Networked Learning in the Real World:

Collaboration versus Competition

Maddy Sclater and Klara Bolander

University of Glasgow and Karolinska Institutet, Sweden

m.sclater@hatii.arts.gla.ac.uk, Klara.bolander@lime.ki.se

ABSTRACT

This paper examines the application of collaborative learning strategies advocated for online learning and uncovers what, in practical terms, occurred when students undertook an online module forming part of an MSc in Adult and Continuing Education at Glasgow University. The study reveals a tension between the desire to enable an appreciation of the perceived benefits of collaborative learning on one hand, and the competitive, institutional requirement for individualised assessment on the other. This paper illuminates the collaborative and competitive undercurrents of a process that was revealed to be more complex than the simple achievement it was considered at the outset.

Keywords

Collaboration, co-operation, competition, assessment, motivation, process/product

INTRODUCTION

Context

The online module ‘new technology and lifelong learning’ forms part of a taught campus based MSc in Adult and Continuing Education; students attend a combination of evening and day classes and therefore generally know of one another - if not in person at least by sight. For those choosing the online module the overall number of hours spent on campus is reduced as participants log into the course from where ever they are based. There are an increasing number of people who need to study at times that suit them and therefore select this module for the flexibility it offers.

Networked collaborative learning

Apart from the flexibility issue, the module was developed to enable participants to appreciate how electronic communications and the Internet might be used to develop and sustain their professional practice. The module is therefore about how to make more effective use of new technology but it is also designed to stimulate ideas relating to the ways in which professionals might engage in their practice using new technology.

Participants actively engage in dialogue in pairs or groups of varying sizes in order to share and analyse experiences. A term emerging to describe this kind of learning is ‘networked collaborative learning’ (McConnel 2000). Four different forms of collaborative working emerged over the two years when participants were asked to work together in small groups (comprising 3 people) to produce a collaborative paper. A distinct path was chosen by each group, each displaying varying levels of negotiation to realise the final product and with varying degrees of success in terms of the overall cohesiveness. This was reflected in their attitudes towards how successful they felt the 'collaboration' was.

Co-operative and collaborative learning

The aim of this paper is to try and unpack what is meant by 'collaborative learning' and to show, that in our view, it is necessary to distinguish between the terms co-operative and collaborative learning since each could imply the use of a different kind of assessment structure. The terms appear to refer to different kinds of working together; *co-operation* reflecting an attitude more akin to sharing or communicating and *collaboration* suggesting something more purposeful and focussed.

Several authors make a distinction between collaborative and co-operative learning (Koschman 1996, Jones 1998, McConnell 2000). Co-operative learning can refer to students working together on a joint task - such as exploring a discussion topic - with the aim of furthering their own learning (McConnell 2000). Schrage (1990) views collaboration as *"an act of shared creation or shared discovery"* suggesting a higher order of involvement that first requires the development of a shared understanding before new meaning/new knowledge can emerge.

Critical pedagogies

The ideas for this paper were sparked off by what we saw as an obvious tension existing between the requirement for individualised forms of assessment by the university and the co-operative and collaborative learning strategies employed for the module. It soon became evident that individualised forms of assessment appeared to encourage competition rather than promote collaboration. The assessment structure that was being employed seemed to conflict with the educational model that was being implemented - that is to shift participants towards a more critical perspective on teaching and learning. This tendency co-incides with Reynolds' and Trehan's observations in courses based on critical pedagogies. They suggest that because of the development of

> "….more participative less hierarchical approaches to teaching and learning ...some form of participative assessment might be expected as a prerequisite. Yet as we observed ....while there are some examples of a critical pedagogy affecting content and method, corresponding changes in the practice of assessment are harder to find" (Reynolds and Trehan 2000).

We are interested in exploring what makes collaboration successful within an online educational context and to examine the relationship between assessment and motivation in relation to collaboration before linking these theoretical ideas to the experience and outcomes of the module.

Learning Context

The learning strategies students adopt are influenced by a number of factors. These factors can be analysed using Ramsden's (1992) model concerning learning context. Ramsden (1992) suggests that the learning outcome is influenced by a number of factors. Students' previous learning experiences and context of learning such as teaching methods, curriculum and assessment influence students' general orientation to studying i.e. seeking meaning (deep approach) or reproducing (surface approach) and the perception of the demands of specific tasks. These affect the approach to learning and the learning outcome. The model can be seen in Figure 1.

Figure 1: Ramsden's model about learning context (1992:83)

Extrinsic and intrinsic motivation in context

The expectancy-value theory of motivation

Two factors make students want to learn something (Feather 1982).

> It has to be important; it must have some value to the learner

It must be possible to do the learning task; the learner has to expect success.

This common-sense theory of why students do or do not want to learn is called the expectancy-value theory of motivation. It argues that if anyone is to engage in an activity, he or she both needs to value the outcome and expect success in achieving it (Feather 1982). If either one is not present, motivated activity does not occur. Expectancy-value theory is particularly relevant in the early stages of learning before interest has developed to carry continued engagement along with it (Biggs 1999). However in the context of this course it is applicable in terms of examining why students took a collaborative approach, and others a more competitive approach.

Expectancy

What then makes students expect to succeed or to fail? Success can, for instance, be attributed to the teacher, individual ability and effort. If a student has a history of successful engagement with a subject that is personally meaningful, the student builds up the knowledge base needed for deep learning and develops the expectations that give confidence for future success. This is known as feelings of self-efficacy and 'ownership' ('I can do this; this is my thing'). The most direct way expectations of success are instilled is on the basis of previous success but only if the conditions that are believed to lead to success remain unchanged.

These attributions of success are also sensitive to teacher feedback. By giving students feedback about the process, 'This is what you did, this is what you might have done, this is how to get a better result' as in criterion-referenced assessment, belief in future success is encouraged. In teaching it is important to bear in mind how you help instil expectations of success (or failure) in students.

Value of task

In order to come to an understanding of why collaboration in learning seems to be successful for some people and not for others the next step is to look at what makes a task valuable to students. The answer is to make their work important to them. Work can be important in various ways, each one producing a different kind of motivation - depending on the context. The forms of motivation are; *extrinsic motivation* - what the outcome produces e.g. sitting an exam or writing an essay - this can be rewarded or punished by pass or failure; *intrinsic motivation*, which involves enjoying the process of doing a task; *achievement motivation*, which gives an opportunity for ego-enhancement; and *social motivation* which is concerned with what people value.

Extrinsic and achievement motivation

The quality of learning under *extrinsic* conditions is usually low - particularly if it is negative reinforcement such as failure. It also tends to encourage students to adopt a surface approach. We would consider that surface approaches to learning are less conducive to producing high levels of negotiation. Assessment often acts as an extrinsic motivator (Lepper 1988), encouraging students to focus their ways of learning in an appropriate way in relation to what is to be assessed.

Social and Intrinsic motivation

Students learn in order to please people whose opinions are important to them. If the process of studying or the fruits of a good education are highly valued by other people important to the student, education may take on an intrinsic importance to the student. We can usually trace the beginning of our interest in something to someone else who exhibited that interest to us; we wish to be like him or her (Feather 1982). This is the process called 'modelling'. It can therefore be of great value when teachers who love their subject show their enthusiasm and inspire students. This is why tutors in an Internet based course have an important role in 'setting the atmosphere' by being encouraging, showing interest and asking questions in a way that is not inhibiting. Intrinsic motivation stimulates students to learn because they are interested in the task or activity itself, and in that way is process oriented. For intrinsically motivated students, the point is to travel rather than arrive and this motivation can bring a deep approach to learning. We have summarised the expectancy-value theory of motivation in diagrammatic form as shown in Figure 2 below.

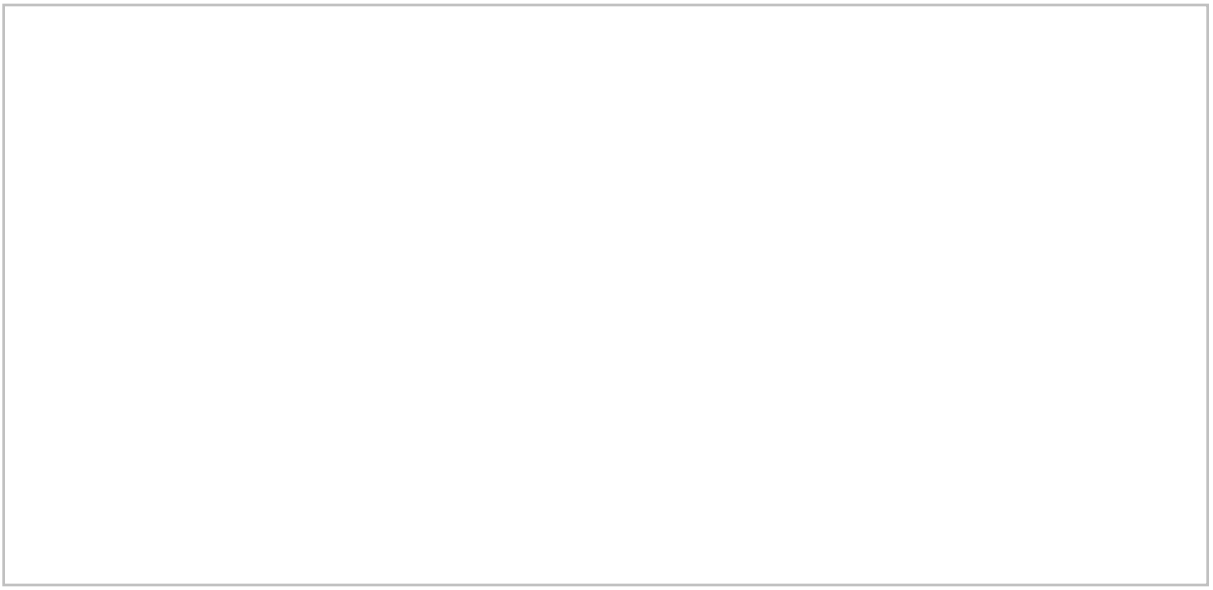

Figure 2: Expectancy-value theory of motivation

The role of assessment in collaboration

How can one create value in a task if it is not already considered to be valuable by the students? A common cry is that students will not spend time learning a topic if they think it is not going to be assessed. Therefore, most topics are assessed. This is, however, a double-edged strategy because if that is the topic's only value, it is an excellent way of devaluing it. As said earlier, assessment often acts as an extrinsic motivator (Lepper 1988), encouraging students to focus their ways of learning in an appropriate way in relation to what is to be assessed. Thus, it is a problem if student-activating methods of teaching are introduced without consequently changing the methods of assessment.

Approaches to learning

Students' approaches to learning have been categorised in a number of ways. Marton and Säljö (1976) differed between deep and surface level learning, where deep refers to a meaning seeking approach, with the intention to understand, and surface a reproducing approach, with the intention only to complete task requirements. Later, the achievement (or strategic) approach, aiming at achieving high grades, was added by Entwistle and Ramsden (1983). However, these categories of approaches to learning all stem from a situation where students work individually. Recent research (Lonka et al. 2001) indicates that the deep approach to learning may be re-evaluated in new, collaborative learning environments. Instead, a collaborative-constructivist view may be viewed as important learning orientation (Lonka et al. 2001).

DESIGN AND ASSESSMENT METHODS: NEW TECHNOLOGY AND LIFELONG LEARNING MODULE

Design

The module is 18 weeks in duration and is divided into two distinct phases presenting opportunities for both co-operation and collaboration. The first phase of the module (Term II) is concerned with co-operative leaning and consists of one large discussion and two parallel group discussions. Within these groups participants explore a topic through discussion and use the knowledge building process as a way of furthering individual learning.

During the second phase of the module (Term III) participants work together in a more concentrated way; participants form into smaller groups (two or three people), concentrate on a topic of mutual interest and produce a collaborative paper. Within this phase a combination of individual and group based assessment is used.

Virtual Learning Environment

Electronic mail was the principal delivery mechanism for the first year of the module but in the second year a bulletin board system called Webboard was implemented. In the second year the course team made changes to the communication medium combined with minor changes to the course structure, timing and to the assessment requirements. The changes made to the module, combined with the change in delivery mechanism, appeared to impact on the quality of the collaborative experience in the second year.

Assessment

Co-operative activities (Term II): Year 1 and II

Participants' were required to submit five short papers (500 words each) at strategic points during the module which together amount to 50% of each student's individual mark. The papers were submitted at the beginning and at the end of each of the two discussions with the fifth paper submitted on completion of the module. The first half of the course is concerned with individual assessment with the emphasis shifting to the inclusion of a small percentage of collaborative assessment in the second half. The assessment for the discussions (term I) - the co-operative phase of the course - remained virtually unchanged over the two years, however, small changes to the collaborative assessment during the second year were made in order to help orient students towards collaboration.

Collaborative activities (Term III):Year I

During the first year the collaborative study project amounted to 40% of an individual's total mark, the remaining 10% was a *collaborative mark* which was awarded to each group based on a presentation of their group project. The course team asked participants to work together as a team to brainstorm ideas relating to their chosen topic and to flesh out related yet separate strands for each participant to consider. Team members were then asked to disseminate the results of their discussions in the form of an individual paper.

During the first year group members engaged in some initial discussion relating to the topic, agreed on the particular slant each was to take but then worked more or less alone until the project deadline. Since groups ended up with three papers instead of one it was more difficult to conduct a group led discussion based on a group's findings; the papers were too diverse for a joint discussion to work successfully in the allocated time (one week). The group led discussion therefore had to be abandoned which meant that the collaborative study project amounted to 50% of the total course mark and was awarded as an *individual mark*. This meant that, in reality, the first year of the module reflected no change in assessment practice despite attempts to allow course participants to work collaboratively.

Collaborative activities (Term III): Year II

For the second year of the module the course team made changes to both the practice of assessment and to the structure of the collaborative exercise in order to orient students towards collaboration rather than individual working. The collaborative study project was divided into *two stages* the first being the 'individual stage' and the second being the 'collaborative stage'.

During the individual stage participants were asked to work in much the same way as they did during the first year; brainstorming ideas and fleshing out the resulting strands which participants individually wished to pursue. Students were asked to work closely with one another to ensure that their individual pieces of work related to one another. After a period of four weeks participants submitted their individual pieces of work to the Webboard (approximately 2500 words) and were awarded an *individual mark* amounting to 30% of the final total. During the second stage of the project team members integrated the individual papers into one final paper. This second stage amounted to 20% of the final total and marks were awarded to *the group* for their final efforts.

Experience and outcomes

The new structure alongside the change in assessment practice for the collaborative project (year 2) produced an interesting array of approaches to the final paper. The following discussion examines the approach each group took to arrive at the group paper and also reflects some of the impressions of those who were involved.

'Core - amalgamation'

Within this group a 'core paper' was used with the other two papers being amalgamated into the main paper. It is, perhaps, no co-incidence that the person who opted to function as the group ‘scribe' selected his paper as the basis for the final paper.

> *" you will see after this note an amalgamation of all our work as discussed. I have used my essay as the foundation because it had all the hypertext references that are a real pain to reproduce. I have inserted relevant parts of your essays as I thought best .... A's bits are in blue and B's bits are in red."*

Two of the participants made suggestions as to what should be put into the introduction and conclusion, the ‘scribe’ ‘being left with the task of writing the introduction and conclusion despite a request for someone to do this. In the interviews with participants the 'scribe' was asked about whether he experienced any particular pressures during the project. He mentioned that it was difficult to co-ordinate and accommodate the time schedules of his group.

"...if you have a sort of deadline I like to get it in before it and not run up to the deadline."

When asked how successful he considered the project to be the reply was

" It was difficult to make it read smoothly because it was a pastiche.....I think it needed a bit of work putting into it to smooth out the joins."

The same question was posed to another group member who said in relation to the outcome;

" I thought it was excellent but in all honesty I felt that there was not much of me in there because of all the problems that I said that I had had."

From the interviews conducted it became apparent that the task of creating a single artefact was not a simple achievement. Tensions arose particularly over time management and from the online transcripts it appeared that the 'scribe' was the only one really involved in the task of putting the final paper together. It would therefore appear that despite the planned efforts of the course team the level of negotiation that was envisaged for this activity did not materialise.

Cutting down and stitching together

Within this group each person was responsible for cutting down their existing paper with the result that the final paper consisted of 3 major sections which reflected the distinct style of each individual with the addition of an introduction and conclusion.

"... I think that our work should be a collection of 3 pieces which are related to each other.."

This group made a conscious decision not to choose a group leader since they were keen to ensure that the collaboration remained democratic; group tasks were shared out. Interestingly, this group chose to physically meet up on occasions from the beginning of the first stage in order to ensure that the separate strands remained linked. Participants kept up close contact with each other during stage 1, sharing and reciprocating ideas relating to their individual findings. However co-ordination of activity became more difficult when the third group member was out of touch for a few days and had not yet submitted her contribution to the 'scribe'.

When asked about how the study project went the person who opted to undertake the editing said;

" I think as we started to pull it together I got a bit fed up. X just cut some pieces and shoved it in and said 'right deal with it', ... and that was as much as was done and again if that was how we were going to carry on I would have said... wait a minute."

In the interview with this participant the issue of collaborative assessment arose. The following illuminates a duality in the collaborative process; the desire to make a good job of the paper because it was to be critically reviewed by the cohort and a realisation that the collaborative paper only amounted to a small percentage of the marks.

" ...at the end of the day the marked part of that was not so bad because there were not a lot of marks attached to that..."

Like the previous group, timing and issues linked to the final handling of the document arose. The editor discovered that there was far more editing to be done than he originally anticipated. He also had to relinquish control of the final document to the third member who then added their section and submitted the final piece without further discussion.

Negotiated collaboration

This group engaged in communication both through email and through the Webboard as one group member was unable to access the Webboard. The group nominated a scribe who carefully read through the work of the other group members and pulled out the most significant parts.

" The first essay was mine. I took the three essays and read them through two, three, four times and I tried to see what in each essay was new."

A great deal of negotiation seemed to have occurred between two of the group members with the third participant remaining on the periphery for most of the collaborative phase. We believe that email communication may have contributed towards higher levels of communication than might have occurred on the Webboard because of its more personal and confidential nature. In the case of this group it appeared that the one who opted to take charge of the final document was the one who seemed the most satisfied with both the process and the product.

"It was fulfilling from the emotional and psychological point of view ...the most important thing was

the process; just trying to adjust to one another, go at the same pace, find a rhythm to work together..."

It seemed extraordinary that this person was unaware of the assessment requirements for this particular phase of the module.

" I did not think about how it looked I just felt so happy with it. I mean I don't even know if this is going to be marked or not?"

The tutors felt that the paper which resulted displayed the greatest degree of cohesion and was considered to be the most successful demonstration of collaboration out of the assessed work. However, not everyone within the group felt satisfied with the final outcome. It is perhaps no co-incidence that the person who remained on the periphery of the action seemed less comfortable with both the collaborative process and the collaborative product. This seemed to be to do with reconciling individual styles of writing in the final paper among other factors. Whilst the final paper appeared to reflect a high degree of negotiation between all of its members it soon became evident that was not the case. This leads us to believe that group work can appear successful in terms of a product but may not, for some people, reflect a positive experience in terms of process.

Spontaneous collaboration

One member of the cohort initiated a relay story. This involved one member creating a piece of fictitious writing and inviting others to contribute. This lasted the length of stage I and stage II of the collaborative study project and was arguably the most successful demonstration of collaboration, providing much enjoyment to those involved. No assessment was involved suggesting that participants were intrinsically motivated to participate.

DISCUSSION

To understand the factors affecting whether collaboration or competition manifests itself in a course we decided to re-interpret Ramsden's model, combining it with the expectancy-value theory of motivation where collaboration is focussed (see Figure 3).

Figure 3: A model of factors influencing collaboration.

As in Ramsden's (1992) model, this model illustrates the context of learning with curriculum, method and assessment affecting how the task requirement – the collaboration in this case – is conceived. Between these two points we have added an element of extrinsic motivation (Lepper 1988). This is because assessment often acts as an extrinsic motivator encouraging students to work on a task or assignment mainly to pass. However, if well designed, the assessment in combination with the design of the course can encourage students who start off in a position where they are just extrinsically motivated to adopt an intrinsic motivation towards the task - where they enjoy the experience and truly engage in the topic. It is also important to be aware that if a course is poorly designed the context of learning can have a negative effect on the already established intrinsic motivation, and in that way 'push' towards a more extrinsic motivation.

The expectancy-value theory of motivation (Feather 1982) suggests that a number of factors including students' confidence, experiences, values of how important a course is and their expectations for success - together form a background to the expectations

they have on a course. We suggest that these factors, together with social aspects such as working life, family situation, living conditions etc, influence the orientation to studying that Ramsden mentions in his model, and influences the level of intrinsic motivation (or extrinsic motivation).

Finally how students value a task - extrinsic, intrinsic, social and achievement motivation (Feather 1982) all affect the quality of collaboration. Simultaneously, we suggest that the quality of collaboration affects the level of motivation. For instance, if an externally motivated student finds the collaborative work worth while and enjoyable, the student might develop an intrinsic motivation and instead of having a surface approach to learning might take on a deep approach. Since all the factors mentioned here are constantly interacting in a process we would like to emphasise the *process*. The results of the research show that assessment methods significantly determined the way the collaborative paper was handled and the three approaches which resulted. However, even though we are convinced it has an impact on outcome - the final paper - it is not possible to say whether a competitive approach had a positive or negative effect on outcome.

Conclusion

The research builds upon existing research within the field suggesting that there are a number of contingent factors which put pressure on the ability for people to participate (Jones 1998). The electronic environment imposed a certain kind of structure and this in turn determined the kind of contributions that they were able to make. Outer circumstances (access to the technology, individual styles of working, personal crises, group dynamics, prior experience of collaborative working, language, differing timetables and time availability) personality (introvert versus extrovert) and motivational levels (extrinsic and extrinsic) also played a large part in determining the 'quality' of the collaborative enterprise. Whilst collaborative working is a complex process to manage it gave rise to very unexpected and creative forms of working in the form of the 'relay story' - an activity that was completely unplanned. This was arguably the most successful demonstration of collaborative working during the module.

Acknowledgements

The authors gratefully thank the postgraduate students of Year 2000 and 2001 for taking part in this study.

REFERENCES

Biggs, John (1999) Teaching for Quality Learning at University. SRHE & Open University Press.

Entwistle, N and Ramsden, P. (1983) Understanding Student Learning, London, Croom Helm.

Feather, N. (ed.) (1982) Expectations and Actions, Hillsdale, NJ, Erlbaum.

Jones, C (1998) Context, Content and Co-operation: an ethnographic study of collaborative learning online. PhD, Manchester Metropolitan University, p39.

Koschman, T. (Ed) (1996) CSCL Theory and Practice of an emerging paradigm. Lawrence Erlbaum Associates p13

Lepper, M (1988). Motivational considerations in the study of instruction. *Cognition and Instruction, 5.* 289-309.

Lonka, Nieminen, Lindblom-Ylänne, & Hakkarainen (2001) Lonka K., Lindblom-Ylänne, S., Nieminen, J. & Hakkarainen, K. (August, 2001). Conceptions of learning and personal epistemologies: Are they intertwined? A paper presented at EARLI Biennale, Fribourg, Switzerland, August 28 - September 1, 2001.

Marton, F. and Säljö, R. (1976) On qualitative differences in learning - I & II: Outcome and process, and Outcome as a function of the learner's conception of the task*, British Journal of Educational Psychology*, 46 pp 4-11.

McConnell, D. (2001) Implementing Computer Supported Cooperative Learning. London, Kogan Page p7.

Ramsden, P. (1992) *Learning to Teach in Higher Education*, London, Routledge.

Reynolds, M and Trehan, K. Assessment a critical perspective. *Studies in Higher Education* 25 (3) 267-278.

Schrage, M. (1990) Shared Minds. The new technologies of collaboration. New York. Random House p6.

Urdan, T. and Maehr, M. (1995) Beyond a Two-Goal Theory of Motivation and Achievement: A case for Social Goals. *Review of Educational Research*, 65. No 3 pp 213-243.