Online Communication and Information Technology Education

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Executive Summary

Blended Learning, a learning facilitation that incorporates different modes of delivery, models of teaching, and learning styles, introduces multiple media to the dialog between the learner and the facilitator. This paper examines online communication as the link between established theory of learning and literature on e-learning in order to better understand the appropriate use of blended learning in an actual Information Technology course. First, previously defined theoretical constructs that utilize communication as a facilitator for learning are considered. Then, using the Interpretivist standpoint, we examine data gathered from focus groups and interviews to gauge the experience of staff and students who were participants in a Blended Learning course.

There are four previously defined theoretical constructs of greatest relevance to blended learning. Vygotsky's Zone of Proximal Development highlights the importance of communication with capable peers who can provide stimuli and feedback to a learning individual. Wegner's Communities of Practice are groups of individuals who share a common practice interest and rely on a dialogue to facilitate learning. Laurillard's Conversational Framework includes a pragmatic 12-step model that teachers can use to structure their learning facilitation. Finally, Salmon's E-Moderation considers five stages of online communication in terms of how the moderator might facilitate dialogue among learners. These four theoretical models form the basis for understanding the implementation of blended learning discussed here.

The course studied was a part-time Bachelor of Science degree in Information Technology (IT), delivered using Blended Learning. Students were required to attend one evening per week and make substantial use of Web based learning over a period of five years. Students were mature, some already working in the IT field. Forty students in a first cohort and eighteen students in a second cohort were studied during the first year of their course. While students in the first cohort who succeeded in the course often found the discussion boards to be of considerable value in discussing assignments and sharing learning, the boards also could discourage those with less technical backgrounds. There is data to suggest that a high rate of dropouts and failures among the first cohort after just one year may have been influenced by discouragement felt by those who could not keep up with the technical level of the discussion board posts. As a result of this data, for the second cohort, the number of online communications was reduced to one assessed online discussion that was closely monitored. As a result, discussions were more on-topic; however students reported significantly less sense of community. Again, a high dropout rate resulted.

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Our results suggest that communication is both a challenge and an enabler for facilitating a successful blended learning course. Blended learning is not simply a matter of the combination of face-to-face and online instruction, but it has to have elements of social interaction. It appears to be important to allow students to bond together and to socialize. Knowing each other eases the communication barriers and reduces the fear of posting messages into an open forum. At its best, online communication can provide study help, social interaction, and a sense of community.

We have evidence that when students are required more frequently to cooperate online, they share a common problem and on some level create their own "problem solving" community. However, our data from the first cohort indicates that unguided communication of a Community of Practice can lead to undesirable effects. At the same time, our data from the second cohort indicates that a very structured approach is also undesirable. The ideal situation, it seems, is somewhere in the middle. However, the middle is not easily defined. Because the community depends on the individuals who are the main components of it, it is difficult to predict how the same environment would influence different individuals or different cohorts. Thus, the ultimate responsibility is on the lecturer to listen to the students and engage in continuous dialogue.

Keywords: Communication, Blended Learning, Communities of Practice, E-Learning

Introduction

The widely accepted definition of blended learning is a combination of face to face and computer based teaching. An example is given in the quote by Graham below:

"Blended Learning Systems combine face-to-face instruction with computer mediated instruction." (Graham, 2005, p. 3)

However, this definition is so general as to encompass nearly all higher education. As Oliver and Trigwell (2005) argue:

"The term 'blended learning' is ill defined and inconsistently used. Whilst its popularity is increasing, its clarity is not. Under and current definition, it is either incoherent or redundant as a concept".

It is our view that the term blended learning only has value when the practical combination of learning and teaching techniques is based upon pedagogy rather than expedience.

The verb 'blend' means '*to mix ... together to improve quality'* (Collins dictionary) or *'form a harmonious combination'* (Oxford English dictionary). Thus to lay claim to the term blended learning should require action and reflection based upon knowledge.

Compared to the definition of Graham, we advocate a more extensive definition that highlights the importance of practice and theory in underpinning blended learning:

"Blended Learning is learning that is facilitated by the effective combination of different modes of delivery, models of teaching and styles of learning, and founded on transparent communication amongst all parties involved with a course." (Heinze & Procter, 2004, p. 12).

Whilst we recognise Oliver and Trigwell's (2005) argument that blended learning must be defined from the perspective of the learner and not the teacher, the above definition has proved a valuable background to the action research that we have conducted. One other aspect that we found useful is the issue of communication within the learning process. Blended Learning introduces multiple media to the dialogue between the learner and the facilitator. We examine the issue of online communication as the link between established theory of learning and literature on e-learning in order to understand the Blended Learning in practice see Figure 1.

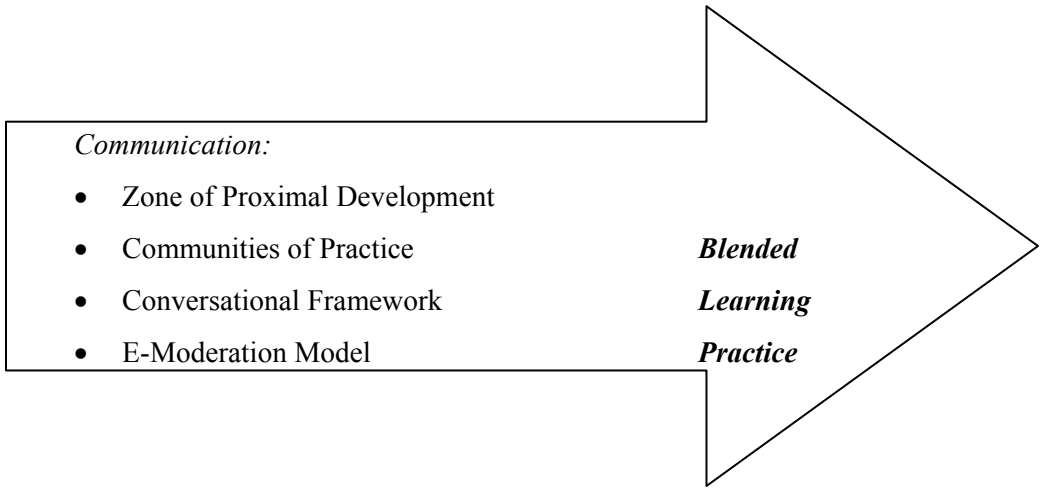

Figure 1. Communication and Blended Learning

Literature

Learning

Our discussion is grounded on the early work of Vygotsky (1962), in particular on his concept of the Zone of Proximal Development (ZPD). We then relate this concept to the later work of Wenger (1998), Laurillard (2002) and Salmon (2002) paying particular attention to communication.

Zone of Proximal Development

The work of Vygotsky influenced theories of learning in the 1970s and 1980s (Cottrell, 2001). In his relatively short life he was able to produce concepts that were further developed by colleagues such as Luria and Leontiev. One of the most applicable theories proposed by Vygotsky is the ZPD. The Zone of Proximal Development is defined by Vygotsky as the:

*"**Distance** between the **actual developmental level** as determined by independent problem solving and the **level of potential development** as determined through problem solving under adult guidance or in collaboration with more capable peers."* (Vygotsky, 1978, p. 86)

Essentially the ZPD states that the learner has greater potential when developing in collaboration with others or when supported by competent facilitators.

Based on the ZPD, Vygotsky proposes that the creation of such a Zone is an essential feature of learning (Vygotsky, 1978, p. 90). He then goes on to specify that for development to occur, a number of internal processes have to be initiated. These in turn can operate **only** when interacting with people in one's environment and cooperating with one's peers.

It is the ability to communicate with others in a specifically social way that differentiates surface learning from deep learning. Surface learning would occur in a situation where ZPD is equal to zero, deep learning would be based on a dialogue and hence provide a ZPD. In other words dialogue or communication is essential in establishing a ZPD.

Following the concept of the ZPD, communication plays a major part in the human development process. In particular this communication has to occur with other people, who can provide stimuli and feedback. Vygotsky states that individuals can perform better when cooperating with more able facilitators.

This allows us to explain a number of phenomena such as Alcoholics Anonymous and Weight Watchers. These are two prime examples of co-operative group power (Rogers, 1989, p. 75). These examples demonstrate that participants, although failing individually, can be successful in a group in achieving positive results.

Communities of Practice

Echoes of Lev Vygotsky can also be found in the Communities of Practice thinking as advocated by Wenger (Wenger, 1998, p. 282). Although predominantly focussed on the commercial environment, the work of Wenger allows us to look at education from a new angle. Namely, Communities of Practice are addressing the need for continuous professional development and life long learning. In their simple form, Communities of Practice are networks of practitioners who are interested and willing to engage in a group and share their experience of their practice. In an interview, Wenger goes one step further than building a network of associates that meet to get a brief from a central source:

"Learning is best understood as an interaction among practitioners, rather than a process in which a producer provides knowledge to a consumer" (Kahan, 2004, p. 28)

In terms of Vygotsky, Communities of Practice are therefore creating a ZPD with capable peers. There is no one 'sage on the stage' who is the knowledge source but all individuals have an equal right to share their experience, and their stories are valuable contributions to the community.

Because of the Internet and the consequent information available, today's professionals expect learning to be engaging (Kahan, 2004). Information is available to everyone, but it is the experience of that information in context that is interesting to participants. In particular Wenger suggests that the aspect of story telling and anecdotal evidence that the individuals can identify with, can bring out the identity of the individuals themselves. Therefore Communities of Practice rely on communication between individuals to facilitate learning.

Conversational Framework

Diana Laurillard advocates the conversational framework which is predominantly concerned with the importance of communication in the context of technology use in education. (Laurillard, 1993) built on the ideas of learning by conversation as proposed by (Pask, 1976; Ramsden, 1992). The result is the Conversational Framework that depicts the communication process that occurs between the teacher and student (Figure 2). Although the intention was to use this framework for analysing different media for educational conversation it is helpful when developing a blended learning course (Heinze & Procter, 2004).

Figure 2 depicts the 12 stages that are recommended to take place when teaching students. This includes three cycles in which a student has the opportunity to communicate with the teacher. In the first cycle the student is given the opportunity to engage in a dialogue with the teacher (Steps 1 – 4). The second cycle involves setting a goal for the student and the student's participation in an activity (Steps 6 and 7). The third cycle (Steps 8 and 9) builds on the actions and provides the student with feedback, which can result in another activity. This is concluded by individual reflections on the concept under discussion in the light of the student's experience.

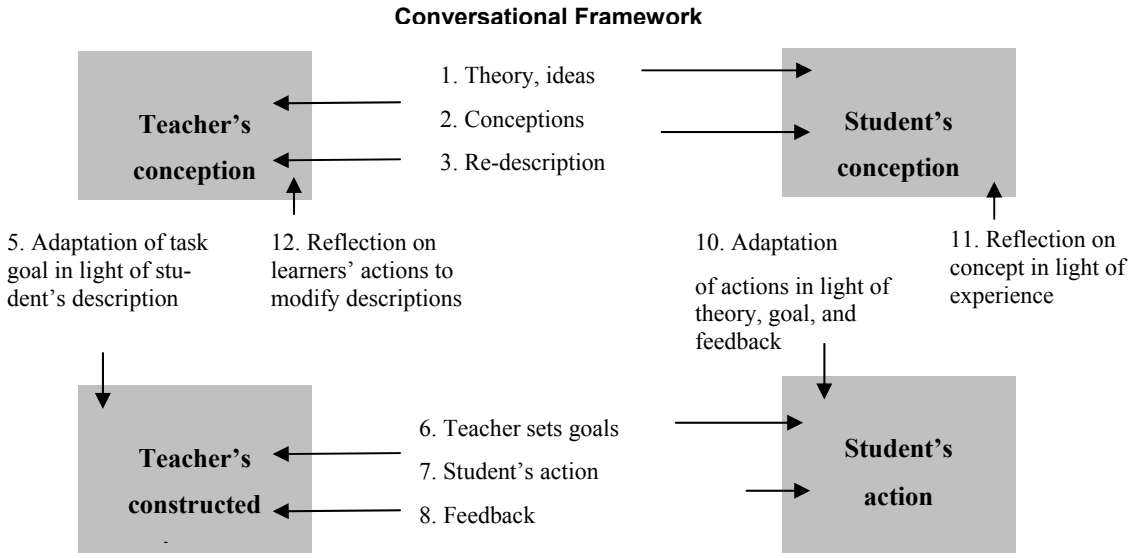

Figure 2. A framework for analysing educational media. Adapted after (Laurillard, 2002)

This model makes it explicit that the teacher has the opportunity to evaluate students' understanding at an early stage and correct it if there are any misconceptions. Using conversation as the basis for teaching, the learning relationship becomes more transparent and open to both student and teacher.

The two important issues emerging from the Conversational Framework are:

1. The iterative dialogic nature of the model, requiring at least three engagements with one topic, meaning that a student will have the opportunity to improve on the same task
2. Disagreement with the didactic model of learning, advocating a more student centred approach.

When relating the Conversational Framework to the concept of the ZPD we see that it includes elements of instruction and repetition – encouraging surface learning; and student independent actions – facilitating deep learning. Therefore it partially fits the concept of the ZPD. However, the presence of the peer students is ignored. Therefore it fails in the respect of collaboration with capable others – since the Conversational Framework only focuses on the teacher student dialogue.

There is also a discrepancy between the Conversational Framework and the concept of Communities of Practice. It is the issue of the "sage on the stage" – who dominates the conversation. The teacher is therefore perceived as the fountain of all knowledge and only at the final step – step 12, is there a notion of learning from the student's own action. Although the two concepts are related to different learning environments – the former within higher education, and the latter in the corporate world, they agree on the idea that communication has to be facilitated for learning to occur.

E-moderating Model

The E-moderating model (Salmon, 2000), describes a five-stage process (Figure 2), required for engaging students with online communication technology. It is based on a principle that there are certain steps that have to exist in order to achieve the effective operation of learning via technology. One underlying issue here is the use of activities to make students interact with each other and the E-moderator, rather than simply and passively accessing information such as handouts and presentation material.

This model stresses the importance of enabling communication in order to facilitate learning. Being able to learn the use of communication technology such as email and discussion boards requires certain skills, the presence of which cannot simply be assumed. It also differentiates between the Technical support and the E-moderating role, indicated in different shades of grey in Figure 3.

Because of its narrow focus on online moderation, there is a limit to the way in which the E-moderating model concept can be related to the ZPD, Communities of Practice and the Conversational Framework. However, we can assume that there would be a capable individual present who would be able to help the students to progress along the steps of this model. The E-moderating model can therefore be applied to ZPD, online Communities of Practice and the Conversational Framework, where these five steps have to be followed in order to achieve the knowledge construction and development stages (see stage 4 and 5 on Figure 3).

Research context

The previous section has described literature from different disciplines which share the theme of the importance of communication in higher education. This influenced the design of a part time degree in IT. This design is explained in the following section which forms the context for the action research that we have conducted.

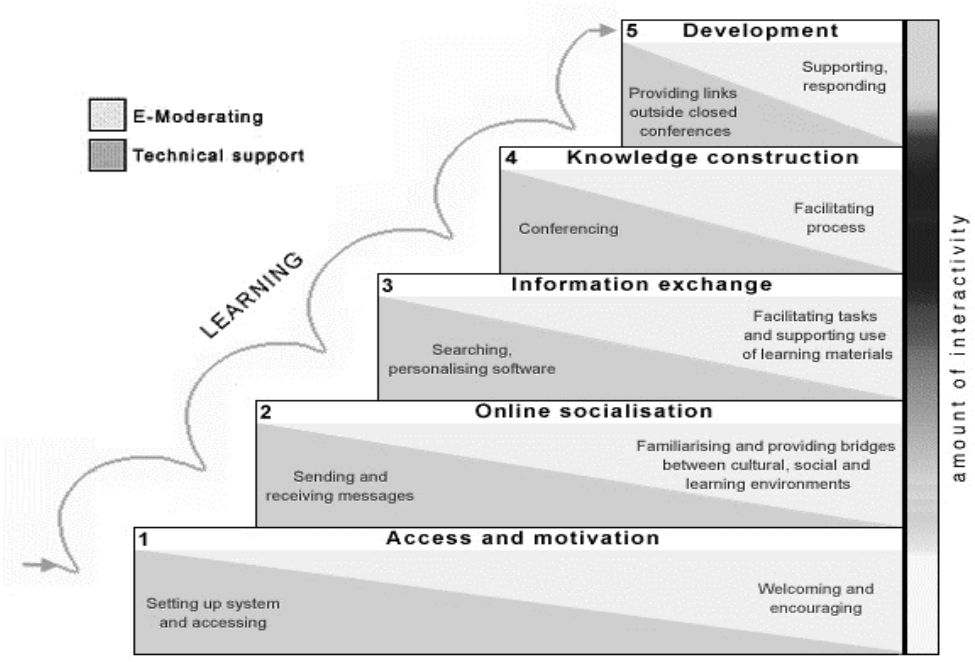

Figure 3. E-Moderating model. Reproduced with kind permission of Gilly (Salmon, 2002).

The Course

The popularity of full time IT degree courses in the United Kingdom (UK) has declined since the year 2000. There has been much speculation concerning the reasons for this, but little research. Undoubtedly the high profile "Millennium Bug" and the "Dot Com Boom" helped to attract substantial numbers of students in the late 1990s. At the same time there has been an increase in the number studying IT by distance (Youde, 2004). The UK in fact has more part time than full time students in Higher Education. However, IT employers have a weak tradition of support for their employees undertaking part time study. Our experience in the University of Salford of running part time IT courses in the late 1990s was that the majority of applicants could not take any time off work in order to study.

As a result it was decided to develop and launch a part time Bachelor of Science (BSc) degree course in Information Technology delivered using blended learning. Students would be required to attend one evening per week during each of two semesters, simultaneously making substantial use of web based learning. The duration of the course is five years. Each semester contains two subjects and lasts for 15 weeks The expected time commitment from students is about 350 hours per semester including all teaching and learning related activities.

The theoretical and practical subjects taught on the course include Systems Analysis and Design, Programming, Management Business Operations, Project Management, Systems Development, World Wide Web, Work Based Project and Dissertation. Overall a considerable part of student's study can be related their workplace. For example in the Work Based Project and the Dissertation, students can take some aspects of their work and investigate these from an academic perspective.

Forty students, predominantly mature, with widely diverse skills and experience, were attracted to this course in 2003. Some already worked in IT but had few or no qualifications which hindered them from further career progression; others worked in other fields and were using the degree to facilitate a possible career move. The majority of these students was in employment and had family commitments. In 2004, 18 students with a similar profile enrolled on the second cohort of this course. It is difficult to state one particular number of students who took part in this study, since the numbers constantly fluctuated, with students leaving and joining the course midway. The above numbers are therefore only approximate.

Blended Learning Aspect of the Course

The blend of the student learning was realised by offering a number of traditional and online assignments. These included use of SkillSoft (www.skillsoft.com) learning objects, as well as in-house developed online multiple-choice questions and summative as well as formative online discussions used for assessment.

Community of Practice Encouragement

It was recognised that the sense of community is important for sustaining the student interest in the course. Reduction in the face-to-face contact time was anticipated to be compensated by an online discussion group called "Virtual Café" where it was hoped that students would be able to have casual conversations such as those they might have in a student Café setting. The Blackboard learning management system (www.blackboard.com), a standard University of Salford tool, facilitated the so-called "Virtual Learning Environment" that provided discussion board facilities and other functionality. Subjects were supported by one lecturer and a graduate teaching assistant per subject, who were available online, via email, telephone or for face-to-face meetings. Graduate Teaching Assistants (GTAs) were mature postgraduate students.

A number of issues have emerged from our work and one of these is the aspect of communication.

Research method

Action research was the chosen framework for undertaking and structuring this work. It offers a good combination of practical and theoretical enquiry; it is a means of generating and proving scientific theory (Baskerville, 1999; Mumford, 2001).

An exhaustive definition of action research is provided by (Hult & Lennung, 1987):

"(Action research) simultaneously assists in practical problem-solving and expands scientific knowledge, as well as enhances the competencies of the respective authors, being performed collaboratively in an immediate situation using data feedback in a cyclical process aiming at an increased understanding of a given social situation, primarily applicable for the understanding of change process in social systems and undertaken within a mutually acceptable ethical framework." (Lau, 1997, p. 34)

In 2002 Cullen et al. published an extensive review of the pedagogic research and practice in the field of post compulsory education and lifelong learning. They criticised the majority of publications as being:

"…either grounded in the day to day minutae of 'chalkface' learning delivery (and hence ungrounded in theory) or, conversely, are tied to a particular 'grand learning theory' and are unsubstantiated in practice." (Cullen, Hadjivassiliou et al., 2002, p. 3)

Utilising action research allows us to link the day-to-day activities with learning theory. Figure 4 depicts the cycles that were undertaken as part of our endeavour to try and improve a newly developed course delivered in blended learning mode (see top right corner of the Figure 4).

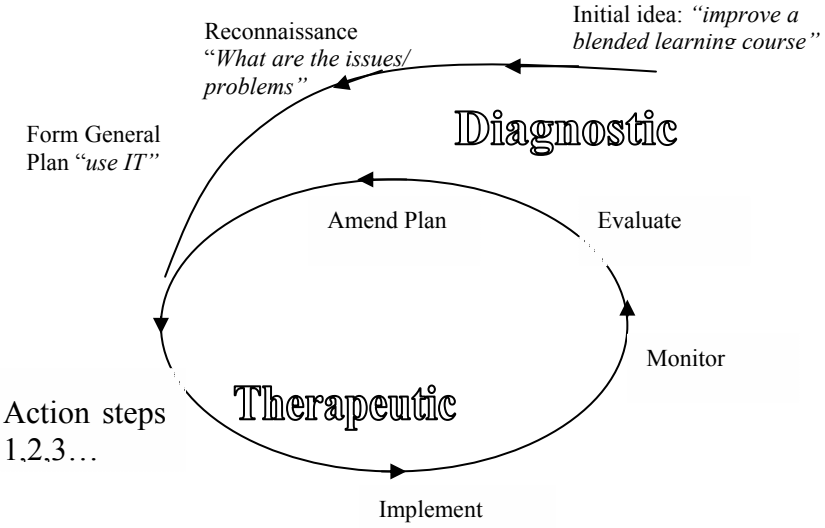

Figure 4. Lewin's cycles of Action Research. Adapted after Burns, 2000

The first steps were Diagnostic. This stage took place prior to the course starting and addressed potential issues. Action steps included the actual delivery of the individual subjects on the course.

Monitoring was done in the form of interviews, focus groups and general day-to-day monitoring of discussion boards.

There are a number of generally recognised issues with action research (Baskerville & Wood-Harper, 1996), related to the duration of the work and it's rigour.

This work is conducted from the Interpretivist stance. Data collection techniques included interviews, focus groups, electronic communications and document analysis. These were utilised in order to produce a rich picture of the course development and possible improvements.

From September 2003 to June 2005 all eight members of staff who were teaching on the course participated in semi-structured interviews. Lecturers were interviewed before and after their experience of a blended learning course. Therefore action research cycles evolved on a semester basis. Three staff focus groups were held to discuss the experience, problems and issues arising, and to consider possible improvements and actions.

All students were given the opportunity to share their experience of the course in six focus groups that took place at the end of each semester over the two years. Where possible, focus groups were facilitated by an individual unrelated to the course. Although some of these were undertaken by a GTA involved with the course, on no occasion was there evidence that students held back any of their comments. Perhaps one of the reasons for the frank responses was the fact that most of the students were paying their fees and had a high level of expectation, which they were very willing to share with others. On several occasions there were delicate issues raised. At the end of the second year, students were also invited to participate in semi-structured interviews; six of the students participated in these. Similar questions were asked at the focus groups and in the interviews. Open-ended questions were asked at the beginning, for example "tell me about your experience of this course". More direct questions were used at the end, for example "tell me about your experience of discussion boards for activity X". **Data**

The following is one of the main categories emerging from the data, **online communication**. Data was collected from two course cohorts. The first year cohort took place from September 2003 to July 2005 and the second year cohort started in September 2004 and ended in July 2005.

First Year Cohort - September 2003 to July 2005

The first course cohort started with an induction session where students were given a demonstration of the Virtual Learning Environment and told where relevant information could be found. Due to login difficulties not all students had their accounts enabled and therefore hands-on practice was not possible.

In the first week an online discussion board was set up with the intention of familiarising students with the idea of online collaboration. Getting students to talk to each other can be mapped to the first two steps of the E-moderating model. The discussion was successful in terms of getting about fifteen students on the course to participate. The nature of the students' contributions varied, some were posting just a sentence, whereas others had done some extensive research on the Internet and demonstrated a deep level of understanding. Since the nature of the discussion was simply to get students to use the tool, not much attention was paid to the diversity of the messages. It was based on the understanding that if someone was not contributing they were at least "lurking" or observing the situation, which gave them an overview of the online communication process.

Shortly after undertaking this formative exercise, students were required to participate in summative online discussions. In one subject a research paper was provided as a topic for discussion. Students were given discursive questions intended to direct the discussion. This enacted steps three and four of the E-moderating model (see Figure 2). It was evident that those students who

participated in the warm up exercise were also frequent posters to this discussion and contributed in great detail.

Some of the posts to the assessed discussion boards were very lengthy and in depth, where students spent time and effort composing their replies. This sparked a complaint from fellow students that they were unable to follow the discussion as a result of these in-depth contributions.

At the same time students had a "Virtual Café" discussion board where they were encouraged to chat about their general interests. Using this forum they organised the election of their course representative and an evening out.

Regardless of having a Virtual Café, students posted private interest messages to the assessed discussion boards, which was off-putting for some of their colleagues who didn't make as much use of the discussion boards. In the student focus group a student said that:

"Discussion boards are not used because there is too much off topic communication"

Others felt that those who have evidently had high topic knowledge from previous experience were discouraging the less confident students from contributing. Despite the reassurance that it was not essential to post long essays in order to pass this test, the students flagged up the issue of the discussion board messages. One student's view was that:

"People felt out of their depth by online discussion forums, which knocked confidence. [Need for] closer control from lecturers or graduate teaching assistants to calm people down. Discussion forum guidelines are good but are they observed? It would be nice to mention these issues in the induction where dos and don'ts for online discussions will be explained…. Long postings are skipped [by some people] and only short, sharp points are read and responded to. Long postings usually have people digressing – long winded."

This resulted in the development of discussion board guidelines, which were intended to make online discussions more informed. Students and staff were consulted on the development of these guidelines, which were communicated to the staff and students on the course (Bell & Heinze, 2004).

At the end of the first year over 50% of the original students dropped out or failed the course. There is evidence from our research that for some the online discussions had knocked their confidence. This is evident in at least one of the student's accounts:

"…Due to recent events in my personal life and the frustration of not being able to connect to the internet at an earlier date, I have decided not to return to the course this year. I have already achieved [a qualification] but seeing what my fellow students were contributing online with all their experience in IT where mine is mainly educationally based, quite frankly, scared me and made me realise that I could be letting my 'team' down…"

Despite these disadvantages, those students who found their way through the discussion boards and were able to communicate with the others were complimentary. The following was said about the discussion board facility regarding a last minute question before an assignment deadline:

"It is nice, I don't know about everyone, but I know that I am new to this course and so it is all a bit scary, but I feel that it is a nice little life line if I feel a bit panicked out. I know although it might be 10'oclock but you know that you can go [online] and you know that you have nearly finished [an assignment] and it is nice to know that somebody will explain it to me. You always get something. Probably it will confuse you a little bit further but it is nice to know [that you can get help via discussion boards], *... and that is quite good you know".*

The other positive aspect of online communication was the issue that everyone on the course could provide a reply to someone who is having difficulty understanding anything related to the

subjects taught. In particular the discussion boards were very frequently used for assignments where students struggled with some aspects of their work, so that they posted their expertise online and shared it with their colleagues. Because of the various approaches that could have been taken to solve a particular issue or explain a certain concept some students found having multiple answers to their questions a great help:

"…if three people have said the same thing, I would understand what one person said but the other two would just go over my head. And it is how everybody says it for me. … It is quite nice to see what different people say because I understand bits of this and bits of that, so it is good."

Second Year Cohort - September 2004 to July 2005

Despite some of the positive feedback about the discussion boards, it was felt that there had to be a change made for the second year cohort. It was therefore decided to reduce the number of online communications and a lot of emphasis was put on the course induction, where students were given an in-class ice-breaking exercise and in-class online discussion board introduction. As part of this introduction students were able to post messages online but still see each other face to face at the same time – in case of any misunderstandings a number of teaching assistants and lecturers were available to help the students.

The online discussion board assignments were reduced to one assessed online discussion, which was closely monitored. A member of staff thought the following about the alterations made on the second year:

"…This year I think that the communication was generally much less, we didn't really have much communication going on. With the first assignment which is what we used the discussion forum for where we had problems last year because people went really OTT [over the top], we couldn't have made it any clearer that we didn't want really complex stuff. I must have repeated myself 20 times in the class then that we want only simple stuff don't go mad at it if anybody writes something that you don't understand don't panic, we will explain it or you might not need to know it. You know. We really drove this point home this year. Because last year there was no doubt because people have just gone over the top…."

The message board was better managed and the discussions were constructive and on subject compared to the first year. The rest of the assignments were conducted individually. When asked about their experience of the online assignment, students were quite positive about it:

"Yes I learned something but I just thought it was a bit scary. First of all I wasn't sure but then I started thinking I will just put anything, ooopps did I just say this… [all laughing], and then when I started reading other people's experiences I thought it was interesting."

However, since there was only one assignment that required students to use the online discussion boards, students didn't really make much use of this facility for the rest of the year. At the same time student representatives tried to arrange a meal out but did not succeed since there was a lack of replies to their messages.

Communication on the Virtual Café section was very limited. Throughout the year students used the subject related discussion boards for raising generic technical issues, not so much for social or learning focused interaction. One of the students felt that:

"I think possibly when you are working in groups you are learning from the communicating [….]. I mean for [one of the subjects] we are working on our own business and being all at certain stages, that's why there is probably very little communication."

At the end of the first semester, during a focus group, one of the students said that the focus group session was one of the most social sessions that they had had. They thought that it would have

been nice to know each other better, so that there could possibly be a community spirit that would encourage online interaction:

"Because once you know who the people are it is easier to talk to them. I come from Yorkshire so I say what I think but I know that some people can't deal with that. Because people can read different things into the different emphases it is a bit scary."

At the end of the second year, staff were disappointed with the usage of the discussion boards and there was a feeling that students didn't really bond together, which again resulted in a high student drop out rate. One staff member said:

"We certainly need to alter our style of delivery. It is going back to the idea of community. I suppose that it perhaps doesn't matter if they only meet once a week. They struggle more to build that community if they are turning up only once a week. So I thought about this, so I think we need to do something to bond them first."

Discussion

Our part time course is limited in the amount of time that is offered to the students to communicate in a face-to-face environment. It is difficult to compare the first and the second cohort of students, due to the number of students, different students and change in usage expectations. However, our intention was to improve the usage of online discussion boards and the opposite occurred. It was perceived that the introduction of online discussion boards would facilitate electronic communication on a many to many basis. Out of all the communication media available to students, discussion boards created the majority of issues. Our experience has highlighted a number of challenges:

- Too much communication
- Off topic communication
- No communication

At the same time online communication can enable a number of benefits such as:

- Study help
- Social interaction
- Student community

The concept of the ZPD relies on the interaction of individuals and someone to facilitate the discussion progress. Discussion boards can provide the required stimuli and feedback in order to build a ZPD, as seen in some of the students' comments, in particular the student who found answers from numerous peers useful in order to stimulate understanding.

Despite the off topic communication there were individuals who felt comfortable to discuss off topic issues in a public place – which made the process of discussion informal and therefore unthreatening. Students predominantly did not feel scared to post a message because they didn't know each other, compared to the second year cohort.

We can regard our students as practitioners of a part time course, who can make use of an online medium to maintain their community of practice. This seemed to be the case with the first year students, who despite the disappointing start have found their way through the course. Not only that but they also found some friends and colleagues who they are happy interacting and collaborating with. By becoming open to each other, students were more independent and used the online discussion boards to help and support each other as well as just keep in touch.

In the first cohort, the moderation of the discussion boards was relatively open and students were given the space to develop their own practice. However, we soon realised by the time of the marked assignment that for some reason one or two individuals behaved negatively by either posting long messages, off topic messages or not posting at all. Although there was some aspect of learning of each other's experience, it was not working since the knowledge discrepancy was too great. Maybe such open-ended discussions came too early when all students have very different levels of experience?

Our data indicates that unguided communication of a Community of Practice can lead to some undesirable effects on the course. On the other hand, when considering the communication on the second year we can see that a very structured approach is also undesirable.

Students were introduced to communication technology in different ways, in the first year they had fewer opportunities to find out about the underlying ideas of communication but they were able to experiment for themselves and learn from experience. One could therefore say that the conversational framework was not utilised in all its steps. However, in the second year there was a structured approach for the discussion boards. A student guide to the Blackboard Virtual Learning Environment was presented in the induction session followed by the activity of communicating online. The benefit was that problems were dealt with instantly and students were in the same room. However, although being aware of the discussion boards, the students did not maximise the use of them.

The main difference between the two years was the utilisation of the discussion boards and their integration into the curriculum. Since in the second cohort there was little need for students to communicate online on the discussion boards, the sense of community was also less evident in the classroom. This was partially due to the lack of assessments that took place online. Blending the online communication with the face-to-face sessions didn't really work in a way where students were able to share their experience with others as happened in the first year. We can assume that although having a difficult start, those who stayed on the course were able to identify with others and therefore this enabled a Community feeling. Although we put some measures into place such as a Virtual Café discussion board for social interaction, these were not enough to start a dialogue between the students online in the second cohort. Reduction of student contact time in a traditional classroom environment as it happened in our case, does rely on more communication online, however, this does not take place unless there is some incentive for students in the form of summative assessment.

When considering our course from the Communities of Practice perspective, we can identify that in the first year students were more frequently required by their assessment to cooperate online. This interaction made them share a common problem and on some level created their "problem solving" community. Therefore the building of a Community of Practice is a desirable part of Blended Learning for participating tutors.

Because the community depends on the individuals who are the main components of it, it is difficult to predict how the same environment would influence individuals. It is therefore difficult to predict a blend of the same material for different student cohorts. The responsibility is on the lecturer to listen to the students, and engage in a continuous dialogue.

Conclusions

The above discussion highlights communication as a challenge and facilitator of blended learning. Blended Learning is therefore not simply a matter of the combination of face-to-face and online instruction but it has to have elements of social interaction. In particular on our part time course it appears to be important to allow students to bond together and to socialise. Knowing each other eases the communication barriers and reduces the fear of posting messages into an

open forum. For students, communicating amongst themselves and with lecturers is important in order to facilitate an effective learning environment.

All four theoretical concepts: ZPD, Communities of Practice, Conversational Framework and the E-moderation model, have utilised communication as a facilitator for learning. When introducing online communication technology, facilitating learning becomes more complex. The data indicates that on our part time course, discussion boards are important in maintaining the communication between the students and staff. It is therefore important to stress communication in Blended Learning. We learned that community building and maintenance is an integral part of Blended Learning, but one that is difficult to facilitate due to the individuality of students and lecturers.

Further research is required to investigate the issues that would allow the successful development and implementation of Blended Learning courses. Further work will be undertaken to investigate the work of Gordon Pask and the Conversation Theory.

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Biography

Aleksej Heinze is a lecturer in the Information Systems Institute, University of Salford. For several years he worked with an entrepreneurial software company that wished to enter the case management systems market for firms of solicitors.

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