, 1995; Kamhi-Stein, 2000). From investigating the concordance data, there is evidence of the student teachers asking each other questions about teaching, and their MA course in general, asking the peer tutor questions, asking themselves questions (in particular being quite introspective within the blogs), and asking questions for relationship building and affective reasons. On some level, this act of questioning can point to meaning making and negotiation, and although we do acknowledge that these forms are not the only means of question formation, they offer us some clarity in that we can assume that if the student teachers are connecting with each other about the art of teaching then there is evidence of mutual engagement and meaning negotiation.

We are aware that other features may also bring this to light, including for example, response tokens (*mmhm*, *yeah*) demonstrating engagement and listenership, instances of laughter to signify interpersonal relationships, and verbs in the past tenses to demonstrate narratives. Moreover, mutual engagement could be depicted through the investigation of the pronoun I to implicate personal sharing, examples of agreement and disagreement to illuminate harmony and tension, and levels of participation, which have been attended to previously (Riordan & Murray, 2010).



A Joint enterprise

The second dimension of practice within a community is a *joint enterprise*. Wenger mentions three aspects of an enterprise that hold a CoP together, namely that the enterprise results from the process of negotiation and mutual engagement, that members define a joint enterprise through the pursuit of it, and finally, that a joint enterprise is not merely a goal, but it also creates mutual accountability among participants (Wenger, 1998). This has also been referred to as 'the domain' (Wenger, 2001). Davies (2005) suggests that a joint enterprise is complex, in that it is not only an objective, but "it encompasses both any physical outcomes and the process of meaning-making itself" (p. 562); in other words learning to teach is the joint enterprise for the student teachers and identity within the art of teaching is key.

We: Identity with the teaching profession

For this to be illustrated, we have chosen to focus on the personal pronoun we to evaluate how the student teachers define themselves and identify with their joint enterprise. The total occurrences of we in the corpus is 517, with 384 of those being used as identity markers. When used as an identity marker, we includes references to the profession of teaching, or the MA programme the student teachers are on, as this itself is their first step in joining such a profession. Most notable here is the significant number of occurrences of we which refer to the teachers identifying themselves with the act of teaching, and thus engaging in their joint enterprise. From closer inspection of the online corpus, although the student teachers often used we to refer to themselves as a group of novice teachers, they also expressed themselves in terms of being full members of the community of practising teachers as the following concordances demonstrate:

Fig. 1 - Concordance of We: Online

In particular here, lines 6, 7, 9 and 10 specifically show the pronoun we being used with the category of teaching. This may signify that a joint enter-

prise does exist for the student teachers, in that they are learning and working with each other to cope throughout their MA programme, as well as to develop and grow as teachers in the broader sense. As well as engaging in their joint enterprise, one might hope that through this identity positioning, the student teachers are learning from other teachers' identities in the same group, which can in turn strengthen their association with the CoP. Similarly, as can be seen in Figure 2 below, in F2F there is evidence of identification with the MA course (lines 1, 6 and 9), and the practice of teaching (lines 7, 8, 11 and 12), however there are also examples of them referring to themselves as trainee teachers, thus aligning themselves with the practice, and possibly placing themselves on the trajectory to full membership (lines 2, 3, 4, 5 and 10).

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N Concordance

fing after another climbing on there was not time and it was really only when we stopped with the lectures in December I had time to sit and think about

Main teacher they know them as well they know we're training. Fifty f

Mmhm. +and if you remember that we are still learning until the very day we finish and for years and years after

Mmhm. +you know we're not we're not we're not teachers not yet anyway you know some of us are working or might have
Yeah. Because we are we are here to be trained- I Mmhm.

chool or where wer- Mm. +you're we've been going through teaching practice here trying to bring in all different sure whether to=. And the thing is a swell us as teachers we don't have the perfect eithing. Know yet yet difficult to get the perfect

any teacher whereas am listening skills and speaking skills are something that we have in the baggage of our teaching. And they t

know like+ Yeah. +we're a part of the process as well it's not just teachers begin perfect I mean omething I do notice and I I constantly kind of try to remind myself as much as we try to be a best teacher i just don't think it's right to briget about studen one thing I do notice and I constantly kind of try to remind myself as much as we try to be a best teacher if just don't think it's right to briget about studen an compare different varieties yeah. And the rules that we teach them 'this is how we say it' and then it's totally different laugh
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Fig. 2 - Concordance of We: F2F

One may conclude that the majority of cases are being used by the student teachers to align themselves with the teaching profession, who are thus engaging in a joint enterprise and learning from each other while negotiating their identities. One may also acknowledge that features which merit further analysis include for example 2nd and 3rd person pronouns (*you, they, them*) possibly being used by the student teachers to refer to their students, and the investigation of lexical words to extrapolate the topics of discussion in the interactions in a more universal sense.

A Shared repertoire

The third dimension of practice within a community is a *shared repertoire* (Wenger, 1998), which includes words, stories, gestures, and certain ways of doing things that have become part of the community and are inherent in its practice. It is also known as 'the practice', which is in essence the result of mutual engagement within a joint enterprise (Davies, 2005). In relation to this, Appendix A depicts the top 50 most frequent content words (nouns, verbs, adjectives and adverbs) within each corpus. Immediately, the most striking feature is the presence of metadiscourse, the tools used to talk about their



trade (teaching). Tokens highlighted in grey in the appendix are the features associated with the art of teaching, which appear to make up a lot of the words in the top 50 of each corpus. This shared knowledge of technical discourse demonstrates the focus of the conversations, and the mutual understanding these members have regarding pedagogy. Other features such as shared stories, insider jokes, and routines could also demonstrate a shared repertoire, but are beyond the scope of this paper.

From this section, we have determined features which point to the formation and practices of CoPs, which is our first step in the examination of social learning. The final section of the analysis now attempts to investigate open communication and sharing to further exemplify our arguments.

3.2 Sharing and Open Communication

Using the wordlist in Appendix A, we have isolated other aspects that may point to social learning (highlighted in grid form). Firstly, there are frequent affective devices, possibly indicating stance and interpersonal engagement. These include, for example, *like*, and *feel*. Furthermore, we have evidence of evaluation (*good*, *very*, *different*, *interesting* and *really*), and we also have a number of cognitive words, perhaps implying meaning making and negotiation (*think*, *find* and *know*). What is a particularly welcome finding is the frequency of question words which was mentioned previously (*how* and *why*), and possible evidence of meaning making in the appearance of agree. There are also numerous instances of teachers telling stories, and giving advice from previous experience, one example which is presented below. This concerns the anxiety one teacher is experiencing regarding her first time being in the classroom, and how the other teachers support her:

Extract1: F2F1 2008

- <Guessgold> Yeah what if you just kinda blank like?
- <Kimwho> Yeah.
- <Guessgold> +just like you know freak out you don't know what to do or whatever? what happens then?
- <Amandahuginkiss> You just be flexible and.
- <Eileen> You just keeping talking.
- <Leon> Ask the student to say something <\$E> laughing </\$E>.
- <Amandahuginkiss> Yeah or just say sit quietly amongst yourselves until you figure you're going to say.
- <Homersimpson> You know like have kinda exercises or something to fall back on cos that actually does happen when you're just going on+
- <Peer Tutor> Mm.

<Homersimpson> +sometimes like you can't speak you know cos like I can't continue speaking all the time so I need them to do something I mean just to have something there for back up.

- <Leon> Yeah have something up your sleeve.
- <Thecoolness> Bag of tricks <\$E> laughing </\$E>.
- <Eileen> Big back of tricks absolutely.

Here we see the sharing of advice and tips, and some student teachers putting the less experienced at ease regarding teaching, thus offering emotional support. One other issue to be discussed in relation to open communication is the presence of the peer tutor. What was noticed within the blogs, and the F2F in particular was that the student teachers complained a lot (the tasks in chat and discussion forums were more controlled, and therefore students stayed on topic more). They did so about their MA course, the lecturers, their students, and it is felt that if such conversations were held with a lecturer rather than a peer tutor that such free flowing and open interaction would not have occurred. Further to this, there were many instances where the student teachers asked for clarification that the lecturers would not have access to the data, and this adds weight to the suggestion that they felt at ease within the environment. Unfortunately, within the limits of this paper, we do not have scope to present this, although it is an issue which warrants further scrutiny. There is however, evidence of the student teachers interacting with each other in a reciprocal manner; both cognitively and affectively sharing and evaluating their experiences.

Discussion and Conclusions

We can thus deduce that both the online and F2F interactions provide a space for social learning, interacting and communicating within a CoP. There is evidence of question formation, and thus meaning making; identity formation within the teaching community; and the use of specific language that those in a CoP can relate to. While we have tentatively demonstrated that the student teachers did have the opportunity to discuss issues they may not have had the chance to talk about otherwise, we have not at this point discussed the merits the varied tools have for certain interactional aspects. For example, while chat discussions are reported to be fitting for social functions (Lapadat, 2002), it is the asynchronous forum which is celebrated for reflection and cognition (Szabo & Schwartz, 2011); and while F2F conversations are known to be useful for sharing, learning and collaborating, the use of online tools overall might not only provide another means of interaction, but may also offer more in terms of anonymity, openness (Wickstrom, 2003), and in turn a closer reflection of reality. These are just some of the issues that need further expansion.



To close this discussion, we would like to draw attention to something noted as far back as 1995, when Kern said that CMC "is not a panacea for language acquisition, nor is it a substitute for normal classroom discussion. What it does offer is a powerful means of restructuring classroom dynamics and a novel context for social use of language" (p. 470). Our findings continue to echo this important insight. What we can therefore confirm is that CMC breaks boundaries of location and time and allows students and teachers to work in ways that previously were just not as feasible. This is not only useful for language students who can, for example, interact with native peers, but also for language teachers, as CMC can be used for greater effect to boost current and future teachers' knowledge base and professional development (Arnold *et al.*, 2005).

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APPENDIX
Top 50 content words across corpora³

#	BLOGS	CHAT	FORUM	F2F
1	AS	GRAMMAR	AS	KNOW

³ Tokens highlighted in light grey are the features associated with the art of teaching, for example metadiscourse. Those highlighted in dark grey illustrate social learning, for example, affective, cognitive and evaluative devices.



#	BLOGS	CHAT	FORUM	F2F
2	BE	THINK	LEARNING	LIKE
3	STUDENTS	BE	THINK	SO
4	CLASS	TEACHING	BE	THINK
5	GOOD	SO	TEACHING	JUST
6	HOW	AS	DIFFERENT	BE
7	SO	HOW	STUDENTS	THERE
8	THINK	GOOD	LANGUAGE	AS
9	TEACHING	LANGUAGE	THERE	WELL
10	TEACHER	STUDENTS	SO	THEN
11	THERE	KNOW	METHODS	TEACHING
12	LIKE	AGREE	METHOD	REALLY
13	ALSO	THANKS	ALSO	KIND
14	TIME	JUST	VERY	HOW
15	LANGUAGE	THEORY	GOOD	GOING
16	FEEL	PRACTICE	AGREE	CLASS
17	VERY	LIKE	TEACHER	STUDENTS
18	JUST	QUESTION	WAY	GET
19	NOW	WAY	LIKE	SAY
20	CLASSES	LEARNING	USE	WAY
21	LESSON	DIFFERENT	LEARNERS	TIME
22	EVEN	TEACHERS	CULTURE	VERY
23	LAST	TOO	HOW	MEAN
24	STUDENT	WELL	METHODOLOGIES	UP
25	BEING	SYSTEMS	THEORY	DIFFERENT
26	KNOW	TAUGHT	CULTURES	GO
27	ONLY	ENGLISH	LEARN	ACTUALLY
28	TEACHERS	LESSON	TAUGHT	GOOD
29	WAY	VERY	IDEAS	PEOPLE
30	WELL	YES	INTERESTING	DOING
31	UP	APPROACH	THEORIES	LESSON
32	GET	FEEL	USED	NOW
33	MAKE	THERE	APPROACH	THINGS
34	DIFFERENT	CLASS	FIND	THING
35	LEARN	TEACH	PEOPLE	GONNA
36	TOO	WHY	PRACTICE	GRAMMAR
37	PEOPLE	ВООК	SOCIAL	EVEN

#	BLOGS	CHAT	FORUM	F2F
38	BACK	SORRY	COME	TEACHER
39	SAY	HERE	NEED	FIND
40	SCHOOL	SCHOOL	BASED	SEE
41	THEN	SEE	CLASS	BEING
42	PLAN	TEACHER	CLASSROOM	WANT
43	TP	FEEDBACK	CULTURAL	LEARN
44	DAY	SOMETHING	EVEN	TEACH
45	EXAM	STYLE	IDEA	SAID
46	LEARNING	THEN	KNOW	DONE
47	NEVER	USE	ONLY	LOT
48	QUITE	FIND	STILL	TALKING
49	DOING	GIVE	TASK	HERE
50	SEE	LEARN	BEHAVIOURISM	USE