

Undergraduate experiences of coping with networked learning: Difficulties now, possibilities for the future.

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Abstract

UK Higher Education's recent focus on enhancing learning through technology has taken root in educational policy. The Funding Council for Wales (HEFCW, 2008) has stressed to universities in Wales that "we will ask you to report on your use of technology-enhanced learning in future Learning and Teaching Strategies." Trinity University College, Wales matriculates largely undergraduate students and is faced with the challenge offered up by the funding council. Considerable research has already been conducted on the use of 'networked learning technologies', but is often based in the context of post-graduate professionals undertaking more flexible off-campus delivery modes of learning (Asensio et al., 2000; McConnell, 2006; Fung, 2004). The aim of this study was to examine campus based learners' reflections of their experience when they were moved from the familiar face-to-face learning to a networked learning environment. To achieve this, the following questions emerged: How do campus-based learners initially react to using discussion forums? What did they offer that traditional face-to-face approaches did not? How did they cope? What benefits did they gain? What did they lose? What can be learned from the experience?

The methodological approach adopted for this was qualitative and based on the grounded theory method provided by Charmaz (2006), as the research seeks to explore and examine a complex and detailed phenomenon from the perspective of the learner's experience. From the results of this grounded study four themes were identified from the reflections of the 'lived experiences' offered by full time undergraduate learners participating in a research methods programme. The themes identified were categorised as: Familiarisation with the networked environment; grappling with collaboration; learning anew the 'text as talk' medium and coping strategies – reverting to the familiar. Networked learning often places great emphasis on text as the medium of mediation between learners, their tutors and their resources. The findings identify benefits from networked learning that face to face interactions rarely offer. However, the study questions the efficacy of relying solely on a text based medium for communication with undergraduate learners and offers possibilities for the future.

Keywords: networked learning, campus-based, undergraduate, asynchronous discussion forums, grounded theory, socio-constructivist

Introduction

UK Higher Education's recent focus on enhancing learning through technology has taken root in educational policy. Funding councils (HEFCW, 2008) stress to universities that "we will ask you to report on your use of technology-enhanced learning in future learning and teaching strategies." Those in a capacity to advise or support the academy in the use of technology enhanced learning, are faced with the question of how technology can enhance learning of undergraduate campus based learners.

Networked learning is characterised as a social process of learning underpinned by socio-cultural theories of learning based on dialogue, but focused on the connections between learners and their relationship with other learners, tutors and resources. At its core, it values individual perspectives and sees a dynamic diversity of perspectives as a strong critical approach to learning (C-SALT, 2009; Jones, 2004; Jones & Esnault, 2004; Jones, Ferreday & Hodgson, 2008). Network Learning sees the learner as participant in both the process and

content for learning. Research suggests that network learning can not only create further opportunities for dialogue, but can also enhance learning, through the adoption of collaborative or cooperative methods (Hew and Cheung, 2007; McConnell, 2006; Jones et al., 2007; Booth and Hulten, 2003). The adoption of internet technology in higher education now needs to be matched by a similar change in the university tutor's pedagogic approach, in essence to ask all tutors to 'rethink their teaching practice' (Dillenbourg, 2008; Goodyear & Ellis, 2008; Jaffee, 2003).

The socio-constructivist theory of learning can be seen as a basis for cooperative and/or collaborative learning methods. Dyke et al. (2007) show how its characteristics are coupled to online learning technology, describing the learning as primarily:

dialogic ... with emphasis on interpersonal relationships involving imitation and modelling;
language as the primary tool for learning... multiple forms of asynchronous and synchronous
technologies offering the potential for richer and more diverse forms of dialogue and interaction
between learners and learners and tutors and learners and their resources for vicarious forms of
learning. (p.86)

A commonly used technology that supports this kind of networked learning interaction is online asynchronous discussion forums. These provide a list of posted written messages, arranged around a single activity or issue that are typed in by participants for all members to see. These messages can attach any electronic document or can provide a hypertext link, offering a powerful association to additional electronic resources, for all in the group see, to share and benefit from (Hew & Cheung, 2007). The discussion forum is available to learners and tutors all day, all night, all week so extending the flexibility of when a learner chooses to learn.

Considerable research has already been conducted on the use of asynchronous discussion forums but is often based in the context of post-graduate professionals attending campus on a part-time basis and/or more flexible off-campus delivery modes (Asensio et al, 2000; McConnell, 2006; Fung, 2004). The recent monitoring requirements of HE funding bodies in the UK are not confined to these modes of delivery, but are asking Universities to report on their use of technology to enhance learning of traditional, undergraduate, full-time on-campus learners.

The conceptual framework for this study is based on socio-constructivist learning theories described above by Dyke et al., (2007, p.86) and is used to examine and give meaning to the processes of interaction of a group of learners engaged in this phenomenon. The unit of analysis for this study is thus 'the learning group' and the relationships that occurred when learning collaboratively. In this context collaboration meant working together to solve similar problems. The socio-constructivist paradigm was seen as appropriate, as it seeks to understand the world in which people live and work (Creswell, 2007).

This study was undertaken at a community university, where widening access is a key strategy. The aim of this study was to examine the experiences of campus based learners, engaged in the use of online discussion forums, in order to explore how learning can be enhanced using networked learning technologies. To achieve this, the following questions emerged: How do campus-based learners initially react to using discussion forums? What did these technologies offer learning that traditional face-to-face approaches did not? How did learners cope? What benefits did they gain? What did they lose? What can be learned from the experience?

Context to the Study

This small study was based on the experiences of a group of second year undergraduates taking a core course in 'Research Methods'. This study was only concerned with the first 12 weeks of a 24 week course in which qualitative research methods were taught. The group consisted of 21 learners of mixed gender; between the ages of 19 and 26 that were taken from 5 undergraduate degree programs. The first quarter of the course was undertaken in the classroom, where learners were provided with lectures and group based classroom activities over a period of 5 weeks. This study particularly examines the second quarter of the course in which students are introduced to practical qualitative research methods over a period of 7 weeks. In this period learners were engaged in both fieldwork and collaborative learning, facilitated through a networked learning environment. The majority of the learners work required them to operate individually, outside the classroom on their research designs, data collection exercises, data analysis and interpretation.

Asynchronous discussion forums were the main means by which activities focussed on encouraging collaboration where learners participated in determining the learning process, learning content and engagement in the peer-tutor review assessment. No other means of 'instruction' were formally given. The designs of the learning activities for this part of the course were based on a socio-constructivist view of learning as described by Dyke et al. (2007) in the introduction of this study.

The motive for designing the learning using only discussion forum technologies centred on two conceptions: Firstly, all the learners were working on independent projects: If they could share their reflective insights in the discussion forums of their individual experiences of fieldwork, then they could all benefit from this shared understanding as they progressed. Secondly, the technology was seen as more suitable than the classroom for sharing these experiences: The timing for each participant's fieldwork activity might vary and an asynchronous approach would allow for shared dialogue of these experiences on a more frequent and timelier basis, rather than just once a week. Additional benefits were perceived to be: The potential for more considered reflective dialogue; a memory of all formal activity; increased opportunity for reflective writing and collaborative engagement.

Methods

The methodological approach adopted for this was qualitative and based on grounded theory method provided by Charmaz (2006). Qualitative research was adopted as the study aim seeks to explore and examine a complex and detailed phenomenon from the perspective of the learner's experience (Creswell, 2007; Starks & Trinidad, 2007; Suddaby, 2006). The grounded theory method described by Charmaz (2006) fosters seeing your data in fresh ways, avoiding seeing the world through the lens of existing concepts and theories. It employs a structured but flexible approach that allows the researcher, as participant in the research, to get beneath the surface of a social world and to translate the participant's experiences. This is achieved by interpreting the participants reflection upon their experience, the unit of analysis being the social process (Charmaz, 2006) in this case of the group.

Data was collected from full transcripts of 25 minute informal, conversational interviews with the five participants from the research methods course. Five participating students were selected at random, on a first response to interview request basis from the learners invited by email to participate. The participants' disciplines ranged from Business Studies, Tourism Management and Computing. Three participants were female and two were male. Data collection followed Charmaz's (2006) suggestion for informal, conversational style interviews with quite open initial questions that ask interviewees to re-live and describe their experiences, in this case of the learning experience of the course. The field researcher encouraged exploration of any particular experiences offered by the interviewees, observing sensitivity to the difference in power relations of an insider researcher, as tutor to the student interviewees. The interviews were conducted after the completion of the course and the student's grade and feedback transcript were completed and given to the learners before the interview, to be opened afterwards. An ethics form instructing the participants of their full rights in the process, including withdrawal for no reason during or after; the full purpose of the research and their role; the subsequent use of the data; full anonymity and destruction of data on completion was read together and signed together. Despite these efforts it is still recognised that there still remained a power difference between the interviewer and interviewee. Other data sources collected included printouts of each participant's contributions to the asynchronous discussion forums which were used to cross reference and thus triangulate the data to identify any inconsistencies in the interviewee's statements.

Data Analysis – Emergent Concepts and Themes

Charmaz (2006) describes grounded theory as lying squarely in the interpretive approach, lending itself to a flexibility of natural inquiry adopted by the researcher, acting with reflexivity on each step in the process. This study used this premise when following the analytical steps described by Charmaz (2006). As a small project and also as an action research work in progress, this study only provides a first review of a single collection of data from interviews and as such makes use of only the first stage of analytical techniques. Further 'full and faithful' grounded theory employs data collection as a series of stages where the researcher goes through a sequence of clearly defined analytical steps of coding techniques coupled with repeated returning to the phenomenon to collect more focussed data (Corbin & Strauss, 2008), which was not employed at this stage.

The process used here, firstly involved quickly reading the transcript through a few times, pulling out meaning statements (selecting) followed by a more intensive line-by-line analysis (open coding). This analytical process adopted a reflexivity that considered what the participant's statements meant by the researcher interpreting meaning from the interviewees' transcripts. This coding process involved the researcher keeping close to the data, to know the context and to try to understand its meaning; identifying action in the process; considering reasons and attributing meaning to the action and attempting to interpret meanings to a higher more abstract theoretical idea.

A second phase, a more focussed phase involved a deeper more complex and less linear analytical process of moving in analytical circles (Creswell, 2008). Here, the meaning statements and interpretations were compared to see if one illuminated or compared with another in any way. Meaning statements along with their interpretations were then separated and categorised into emergent themes of ways of experiencing the learning. From this process, a table of emergent themes was constructed of selected participant voices, set against the interpreted concepts of processes and actions. Four themes were finally identified: Familiarisation with the networked environment; grappling with collaboration; learning anew the 'text as talk' medium and coping strategies – reverting to the familiar.

Discussion

Grappling with collaboration

McConnell's (2006) quantitative study provides a clear advocacy for the potential of asynchronous discussion forums to facilitate learning. The introduction to a collaborative online learning experience was a new experience for these learners. In particular the sharing of work and ideas was certainly unusual and for some a little uncomfortable. There was an initial 'unsettling' view of collaboration, with feelings of cheating being experienced (Kennedy & Duffy, 2004), suggesting for some learners they may be used to seeing themselves in competition with each other, not used to collaborative learning arrangements.

I nicked a few ideas from other people. (Participant B)

She probably thought people would steal her ideas. If I had a good idea and wrote it in then they would copy it. (Participant A).

The interviews overall provided substantial evidence of benefit gained from the process. The pull of 'vicarious' learning opportunities (Cox et al., 1999); the prospect to observe 'voyeuristically' the work of other learners, appears to have been a draw for them, and may be an important characteristic of collaboration to offset initial concerns about participation.

You get to see what they have written, their style, the way they've done it. It really is good. It really helped to get other people's ideas, to see how they had done things. (Participant C).

I was able to look at where they got their ideas from. A bit embarrassed going on and letting everyone else see it. (Participant E)

Familiarisation with learning in a networked learning environment

Initial problems of getting used to using the technology and what it brings to communication were re-lived during the interviews. The nature of engagement is at first unclear for participants, despite an initial in-class practice session in which all engaged enthusiastically together with the new environment. Faced with the reality of undertaking formal activities on their own, the participants found the process challenging. Revealing their ideas and by default 'themselves' was a initial difficult process. At first they find it very difficult to contribute "though the Internet" (Participant B). In addition, unlike the induction to discussion forums trialled in the classroom, the asynchronous nature of the discussion forums was difficult to grapple with. Learners were unsure about how to deal with waiting for responses when doing the activities set for them, out of the classroom, during their individual fieldwork. The discussion forums were less of a frenzied experience that they had experiences in the classroom trial. The dichotomy revealed here being, that although the asynchronous nature of discussion forums allowed for a very flexible pace of learning, with time for a more reflective, informed response to each other's contributions available, the time delay of this considered response, inherently impacts on the dynamics of the dialogue.

Not getting an immediate reply. I knew I would have to wait a couple of days. (Participant C)

People had moved on and I didn't know whether to post. (Participant C)

[I was] waiting for a reply, always checking. I was attached to my laptop. (Participant A)

You couldn't get answers to your questions straight away. (Participant D)

Despite the early experiences, and effort on behalf of the tutor to encourage interaction, the learners did get used to working flexibly across the wider time frame of a week rather than a timetabled two hours.

We were all sort of helping each other along in a way. If someone said Oh I'm stuck then other people did feedback to them. That was good I liked that. (Participant B)

It was productive. It was our own personal study but we could still share ideas – I liked it. (Participant E)

This use of the discussion forums as a means to mediate and share their work and ideas was seen by some as quite productive. When considered against a similar classroom experience, benefits of flexibility of time, equal access to discussion and opportunity for considered reflection were seen as an enhancement to the learning. In the classroom: How often do all learners get to provide considered input to a classroom discussion? How often do traditional lecture or classroom learners get the chance to write reflectively or engage in dialogue about their work using considered writing?

Learning anew the 'text as talk' medium

Despite reports of successful use of discussion forums with more mature learners (McConnell, 2006) many learners, struggle with written dialogue (Wright & Lawson, 2005), a key skill for successful collaborative learning through discussion forums. For this group of undergraduate learners new to using 'text as dialogue' their experiences indicate that they recognised a shortfall in their ability to use language well to express themselves adequately, to articulate their experiences, thoughts and ideas when engaged in dialogue through writing.

Also I have got bad grammar. With me I can't really explain what I mean in writing. (Participant A)

I am a very cheerful person, but in writing this doesn't come across. (Participant A)

Quite hard for somebody to write things the way you want to say it. (Participant C)

I thought this is a bit weird I'm not used to writing through the Internet. Maybe I thought I might look stupid saying this, you know I don't really understand and yes what other people might think. (Participant B)

A lack of efficacy in written language will at first hold back learner's ability to function well in discussion forums. Cole (1994) describes how language is the "the master tool" of learning, and this questions the suitability of this medium for less experienced learners.

There are significant learning benefits to a high degree of competency in written language, vocabulary and skill in grammar. Vygotsky (1987) ascribes the difficulty that people may have to the greater abstractness of written speech, identifying text as more suitable for reflection and speech [verbally] as a better way of exchanging meaning. Vygotsky suggests those learners who can or who learn to engage through written speech act more intellectually, and although difficult, it aids learners' thinking, as is clearly illustrated in experiences of learners in this study:

You have to think about what you are saying. When you say it you just say it. When you write it you have to think. To begin with I wasn't writing much because I was unsure. (Participant C)

Now that I have got used to it [writing], I do now feel more comfortable. It was like having a conversation with yourself. (Participant A)

It gives you things to think about so that you can build on what you were already thinking. Yes I like the way I could write. I felt I could do it more accurately and more honestly. (Participant E)

Writing and thinking are clearly linked and learners in a classroom seldom have a chance to use it in this way. Learner's thoughts are also lost between these classroom sessions when they can, as has been shown here, be part of an ongoing online dialogue between learners, the retained history of the discussion aiding the learners to build on what they were already thinking between periods of activity. Despite these arguably important benefits this was not an easy thing for the learners in this study to achieve and they reported in this study that they needed greater reassurance.

It was still quite daunting not having a teacher. Some reassurance from someone. There was a point when I was a bit confused and I would have liked to have had a face to face session that week. (Participant B)

A few of us were afraid we were doing it all wrong. It would have been nice to have someone say that yes that's right – in the classroom just once every other week. I like a lot of reassurance. To bring the work to you to show you what we've done. (Participant A)

Coping strategies – reverting to the familiar

Faced with difficulty or lack of belief, these campus-based learners met in the library or talked on the phone about their course. Although written dialogue clearly has its benefits, learners with less confidence or competence in their writing as speech resorted to communicating with each other face to face or by other means available. Being able to speak to each other afforded some learners in this study the ability to talk things through, to get things done and to connect with each other in a more natural and engaging way that they were familiar with.

When we discussed it then it made more sense. I couldn't have done this without any spoken conversation. Once we had spoken, I spoke to a few people; we all knew what we had to do. It's more natural to discuss things. I had a meeting with the others and then I felt OK then. Yes, we did meet, we met in the library. We sat down and talked – and helped each other. (Participant B)

I prefer to talk things through in person with others rather than through a computer. Writing is more formal. It's more formal over the Internet. I could get over what I mean. I prefer to talk. (Participant B)

'X' phoned me and we talked it through. I don't think if I'd asked these questions online that I would have got the same response. X said she didn't want to say anything online. I used the phone with X a lot. I need to phone, you feel a bit more engaged with the phone. (Participant A)

In coming offline the learners experience problems that they probably were not expecting. The lack of access to the online and the permanency that the text medium had provided them, as an 'aide-memoire', was missed. The ephemeral nature of speech that are characteristic of discussions in a classroom do not allow learners to use the potential of sharing and using text based artefacts be they journal papers, activity contributions or dialogue. Vygotsky (1978) identifies the external memory, which writing down things provides, as a defining feature of human development against all other species.

What learners create as a permanent artefact of their understanding, allows them subsequently to go deeper into learning more, "it gives you things to think about so that you can build on what you were already thinking" (Participant E). Students indicated that they found talking face to face or on the telephone lacked the advantages of being able to refer to things that they didn't have in front of them and couldn't remember:

When it's in front of me it's a reminder of what I have written. My memory isn't very good. (Participant B)

Conclusion

The aim of this study was to examine the experiences of campus based learners engaged in the use of online discussion forums, in order to explore how learning can be enhanced using online technologies. To achieve this, the following questions were considered: How do campus-based learners initially react to using discussion forums? What did it offer that traditional face-to-face approaches did not? How did they cope? What benefits did they gain? What did they lose? What can be learned from the experience?

This study demonstrates that when online discussion forums are used with collaborative networked learning design, then learning can be enhanced. The shared online environment creates opportunities for vicarious learning opportunities that offset the initial problems of participation. If learning activity is designed to foster reflective writing and to encourage dialogue between learners, this acts as catalyst for greater cognitive development, through writing, that is more considered and intellectual (Vygotsky, 1987). Written language is essential for learning through discussion forums and can be the limiting factor in a group's ability to achieve high quality learning together. Learners who are less competent in their writing abilities are likely to seek their dialogue with others through the spoken word, either by meeting or by using other technologies that allow them to talk. We argue that this should be encouraged as it allows the learners to get on, while still allowing them the benefits that the online environment offers, of a permanent memory, and also as a place to improve their critical and reflective writing skills. Forming offline study groups and partnerships also is a good sign that learners are taking control of their learning and becoming more independent, a key skill, as Brown (2008) suggests:

One of the few deeply robust results in most educational theory today is that, in fact, the best indicator of success in college has to do with whether or not you know how to form, join, participate in study groups. Bar none!

Networked learning often places great emphasis on text as the medium of mediation between learners and their resources. Discussion forums provide obvious benefits to aid this process, benefits that typical timetabled face to face interactions rarely offer. Not all learners, particularly undergraduates will feel immediately comfortable with this medium for discussion and as practitioners we must be careful to consider each context. We suggest that as more availability for voice based collaborative tools, such as desktop audio conferencing systems become available to more people, a greater integration of writing and talking or more importantly talking about writing will offer a new dimension to practitioners in the design of their networked learning activities for undergraduates. Future practice and research in networked learning should not just focus on text as the means for dialogue. In a discussion with my colleague, Shaunna Joannidou, we considered students' desire for spontaneity; for robust voice dialogue - feeding off others' energy; for improvisation- non-linear cognitive process; and for the inclusion of intonation and paralinguistic features – emotion in speech - which are readily available through voice.

For it is when participants move back and forth between talk and text, using each mode to contextualise each other, and both modes as tools to make sense of the activity in which they are engaged, that we see the most important form of complementarity between them. (Wells, 1993, p.146)

I also used the telephone, but I didn't have things in front of me to talk to them about. (Participant B).

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