CHAPTER 5

ASSESSING THE INTEGRATION AND QUALITY OF ONLINE TOOLS IN LANGUAGE TEACHER EDUCATION: THE CASE OF BLOGS, CHAT AND DISCUSSION FORUMS

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Introduction

Research on new technologies and online communication has been carried out in various pedagogical contexts (Haythornwaite et al 2000; Preece and Moloney-Krichmar 2003), however more extensive research on technology use and integration within language teacher education (LTE) in particular is essential (Murray 2000). The changes technology have brought about in all areas of society are undeniable and within the field of education, there is now a demand for teachers to be able to respond to such changes and therefore “reconsider their pedagogical thinking”, (Clandinin 2008, 386), and of course their practices. In other words, there is a demand for all teachers to be technologically savvy (Hegelheimer 2006), and indeed novice teachers of today have already grown up with technology and interacted with it at some level (Doherty 2007). In light of this, online tools are, to some extent, being implemented in language teacher education programmes to enhance the learning experience and to support novice teachers as they embark on their newfound careers. These tools have been advocated for improving reflective practice for student teachers (Pryor and Bitter 2008), for promoting collaboration, for reducing novice teacher isolation (Kamhi-Stein 2000; Arnold and Ducate 2006), and for nurturing the development of Communities of Practice (CoPs) (Arnold et al 2005; Hanson-Smith 2006), areas which this chapter attempts to address. In spite of these research studies, and despite many agreeing that the integration of new technologies into teaching is receiving increasing attention (Garrison et al 2000; Nachmias et al 2000; Kay 2006), still “limited data exist concerning the use of CMC in the TESOL teacher education curriculum and the role of technology in the learning experience and, ultimately, in the preparation of ESL/EFL teachers” (Kamhi-Stein 2000, 424). Therefore further research on technology integration within preservice teacher education programmes is essential (Kay 2006).

Research into the context of technology integration should thus be facilitated at teacher education level, and it is also necessary to evaluate the quality and effectiveness of the online tools in order to ensure pedagogically sound techniques and to benefit from the full potential of online learning. There is therefore a need for more critical appraisal of online tools in order to decide what is appropriate and what can improve quality within the teaching and learning environment (Chapelle 1997). To this end, this chapter aims to explore student teacher perceptions of the quality of three online tools, namely blogs, chatrooms and discussion forums all in comparison to face-to-face discussions. Quality in the context of this research project is concerned with how successful the technology is in fulfilling certain aims, therefore does the technology encourage the development of a CoP, does the technology foster reflection, and does the technology promote social learning and peer mentoring? Furthermore, quality is judged by how well the technology suits the tasks used or how appropriate the technology is for a particular cohort of students. Also included in this are factors pertaining to ease of use, enjoyment or affective issues, the value or benefits afforded by the technologies, the perceived usefulness of the technology, and the long-term effects of the technology. Data presented in this chapter forms part of a larger project with a number of data collection techniques including questionnaires, interviews and online and face-to-face discussions, however for the purposes of the chapter, student teacher feedback on these communication tools derives only from questionnaire and interview data, and is situated around themes of communities of practice, mentoring and the integration of new technologies in a classroom setting. The following sections deal with some of the literature surrounding these pertinent areas.
Communities of Practice (CoPs)

CoPs, a term coined by Lave and Wenger (1991) and further expanded upon by Wenger (1998), are groups of people with shared goals who come together and who strive to promote learning through communication and interactions, with the inherent belief that the community knowledge as a whole is greater than individual members’ knowledge (Wenger 1998). In other words, CoPs comprise a group of people who are drawn together in an informal manner, through a shared enterprise and the will for a joint enterprise (Wenger and Snyder 2000), and it is the combination of three dimensions, namely mutual engagement, a joint enterprise, and a shared repertoire that leads to the cultivation of a CoP (Wenger 2004). Thus participation, practice, negotiation of meaning, mutual engagement and identity are among the important characteristics of CoPs (Wenger 1998). Indeed Davies (2005) highlights that interaction and participation within communities must be meaningful for the community to be called a CoP, and thus defined as mutual engagement. She adds that interaction and mutual engagement are not only products of face-to-face communication, but electronic means can also allow this type of interaction. The concept of a CoP has of course been in use long before the technological revolution, however, this model can and has been adapted and applied to online environments (Kanuka and Anderson 1998; Arnold, Ducate et al 2005; Hanson-Smith 2006).

In relation to quality issues surrounding online communities, it has been contended that there has been little research into how online technologies can be of use as social support systems or for social networking (McPherson and Nunes 2004), however others point out that commercial and educational organisations are increasingly becoming interested in creating online communities to advance professional development and support (Gray 2004). In fact, Wenger (1998) states that technologies are increasingly being implemented to develop, support, and play a role in the life of CoPs, because interaction and participation are richer as a result of them not being geographically or time confined (Wenger et al 2005). He also believes that there are other elements of CoPs that technology may influence including presence and visibility of the community, interaction and participation, short and long-term value creation and commitment, widespread connections, creating and evolving individual and group identities, making and maintaining relationships, creating boundaries, community evolvement and maturation, and finally, community building itself (Wenger 2001). One research study aimed at nurturing online communities reports that Masters degree distance learners felt a sense of community as a result of their interactions, and that the community enabled a rich sharing and learning experience (Haythornwaite et al 2000). Furthermore, the students in this study who did not make an early connection with the community felt more isolated and stressed, and were anxious about posting to the forum, however those who moved towards more engaged participation within the community became more confident, felt that they had a support system and showed “more satisfaction and happiness when connected to others” (ibid). Other research on the merits of online communities of coordinators of Adult Learning Councils found that such communities not only fostered learning, but they worked towards the creation and negotiation of the identity of the community itself (Gray 2004). A final point to be made here is that “today’s technologies can serve as a catalyst in their efforts to create a community of scholarship (reflection) around the practice of teaching that extends well beyond the geographic confines of any given school of education or teacher preparation institution” (Gomez, Sherin et al 2008, 128).

Mentoring

The concept of mentoring is closely linked to ideas expressed in the previous section on CoPs, whereby Lave and Wenger (1991, 29) hold that the most important characteristic of their theory of learning is “legitimate peripheral participation”, a practice whereby at first learners marginally engage in communities and that with time, newcomers to this community gain skills and knowledge which allow them to move towards full membership. This process echoes closely to notions of mentoring and apprenticeship, as well as Vygotsky’s (1978) theories on social constructivism. These theories and philosophies underpin the larger research project to which this current chapter contributes. Online interactions have indeed been favoured for their potential to encourage reflective practice and peer mentoring in varied disciplines (Garrison, Anderson et al 2000; Kamhi-Stein 2000; Romano 2008; Schlager et al 2009), and one example of this includes McConnell’s (2006) work with Masters in E-learning students, which involved students completing questionnaires on a variety of topics after their
online course was completed. Some of the findings of the questionnaire data from their study that are relevant here include the fact that 78% of students highlighted that they often go over the discussion threads in their own free time, which may possibly signify the pathway to reflection; 73% felt they supported the other learners in the environment, 88% reported that the other learners supported them in the environment, and, finally, 88% felt they successfully created an online community through the activities they engaged in. Such data thus reflects the possible supportive mentoring role online interactions can offer.

Furthermore in the LTE context, McLoughlin et al (2007) investigated e-mentoring for pre-service teachers on a Graduate Diploma in Secondary Education. They believe that peer mentoring can advance teacher effectiveness, and that such support can enable novice teachers to feel more prepared and confident when teaching in the ‘real world’, by bridging the gap between theory and practice. They hold that e-mentoring can encourage the development and creation of professional relationships, and in turn teacher professional development. Within this approach, the teachers used asynchronous tools to enable the sharing of novice teacher experiences. The teachers prepared written and oral reports about certain incidents during their teaching practice (TP), with requests for advice that the other teachers were to respond to. This was done using a collaborative blog, within their Virtual Learning Environment (Blackboard), as well as voice forums, using Wimba, which allowed threaded voice messages to be embedded into Blackboard. Content analysis was subsequently carried out on the discourse and the themes that arose from the interactions included their experiences in TP, the area of pedagogy, classroom management, support and advice, worries about their students, reflections on their teaching, sharing information on resources, lesson planning, expressions of emotions regarding teaching, and their future plans. The analysis of the discourse further indicated that some elements of a community had taken shape, the most prevalent being that they shared common interests and built a rapport with each other. Again what is relevant to this chapter is that communities of practice are said to have the possibility to develop through online media provided there is room for scaffolding or mentoring within the environment (Johnson 2001). Findings such as those presented in this section point to the contribution that online technologies can make in relation to advancing the quality of social and collaborative learning within education.

Methodology

As previously stated, this research makes up part of a larger project, using a variety of data collection techniques, such as questionnaires, interviews, and face-to-face as well as online discussions within three modes. The interactions in this study were held between student teachers and a peer mentor, and for the purposes of this chapter, data emanating from the questionnaires and interviews is analysed and presented.

Data collection

The data was collected in the autumn semester from September to December 2007 from students enrolled in a one-year University MA in ELT programme. After introducing the student teachers to the proposed study, those who volunteered to partake were provided with information and consent forms and were notified that they could withdraw from the research at any time. A one-hour training session was also held whereby participants were introduced to the different tools that would be used in the study. The participants were then invited to join activities for the duration of the semester. The main activities, their relevant aims, and the percentage of student teacher participation is summarised in Table 5-1.
<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>AIM</th>
<th>TIMEFRAME</th>
<th>PARTICIPATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Online pre-study questionnaires designed using Survey Monkey</td>
<td>- to gather demographic information - to gauge general computer use and skills - to gain an insight into perceptions of new technologies</td>
<td>Week 3</td>
<td>56.25%</td>
</tr>
<tr>
<td>2 Face-to-Face 1</td>
<td>- to discuss general aspects of teaching, affective issues related to teaching, and the different areas being covered in modules</td>
<td>Week 6 (1 hour)</td>
<td>43.75%</td>
</tr>
<tr>
<td>3 Chat Session</td>
<td>- to discuss language pedagogy (language systems and the theory and practice of language teaching)</td>
<td>Week 6 (1 hour)</td>
<td>25%</td>
</tr>
<tr>
<td>4 Private Blogs</td>
<td>- to be used as diaries of teaching experience and experiences from the MA overall</td>
<td>Week 7 (open until the end of the semester)</td>
<td>25%</td>
</tr>
<tr>
<td>5 Discussion Forum</td>
<td>- to discuss theories of learning and teaching methodologies</td>
<td>Week 9 (two-week forum covering four questions)</td>
<td>31.25%</td>
</tr>
<tr>
<td>6 Face-to-Face 2</td>
<td>- to discuss general areas of pedagogy and issues arising from modules</td>
<td>Week 11 (1 hour)</td>
<td>31.25%</td>
</tr>
<tr>
<td>7 Follow-up Interviews</td>
<td>- to gain more qualitative data on areas from previous discussions - to gather perceptions of tools used and activities carried out</td>
<td>Weeks 11, 12 &amp; 14 (10-15 minutes)</td>
<td>43.75%</td>
</tr>
<tr>
<td>8 Follow-up Questionnaire (original questionnaire emailed to participants)</td>
<td>- to ask teachers to comment on their original questionnaire responses and explain, if after one year of teaching and reflection, they had altered their views - to investigate any integration of technologies in their current classrooms</td>
<td>September 2009</td>
<td>25%</td>
</tr>
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</table>

Table 5-1: Summary of data collection and participation

Throughout the duration of the study, the researcher also acted as the peer mentor and initiated and facilitated the discussions in the activities. The topics for discussion within both chat and discussion forums were chosen as the result of a focus group held with a previous cohort of students on the same course in 2006. As can be seen from Table 5-1, all online tasks were given to the student teachers at various times and some remained open to post reflections/ideas for two weeks in order to sustain motivation and encourage participation. Finally, participants chose pseudonyms guaranteeing anonymity for all discussions with the aim of allowing them to feel free to discuss and reflect in an honest and open manner. The researcher/mentor was also available one day a week in a designated area for the participants to come and ask questions related to the technology being used. As participation in the study was voluntary, there was mixed engagement at the various stages of this process (see Table 5-1).

ANALYSIS

The analyses in this section have been divided into three parts, namely pre-study questionnaires (see activity 1 on Table 5-1) which gives an overview of initial perceptions of technology use in the classroom. The next section deals with results deriving from the interviews (see activity 7 on Table 5-1), which are presented in relation to quality issues surrounding the tools used in this study (based on activities 2-6 on Table 5-1), and the final section deals with the matter of integration, as derived from follow-up questionnaires (see activity 8 – Table 5-1).
Pre-study questionnaires

Demographics

As can be seen in activity 1 on Table 5-1, nine participants answered questionnaires, eight female and one male. Of the nine, 56% fell into the 20-29 age category, 22% into the 30-39 category and 11% each into the 40-49 and 50-59 category, therefore even though the majority of participants cluster in the 20-29 age group, a mixture of ages is evident.

Teaching and technology experience

Another section in the pre-study questionnaire probed into participants’ prior teaching experience, and results demonstrate that three participants had no prior experience, one had half a year, one had one year, two had six years and two had ten years. When asked how they would rate their computer skills, one participant rated herself as “excellent”, three as “good”, and five as “adequate”, therefore the participants appear to be somewhat familiar and comfortable with the use of computers. General computer uses reported include emailing, researching, using MS Office, social networking, online purchases and using search engines. Blogging and using virtual learning environments were also mentioned by one participant, therefore there appears to be somewhat mixed abilities in this group with regards to their computer uses, as well as participants being both experienced and non-experienced in the art of teaching.

Technology use

In order to gauge perceptions of technology use, the third section in the pre-study questionnaire asked participants to rate some statements on a scale from 1-5, with one being “strongly agree” and five “strongly disagree”. The results are presented as percentages in Table 5-2.

<table>
<thead>
<tr>
<th>Statements</th>
<th>Ratings %</th>
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<tbody>
<tr>
<td>I use technology in the classroom</td>
<td></td>
</tr>
<tr>
<td>I do not use technology in the classroom but I would like to if given sufficient training</td>
<td></td>
</tr>
<tr>
<td>I think technologies are useful tools for teaching and learning</td>
<td></td>
</tr>
<tr>
<td>I think pedagogical instruction on how to use technologies can be beneficial to student teachers in the course of their training</td>
<td></td>
</tr>
<tr>
<td>I think that interaction and peer mentoring (online and face-to-face) can be beneficial to student teachers</td>
<td></td>
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</tbody>
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Table 5-2: Ratings of statements

From this, we can see that in general the participants do not use technology in the classroom, but they would like to avail of the opportunity of technological training. However, with regards to not using the technology, one of the participants who rated this as four reported in the follow-up interview that she did not use technology as a result of not having the resources within the school she was working in, and another who rated it as five reported that she has never taught before so never had the opportunity. Furthermore, 55% of participants strongly agree, or agree with regards to seeing the uses and benefits of integrating technology for teaching and learning, while 45% are undecided on this point. This may be due to a lack of knowledge of how technologies can benefit teachers as this questionnaire was given at the early stages of their course. This is in fact reflected in the interview data which was collected after the first semester of their course, and when asked again how technologies could benefit pedagogy, all participants offered a variety of suggestions and indeed agreed that there are advantages to using technologies in the classroom. It therefore becomes apparent that novice teachers may require training on how to use and indeed realise the affordances of technology use within a classroom setting, and in clear connection to this, all participants think that pedagogical training of technology would be beneficial to student teachers. Participants in general also appear to see the benefits of peer mentoring and cooperative discussions, with 78% agreeing on their usefulness, and 22% being neutral. From this we can observe that participants do feel the need for technology training, and the majority see the benefits of using technology and of engaging in collaborative interactions.
Potential quality issues

Other relevant open questions in the pre-study questionnaire asked how participants felt blog, chatroom or discussion forum interactions could aid student teachers, and results include some issues which pertain to quality, the first being that communication would be enhanced which, as one of the main aims of this project is to promote learning through dialogue, seems an important feature to highlight. Another point noted is that teachers might feel more able to express themselves online than face-to-face as comfort levels or the affective filter (Krashen 1985) may be lower within online discussions. Therefore creating and maintaining a safe and comfortable environment through online tools appears worthy for the promotion of social learning. A further theme arising is that exposure to new technologies would benefit student teachers in their future careers, therefore the long-term value of online learning may not only prove beneficial in terms of collaborative learning but also technology skills may be enhanced. It was also pointed out that technologies and interaction can encourage communication with other teachers and promote professional development, and such online communication can keep teachers up to date and knowledgeable about current technologies being used. These points again are indicators of the quality issues surrounding social learning and skills development. The above themes, which indicate the affordances that online tools and interactions may offer to the users, also echo previous studies carried out on online communication (Egbert et al 2002; Gray et al 2007; Romano 2008). Finally, when asked whether participants would use technology in their future careers, seven reported that they would like to use technology, one was unsure as she did not feel confident with technology use, and one reported that she probably would not use technology but she did feel she would need to have a good grasp of technology use due to current advances in the area. Again previous research literature displays similar findings (Murray 1998; Meskill et al 2002). The issues touched upon here appear to offer insights into enhancing the quality of learning in terms of affective issues, skills enhancement, social, collaborative learning and the effectiveness of online and/or face-to-face methods, and will thus be expanded upon in the following section.

Quality issues arising from interviews

Interview questions probed further into questionnaire data, and also investigated participants’ attitudes and feelings after the study had been carried out. For the purpose of this chapter, recurring themes arising from the interview data are presented as they reflect issues of quality in relation to the use and implementation of online tools. The three quality issues of community formation, mentoring and reflection are dealt with first as these specifically relate to the aims of the research project, and other relevant quality issues arising from the interviews are then presented, such as professional contact, participation, affective and technological factors.

Community building

When asked if participants felt there was a sense of community between those partaking in this study, there were mixed reactions. All seven participants who were interviewed were asked this question, however some of these had not participated in all sessions. Of the two participants who did not fully engage in all sessions, both of them felt unsure as to whether there was a sense of community between the others, however one commented that when she heard the others talking about the project she wished she “had been part of that”. Of the five who participated more frequently, two felt there was a definite sense of community, however both mention that there may have already been a bond, but that working together within this project “strengthened this bond”. One participant was unsure as to whether a community had formed but she reported that if she had participated more, she might have felt more a part of a community. The same participant also mentioned that “the others who didn’t take part didn’t know what was going on in our thing”. She finally mentioned that using the pseudonyms in the online interactions may have made it difficult for them to form a community, as they did not know who they were interacting with, something which another participant also mentioned. In spite of this, the participants described enjoying the use of pseudonyms as they felt they could express very openly their feelings and opinions, however three mentioned that either way they would not have minded revealing their true identities. The final participant who did not feel part of a community blamed her time management for this and not the relationship she felt with the other members. With regards to
perceived community formation, similar results were found by Arnold and Ducate (2006) as 57% of their student teachers who used discussion forums felt that a community had formed.

Overall, despite the mixed reactions from participants in this study regarding community formation, it appears that the project may have had some effect on the forming of an online community, and often the language used within the participants’ responses signifies evidence of this i.e. *our circle, our thing, the bond*. Further analyses of the discourse stemming from the interactions unveiled frequent uses of the metadiscourse surrounding teaching e.g. *teaching, students, class, teacher, grammar, and language*, which itself is indicative of community formation as a CoP is identified through its use of “jargon and shortcuts to communication” and “certain styles recognized as displaying membership” (Wenger 1998, 125-125). On the whole, it appears that online interactions do hold the potential to nurture the development of CoPs, and in relation to the objectives of this project, the online and face-to-face tools appear to offer value in terms of CoP formation. Finally, based on the evidence of the beneficial effects of CoPs, especially those focusing on learning through interactions, and learning by doing (Wenger 1998), if we are to promote quality in education, the notion of community building is something that deserves careful consideration.

**Mentoring**

All four student teachers who participated in all sessions felt they had learned from each other and the mentor/researcher, therefore mentoring had been promoted, again fulfilling quality in terms of reaching objectives. The participants in this study felt that reading each others’ comments within the discussions and during the face-to-face sessions helped them to understand some areas in more detail, and they felt they could “bounce ideas” off each other, which they deemed less intimidating than doing so with a lecturer. One of the experienced teachers explained that using the blog for such purposes gave her “inspiration” for using this tool with her future students, thus implying that the student teacher was not only reflecting on the benefits of this tool, but also used this experience to further her skills as a teacher by reflecting on how to use this tool in her own practice. This is evidence of what Woodward (1991) calls “loop input” where student teachers can be influenced by what the trainer says, and does (or in this case the mentor). It was also reported that the topics covered in all sessions were very related to the areas dealt with in the participants’ modules and so they felt it was beneficial to see what opinions and knowledge the others had regarding these areas, something which may point to scaffolding and mentoring. These findings are unsurprising as the concepts of mentoring and scaffolding are tied to notions of collaborative learning and many experts in the field advocate online interactions for their potential to promote this type of learning (Kanuka and Anderson 1998; Stacey 1999; Nachmias, Mioduser et al 2000; Johnson 2001; McConnell 2006; Hughes 2007). Moreover, from a study undertaken with student teachers using discussion forums, 96% highlighted that their peers introduced them to standpoints that they themselves would not have previously thought of, thus broadening their perspectives on various topics, again indicative of mentoring and scaffolding (Arnold and Ducate 2006). To this end, the quality of the collaborative and supportive dialogue in terms of support, affective engagement and knowledge/experience sharing that online and face-to-face modes appear to assume is worthy of consideration.

**Reflection**

All participants felt this project offered them the chance to reflect as the topics of conversation were closely related to the areas covered within their modules, and in particular, it was felt that the discussion forum encouraged and indeed obliged participants to research and think about what they would post. One participant mentioned that she did not want to discuss things she did not know a lot about, therefore she felt obliged to do some research before posting to the forum. This idea of publishing her thoughts possibly encouraged her to reflect at a deeper level. The discussion forum was also favoured by one participant compared to the chat session because she felt she had more time to think and reflect within the asynchronous mode, findings which are similar to previous studies (Tu 2002; Preece and Moloney-Krichmar 2003; McPherson and Nunes 2004; Arnold et al 2005). Blogs were also favoured for encouraging reflection and there is indeed evidence of such reflection from the analysis of the discourse within this mode. Other research findings also suggest that online interactions have the possibility to encourage this type of cognitive development (Romano 2008), and that the asynchronous mode fosters this more than the synchronous mode (Lapadat 2002). Bearing this in mind,
it appears that if we are to encourage reflection among students or student teachers, the asynchronous modes offer more in terms of quality of reflection in that the depth of reflection and higher order thinking are further facilitated in an asynchronous mode as participants have additional time to consider issues, and relay their views. This is unsurprising as chat discussions are held in real-time, are spontaneous, and therefore reflect the transient nature of speech, compared to the asynchronous discussion forum and blog postings which may be more similar to the written medium, as members have time to think about what they are writing, thus being able to add denser and more in depth information and thoughts. It must also be noted that there is a need for more analyses on the type of reflection being promoted within the online modes, in that although the asynchronous modes appear to offer more in terms of quality and depth of reflection, reflection may still be facilitated within the synchronous mode, albeit to a differing degree. The short and concise postings within the synchronous mode may still encourage some degree of cognitive thinking, and is thus considered worthy of future investigation. Further research is also required in order to focus on reflection itself, in that the quality and depth of reflection, as well as the subsequent effects of such a process need to be analysed in order to ascertain the true consequences of this cognitive practice. In sum, referring back to one issue of quality offered in the definition in relation to achieving course/project objectives, the online and face-to-face modes here offer quality in terms of creating a CoP, supporting online learning and mentoring, and encouraging reflection, although some tools offer more in relation to a number of these areas.

Informal professional contact and questioning

Another theme arising from the interviews is that the student teachers felt they did not often get the opportunity to talk about aspects of their modules outside of class so this was a unique opportunity for them to profit from this type of informal interaction. For this reason, all participants felt they gained from the face-to-face and online discussions, and they conveyed how they were able to use each other as support systems and express their anxieties or opinions especially at the beginning of their course when they felt somewhat overloaded with information. They also noted that they used each other as sounding boards, they felt they had a space to talk openly and not “be judged”, and they had the opportunity to talk to the others in the course and feel reassured that they were all on “the same par”. This again indicates the informal support enabled between participants and may signify peer mentoring and the supportive dialogue this project aimed to encourage. Previous research also affirms that professional development can be promoted through informal online interactions (Gray 2004). This point in particular is important because the dialogue held outside the classroom between student teachers, and indeed practising teachers can be a very worthwhile learning experience. This is thus deemed a quality issue in that the participants are gaining from the online and face-to-face tasks outside the remit of their course, while at the same time these interactions are feeding into their own personal and professional learning experiences.

Quality of participation/lurking

Another theme arising is that of interactivity and participation. Using Wordsmith Tools (Scott 2004), statistical information on speaker/contributor interactivity can be generated and through the analysis of these statistics it became evident that the face-to-face sessions demonstrated the most interactivity overall. There was also evidence of much more interactivity within the chat compared to the discussion forum, and this is something that previous findings also point to (Haythornwaite et al 2000; Tu 2002; Preece and Moloney-Krichmar 2003; Riordan and Murray 2010). From a study of online student interactions, it has been noted that the “nature of the interaction seemed more varied in the synchronous discussions” while

“In the asynchronous discussions (the threaded ESL discussion forum), students participated in information exchanges, challenged each other's views, questioned new concepts, but primarily responded to teacher and student questions. Thus the quantity and quality of interaction was largely constrained in this mode of CMC”

(Sotillo 2000, 102-104).

This is an important issue when considering the quality of interaction, as this is something which lies at the heart of collaborative learning. As well as interactivity, participation is deemed an important issue.
Again, using Wordsmith Tools (Scott 2004), the statistics for each mode (face-to-face, discussion forum and chat) showed that there was a somewhat even distribution of participation in the face-to-face discussions, and more varied participation within the chat and discussion forum, with some participants dominating the discussion while others contributed very little.

Interestingly, one participant admitted that she did not participate very much within the discussion forum, but she did read all of the threads and felt she learned a lot from them. This is a noteworthy observation as similar findings report that members would enter a forum to observe what was happening there rather than participate (Nachmias et al 2000); which is otherwise known as lurking or silent participation. This, of course, ties in with the notion of peripheral participation, an important feature of communities of practice. Such participation is deemed necessary, and learning is seen to be still ongoing at this peripheral location (Wenger 1998; Gray 2004). Therefore the quality or value of the tools is apparent in terms of the participants gaining/learning something even while glancing over the threads. Furthermore, in a study carried out on 41 users of online forums, it was found that some were lurkers in some forums, while they participated fully in others. It was also reported that there was about 75% of lurkers in asynchronous discussions, while there were no lurkers within synchronous forums, as it was felt that within the latter it was more obvious who was participating (Nonnecke and Preece 2001). With regards to ensuring the quality of experiencing learning through online interactions, studies have found that one important limitation to online communities is absent participants and lurking, however it has been pointed out that a good variety of online technologies can help minimise this (Haythornwaite et al 2000). What can be seen here is that in terms of learning through interaction, both participation and lurking can be of benefit to the participants, and clearly some modes or tools encourage more interactivity and participation than others. Further research into the effect lurkers have on the quality of interactions between the active participants may also prove insightful, although this lies outside the scope of this current chapter.

Enjoyment/affective engagement and quality

Of the four student teachers who participated in the chatroom, three enjoyed the session, highlighting that it was an interesting experience, and it fostered interactivity, however one participant admitted that it was not her “type of thing entirely”. The four bloggers commented very favourably on this experience expressing that it allowed them a space for privately “venting” as they felt as though they had their own personal diaries. Furthermore, the blog was viewed as creating a less pressurised environment compared to the chatroom. Five student teachers participated in the two-week discussion forum and again viewed this experience as worthwhile, enjoyable and interesting, which resonates with findings from Arnold and Ducate (2006), where 83% of their student teachers enjoyed the use of this asynchronous mode. Overall, the participants in this study appear to have enjoyed blogging and using the discussion forum more than the chatroom. Again, from student teachers’ perspectives, the issues of enjoyment and appeal appear to situate themselves more closely within the asynchronous modes than the synchronous, and although quality in terms of what a tool can offer is quite pertinent (e.g. achieving aims and objectives, cognitive gains from technology and professional networking), appeal and affective issues in relation to certain tools are also deemed to hold significance. This is because motivation and use may be enhanced when participants find something enjoyable and this may also affect the long-term integration and employment of technologies. Information such as this should therefore be taken into account when administering and implementing different online tools.

Ease of use/technical quality issues

Of the four student teachers who participated in the chatroom, three highlighted that it was easy to use. However, it was reported that the lag in turn-taking within chat made it difficult to follow the discussion and participants disliked the fact that they often interrupted each other. Characteristics of chat sessions outlined in the literature also mention that chat is user-friendly but that conversations can be confusing as there can be a lot of over-lap (Haythornwaite et al 2000; Preece and Moloney-Krichmar 2003). Blogs were also supported for being easy to use, as well as discussion forums, and the with regards the former, according to Stevens (2003), they give members a web presence, and therefore voices online as they can publish information easily and without technical difficulty. Furthermore, of the four who participated in all online sessions, when asked if they felt their technology skills had improved, two agreed that their confidence had grown as a result of using the tools, one participant
reported that she was already confident with such tools, and one participant expressed still being confused by the technology, something which is of course to be expected because not all participants will master or become fully confident within the use of online tools and resources. Other studies have also shown that online activities have enabled users to improve their technological skills (Haythornewaite et al 2000; Riverin and Stacey 2008), and if we are to expect student teachers to involve themselves in the world of technology, this type of integration could serve as a stepping stone for this endeavour. Again quality with regards to ease of use appears to be significant as the tools used did not pose any considerable difficulties for participants.

The issues outlined above shed some light on proposed approaches to ensure and maintain the quality of learning, experience sharing, professional contact, motivation and enjoyment in education, and should therefore be considered and addressed when implementing or deliberating on the implementation of technologies within the pedagogical environment. The final issue of the long-term effects of technology use is addressed next.

**Follow-up questionnaires: Long-term quality**

Arnold et al (2005) believe that online interactions can be of benefit to student teachers as they are a vehicle for encouragement, support, bonding, identity forming, as well as the possible integration of technologies into teaching. Furthermore, research indicates that if student teachers use technology in their training, they look at it from the student angle, which will aid them in evaluating its uses etc. when they themselves begin their careers, thus expanding their knowledge and expertise and, in turn, possibly increasing integration (Arnold and Ducate 2006), something this section aims to explore. To do this, one year after the participants in this study had finished their MA degree, they were contacted again and asked to comment further on their original questionnaires, and also asked if they were using any technologies in the classroom. Four participants returned responses, three of whom participated in almost all sessions. Two participants did not change their minds on their previous responses in the original questionnaires. One of those participants mentioned that she was working in one particular school which had technological facilities, however she was not in any way encouraged to use technology while teaching, in fact she was informed that she was not allowed to use one particular piece of technology. This itself points to the role institutions and schools play in technology integration. The final participant in question mentioned that she did another postgraduate teaching degree (a Higher Diploma in Secondary Education) after her Masters in which she used many of the tools from the project during TP. She expressed how

“the project was very worthwhile as it allowed me to communicate with other student teachers in a safe, anonymous environment. The reflective aspect of the project also allowed me to understand what I was doing at the time in a deeper way. I feel that peer mentoring and support is a valuable resource for student teachers. It is only through interaction with people who are going through the same thing as you that it is possible to learn and survive and develop various tactics and methods of teaching”.

Interestingly, the other participant who did not take part in many of the activities changed some of his opinions within his questionnaire, in that he now uses technology in the classroom (six times per term compared to not using technology), and he now enjoys using technology in the classroom. He also mentioned that the project, although he did not fully participate, made him more aware of the benefits of using technologies in the classroom. In terms of quality here, the affective and cognitive (reflection and social learning) issues are still at play, however additional research is required in order to ascertain quality in terms of long-term value and use. Online interactions in other studies are reported to have succeeded in making teachers more inclined to use new innovative teaching methods, and to have increased the possibility of the integration of new technologies into the classroom (Riverin and Stacey 2008). However, with regards integration, it has been stressed that the teachers’ perceived usefulness of the technologies will play a role as well (Anderson and Kamuka 1997). Clearly further investigation is warranted in this area to fully evaluate and measure the extent to which technology use in educational programmes promotes technology awareness and integration.
Closing comments

In summary, the participants in this study see the quality of using technology in terms of social and collaborative learning, reflecting, gaining professional contacts with each other, ease of use, and enjoyment, however they believe that initial technological training remains necessary for student teachers. Also, the majority reported that they would use technology, but in reality only two use it (as per responses returned), and one reason to not using technologies was due to constraints set by the school. In relation to the online tools, despite a somewhat negative reaction to the chatroom, all participants enjoyed using the blogs and the discussion forum as they felt they could reflect and learn from each other through these media therefore offering quality in terms of enjoyment and affective engagement. The use of the tools within the project gave the student teachers ideas on how to implement them in their future teaching, and these online modes allowed the participants to interact in ways that would have otherwise not been feasible, again pointing to the quality of gaining advice and support from each other. Another point to note is that the participants commented on the discussion topics and tasks, and reported that they were closely related to what they were covering within their modules therefore discussions were very structured and relevant, and in turn the participants were advancing their pedagogical knowledge. All participants enjoyed the face-to-face sessions and felt a sense of support for each other during these. Finally, reflection and mentoring appear to have been promoted through the online and face-to-face discussions however there were mixed reactions to whether a community formed. Nonetheless, the discourse from the interviews demonstrates that there is some evidence of community formation.

Although there was often diverse feedback based on the uses and benefits of the technologies employed, on the whole, the online tools and activities appear to have been favoured by participants, who in general felt they had indeed benefited from such cooperative and supportive dialogue, as well as the opportunity to increase their technological expertise, all of which return to the previously mentioned issues concerning quality. With this in mind, an argument to raise is whether educators should start employing techniques and strategies that add to and further the experience and quality of learning and practice for student teachers. Results such as these should encourage teacher educators to implement policies for mentoring and community building for student teachers to assist them within their practice of teaching, and the online route appears to be a method that works well, not only because it breaks down barriers of time and space but also because it advances the teachers’ own expertise within the area of technology, something that can only serve to be advantageous. This is not to suggest that the online route is more beneficial or should replace the traditional mode, but possibly be used as an extension for further collaboration and dialogue for practising student teachers. While some progress is being made in relation to technology integration, there are only a few LTE programmes which introduce and employ the use of new technologies with student teachers in order to promote collaboration and to encourage prospective teachers to use technologies (Hegelheimer 2006; Kessler 2006), and this is something which needs careful consideration for future generations of teachers. If we are to foster and maintain quality as defined by knowledge gaining and sharing, professionalism, pedagogy and practice in language teacher education, we need to find ways of promoting and advancing the learning experience for student teachers, and we need to encourage supportive and scaffolded dialogue between members of such a teaching community. If we therefore return to Clandinin’s (2008) point suggesting that current teachers need to adapt their pedagogical thinking, it becomes apparent that in order to cope with this pedagogical reshaping and to maintain the overall quality of teacher education, we are obliged to keep up with the latest technological advances, and to encourage student teachers to exploit such technological innovations.

References

http://cmc.indiana.edu/vol3/issue3/anderson.html


