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Building online learner communities: an activity theory perspective

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Abstract
In recent decades there has been a considerable growth in the delivery of professional education in online mode. To support this mode of learning, educators now have at their disposal an array of tools, with recent additions comprising tools for collaborative working and asynchronous learning. Learners undertaking courses in a face-to-face delivery environment typically forge close ties with their peers, and also build rapport with academic staff through lectures, tutorials and one-to-one or small group consultations (Lam, 2004; Singh et al, 2009). These ties tend to lead naturally to opportunities for collaborative working. It is widely acknowledged that this collaboration can have a positive impact on learning performance. By contrast, learning in an online environment can leave some learners feeling isolated from their educators and their peers, leading to a decline in motivation and ultimately performance. Others actively seek to operate in isolation, are reluctant to engage with others, and have to be persuaded of the benefits of forming links with others during their online study. The challenge for the educator is to design online learning programmes in such a way that a spirit of collaborative working is fostered and a productive learning community is established. It was against the backdrop of this challenge that the project presented in this paper was initiated in a UK Higher Education establishment in which there has been a significant increase in the number of professional, vocational and post-experience programmes delivered in online mode. The aims of the project were to explore the approaches being taken, and the tools being used, by colleagues to foster interaction and build learning communities in their online programmes; to gain insights into their students' experiences of online learning; and to capture areas of good practice which could be shared more widely. Following a literature review examining key themes in online learning, an examination of available tools was undertaken. This was followed by an observation study and series of semi-structured interviews with academic staff, relevant support staff and learners. Drawing on activity theory, findings were analysed to identify issues in current practice. These findings highlighted needs for training in online learning design, rather than simply "technology use" for the academics, and also a need to educate learners about collaborative working and learning. The practical outcomes of the project were twofold: first, using aspects of activity theory, a number of illustrative cases of good practice were constructed for use in training academics. Second, learning guides were devised, again drawing on activity theory, to help students understand the nature and scope of an online learning community and their role as an interacting participant within it. These cases and guides, informed by activity theory, represent an important aspect of the contribution of this project to the wider professional learning community.

Keywords
Online learning, learning communities, learning technologies, activity theory

1. INTRODUCTION

Students undertaking courses on-campus tend to forge close ties with one another during their studies, and also build rapport with academic staff through lectures, tutorials and other one-to-one or small group consultations and discussions. These students will also often spend time learning together informally, typically engaging in social activities together, and ultimately celebrating together at graduation with the wider university community. In many

cases, these links and friendships formed at university last beyond their studies and extend into the alumni network. Anecdotal evidence, together with reports and prior studies in the academic literature, suggest that this sense of being part of a network, or community, of learners is more difficult to create in an online context, and that students pursuing their studies in this way can sometimes feel isolated from the university community and rather detached from their peers and their academic tutors.

In the light of the significant growth in the range of online learning programmes being offered in Aberdeen Business School at Robert Gordon University, it seemed timely to embark on a pilot project to explore the issue of online learning communities among our own academic and student body in order to be able to gain insights into student experiences of online learning; challenges faced by academic staff in fostering the development of online learning communities; strategies staff use to overcome any sense of isolation experienced by their online learners; and to capture areas of effective practice that could be shared more widely among the academic community. The overall aim of the project is to identify ways of fostering online learning communities among our cohorts of students studying in online mode.

The specific objectives of the pilot project initiated at the start of the academic year 2013-14 were to:

- Review the technologies being used by academic staff in the university's Business School to encourage interaction with and among students; and through semi-structured interviews with staff and students, to capture experiences of using those technologies;

- Reflect on usage and experience of interaction technologies in the Business School to identify areas of good and effective practice;

- Report the findings via staff case studies (practice summaries) and student case stories (including brief video clips) to supplement and enhance existing staff training resources and student induction materials;

- Recommend approaches for more effective use of interaction technologies in online programme delivery.

The anticipated benefits of the project are to:

- Improve practice among staff of the use of interaction technologies in their module delivery to help build online learning communities among their cohorts of students;

- Enhance the student experience of online learning through the fostering of more effective interaction with staff and peers;

- Strengthen student and alumni networks to help build a greater sense of the wider university learning community.

The purpose of this paper is to report on the progress of the project and to present an overview of preliminary findings. The remainder of the paper is structured as follows: in section 2, a brief review of relevant literature on online learning is provided. The use being made of activity theory to investigate online learning issues at Aberdeen Business School is then outlined in section 3. Preliminary findings follow in section 4. The paper concludes

(section 5) with discussion of lessons learned to date, and some indications of the next steps to be taken in the project.

2. BACKGROUND

In recent decades, distance, or online learning, has increased in popularity (Rovai 2002; Grau-Valldosera and Minguillon 2014) as a means of delivery for both under- and post graduate programmes, as well as for professional programmes. It has been noted that drop-out rates on such programmes are higher than on courses delivered in face-to-face (on campus) delivery mode (Rovai 2002; Grau-Valldosera and Minguillon 2014). There have been a number of suggestions as to why this might be the case. Some have suggested, for example, that it could be due to the asynchronous nature of online learning, which leads students to feel isolated, lacking any sense of being part of a community, and ultimately demotivated (Rovai 2002; Grau-Valldosera; Garrison 2007 and Minguillon 2014).

To provide some guidance on how interaction and community bonds could be stimulated, Rovai (2002) conducted an extensive review of relevant literature and from that suggested that there are seven factors which have a positive correlation to a sense of online community. In summary, these factors are:

- *Transactional Distance*. The very nature of online learning means there is physical distance between learners within the student group as well as from the tutor. The elements of transactional distance are structure (of the course), dialogue (between learners and the tutor) and autonomy on the part of the learner. Online tutors need to ensure that these elements are taken into account in the delivery of an online programme to limit the distance, paying particular attention to encouraging the use of dialogue.

- *Social Presence*. Online tutors need to nurture and support community by ensuring they display a social presence throughout the delivery of the course or module.

- *Social Equality*. Style of discourse is a factor in building and maintaining community. Online tutors need to ensure equality of opportunity of participation for all online learners. Tutors should also monitor, and react to, if required, the tone used by all learners.

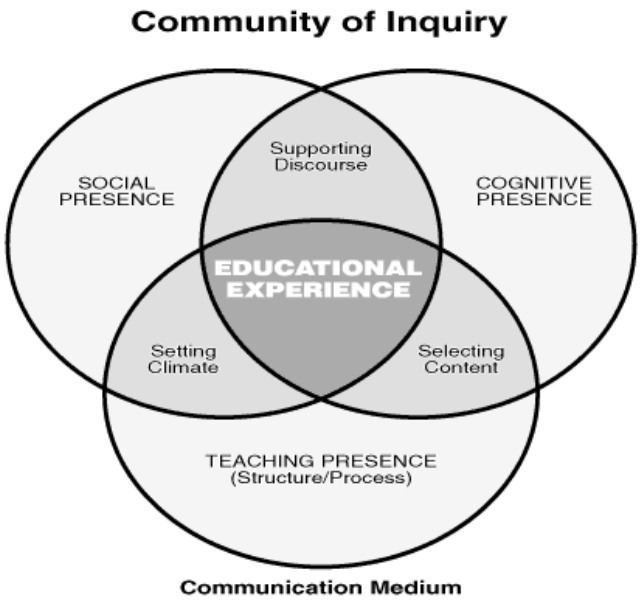
- *Small Group Activities*. Breaking down large student groups into smaller groups for allocated activities with an appropriate amount of structure can aid community in online learning.

- *Group Facilitation*. Learners need to be encouraged to interact. To ensure this occurs online tutors need to have skills to perform roles such as encourager, negotiator, observer or gatekeeper.

- *Teaching Style and Learning Stage*. The teaching style needs to be appropriate for the learning stage of individual online learners. This presents challenges for online tutors, but needs to be taken into account during the design stage of a programme.

- *Community Size* is particularly important in terms of building online community. Too few as well as too many learners in a community can be detrimental in building online community.

Similarly, Ardbaugh et al. (2007) defined a good e-learning environment by means of the elements illustrated in the model below in Figure 1:



(Source: Ardbaugh et al. 2007)

Figure 1: E-learning environment

They described the various elements as follows:

- *Cognitive Presence* – the extent to which learners are able to construct and confirm meaning through sustained reflection and discourse in a critical community of inquiry

- *Social Presence* – the ability of participants to identify with the community e.g. through the common course of study, purposive communication in a trusting environment, and development of interpersonal relationships by way of projecting their individual personalities.

- *Teaching Presence* – the design, facilitation, and direction of cognitive and educationally worthwhile learning outcomes.

A study was carried out by An et al. (2008) in which they identified, through a group of student online tutors, a number of factors which facilitate, and those which inhibit, successful group work on an online programme. Individual accountability, team support, presence of a positive leader, consensus building skills and clear instructions were all identified as being factors which facilitated online group work. On the other hand, lack of individual accountability, technology problems, unclear instructional guidelines, different time zones, lack of a positive leader, lack of consensus building skills and challenges arising from virtual communication relying solely on written communication, all constituted inhibiting factors.

Gorsky and Blau [6] highlighted that interactivity plays an important role in maintaining learner enthusiasm thereby enhancing learning. Their study identified that the tutor's role in the careful planning of any interactivity is particularly relevant. Feedback and consistency, helpfulness and speed at which this feedback is delivered, seem to be, according to Gorsky

and Blau [6], particularly important for learners.

The above review of literature formed the backdrop to the project set up to explore online learning in the Business School at RGU.

3. APPROACH

The programme of work for the project, which was set up to run over the academic year 2013-14, is divided into four key phases:

Phase one - Review of existing practice:

In this project phase, the project investigators carried out a review of the range of online learning resources and training materials available at RGU. Then semi-structured exploratory interviews were designed and conducted with academic staff in the Business School to determine the learning technologies they were using in their learning programmes, and to identify the strategies they have employed to build rapport with students and create a sense of a learning community.

Phase two – Analysis and reflection

In this phase, the interview transcripts and notes were reviewed, and the findings recorded.

Phase three – Reporting

This phase of the project is now underway. A guide is being devised for students. This is being designed to be used at the induction stage of online learning programmes to demonstrate to students what is entailed not simply in being an online learner, but in joining an online learning community. The roles of the various participants in that community will be identified, explained and illustrated in the guide. Brief case studies are being prepared of current and former online learners to enable new students to benefit from the experiences and reflections of their predecessors. A further guide is being prepared for academic staff to provide hints and guidance on creating a sense of community among their learners, boosting participation in group activities and interactions in online modules.

Phase four – Recommendations

The final phase of the project will be to compile a summary of recommendations arising from the project's findings. Academic papers will also be prepared for further conferences, and indeed one paper reporting the project findings to date has already been accepted for presentation at an external conference on professional learning.

In this paper, the focus is on reporting the findings of the preliminary phase of interviews undertaken with academic staff delivering online programmes and students studying in online mode.

4. FINDINGS

To aid reporting an interpretation of the data gathered in the interviews with students and staff, activity theory the project team used activity theory as a starting point.

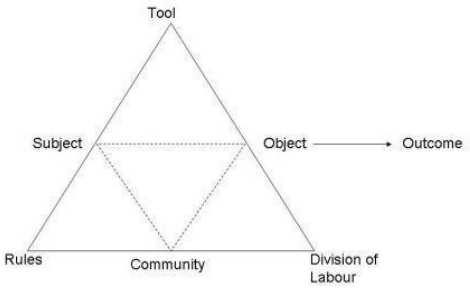
Activities are, according to Activity Theory (AT), at the heart of human behaviour [9]. AT enables investigation of a process as a whole, and has become increasingly popular in recent years in the study of organisations [8]. The roots of activity theory are based in the cultural-historical psychology of Vygotsky [15]. AT can be used to increase understanding of complicated real-life work problems leading to practical and feasible solutions. It can help make sense of a complex activity by unpacking the complexities in a manageable and

meaningful manner [16]. Nardi [12] describes AT as 'a powerful and clarifying descriptive tool'.

The key components in an activity theory framework are as follows:

- Subject(s) – the participants in the activity
- Objects – the goal of the activity which leads to the outcome, or end result, of the activity
- Tools – resources for the subject in the activity
- Rules – guidance regarding what is permitted in the course of the activity
- Community – the key actors - and
- Division of labour – concerned with the distribution of tasks [13].

These components are represented in Engestrom's [3] extension of the Vygotakian triangle [13]. For the purposes of this project, it was deemed appropriate, in line with Levy [9], to adopt the extended version of the AT triangle, as the activity under investigation (online learning) is not an individual activity.



(Source: Engestrom 2000)

Figure 2: Activity Theory Triangle

In the case of this project, the activity is a complex learning environment: online learning, involving the principal subjects students and academic tutors.

The open ended questions, identified by Mwanza [10], and based on the individual components of the AT triangle, were used in the analysis of the data gathered from the interviews and to depict graphically the online learning environment on the second generation AT triangle developed by Engestrom [4]. Mwanza's questions are:

1. Activity of Interest – What sort of activity am I interested in?
2. Object or Objective of activity – Why is this activity taking place?
3. Subjects in this activity – Who is involved in carrying out this activity?
4. Tools mediating the activity – By what means are the subjects carrying out this activity?
5. Rules and regulations mediating the activity – Are there any cultural norms, rules or regulations governing the performance of this activity?
6. Division of labour mediating the activity – Who is responsible for what, when carrying out this activity and how are the roles organised?
7. Community in which the activity is conducted – What is the environment in which this activity is carried out?
8. What is the desired outcome from carrying out this activity?

Figure 3 below shows the preliminary AT depiction for learners in the project sample.

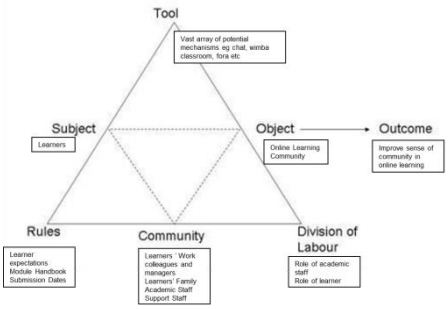


Figure 3: Learner AT representation

Figure 4 below shows the preliminary AT depiction for academic tutors in the project sample.

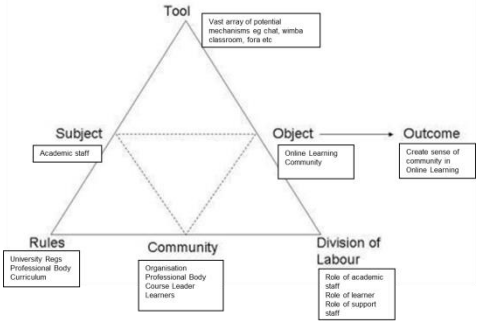


Figure 4: Academic tutor AT representation

According to Yamagata-Lynch, as a result of the nature of the individual components in an activity system, tensions can be created within a system [16]. In examining the data gathered from students and academic staff, exploring the notion of "tensions" seemed a fruitful way of exploring the AT system of online learning in the first instance. In what follows, a summary is provided of the tensions identified for the students and academic staff in the data sample. In the next stage of analysis, the tensions identified by support staff will be examined to enable a more comprehensive depiction of the online learning environment to be produced.

With regard to the students, the following key tensions were identified:

- The variation of practices of the individual module facilitators within each of the modules and across modules. *Learners noted that some facilitation approaches worked well for them, whereas others did not. However, the essence of the tension seemed to be the sense of insecurity created in the learner brought about by differences of approach, rather than by problems with the individual approaches themselves.*
- Lack of clarity regarding expectations of the learner. *This was particularly noticeable in discussion of group-type participatory activities in online modules, suggesting perhaps*

that students were not really sure of the role they should play and level of engagement and interaction expected of them.

- Balancing the use of the wide variety of technologies against the limitations experienced by the learner due to poor internet facilities in their location.
- Balancing the preconceived notions of online learning with the reality experienced. *Here it seems online study had been selected as an option in the belief that it would be convenient, but in practice conflicted with the individual's personality and their need for "community" and human contact when learning.*

With regard to the academic staff, the following key tensions were identified:

- Balancing the ever increasing wide array of mechanisms available against deciding which is the most appropriate pedagogically. One respondent summed this up as: *"There are so many tools and they're always increasing – you feel you have to use them".*
- Discrepancies in expectations between students and staff, and the complexities of formulating agreements or contracts with students to "lay out" appropriate expectations.
- Serving online student needs while fulfilling other duties identified by the organisation. *A number of staff highlighted that online learning requires more time and more careful management than face to face teaching, and that significant effort was required to stimulate discussion between learners and participation in group activities.*
- Balancing the fulfilment of student needs with that of encouraging them to become independent learners. One respondent noted: "*I sometimes feel that I am not so much a teacher as a 24/7 call centre helpline operator". This finding highlighted the fact that staff felt their time was taken dealing with individual queries, to the detriment of their efforts to create "community" with group interactions.*
- Balancing the varying IT abilities of learners against the wide variety of mechanisms available. *"Some of the students have limited IT knowledge and this can be a problem when using some of the more sophisticated tools".*
- Struggles with learner anonymity of online learning and the professionalism of comments made by the learners. *"Sometimes learners can be very impatient and write things in emails they would never say to me face to face".*

5. SUMMARY & NEXT STEPS

Analysis of the data gathered to date is at an early stage. However, initial findings provide some pointers to the sorts of areas that could usefully be covered in the guides to be prepared for students and staff. In particular, the use of the AT triangle has highlighted the importance of "rules" in an online learning environment. Based on the findings examined to date, the project team has identified that there is work to be done on providing a more effective means of clarifying expectations at the start of online learning programmes, and ensuring that these are communicated well and agreed to by all subjects in the learning environment. It was noticeable in the data that staff referred to issues relating to learner communities, whereas the students tended to think almost exclusively in terms of their individual learning and their interaction with their tutor. This suggests there is work to be done to communicate the notion of learner communities more clearly to the students, so that they can benefit more fully from their online learning programmes. With regard to learning technologies, it was clear from the data that staff felt pressured to adopt a wide range of technologies, but were perhaps less clear how these could be used successfully, and had not really developed clear programme design strategies to employ those technologies to best effect. This suggested that there is more scope for staff development in programme design rather than simply technology awareness and usage training.

The next stage of the project will involve more detailed analysis of the data gathered to date, including incorporation of data gathered from support staff; further exploration of the data through the lens of activity theory; comparison of the findings with other studies and relevant literature; and then the creation of guides to support staff and students in their online learning environments.

[1] An, H., Kim, S., & Kim, B. (2008). Teacher Perspectives on Online Collaborative Learning: Factors Perceived as Facilitating and Impeding Successful Online Group Work. Contemporary Issues in Technology and Teacher Education, Vol 8, No 1.

[2] Ardbaugh, J, Cleveland-Innes C, Diaz, S, Garrison, D, Ice, P, Richardson, J, Shea, P & Swan, K (2007) *Community of Inquiry Framework: Validation and Instrument Development*, 13th Annual Sloan-Consortium Conference, 7-9 November 2007, Orlando, Florida

[3] Engeström, Y. (2000) Activity theory as a framework for analysing and redesigning work, *Ergonomics*, Vol43 No7, pp 960-974

[4] Engeström, Y. (1987). Learning by expanding: An activity-theoretical approach to developmental research. Helsinki: Orienta-Konsultit

[5] Garrison, D. (2007). Online Community of Inquiry Review: Social, Cognitive, and Teaching Presence Issues. Journal of Asynchronous Learning Networks, Vol 11, No1, 61-72.

[6] Gorsky, P & Blau, I (2009) Online Teaching Effectiveness: A Tale of Two Instructors The International Review of Research in Open and Distance Learning, Vol 10, No 3

[7] Grau-Valldosera J, & Minguillon J Rethinking (2014) Dropout in Online Higher Education: The Case of the Universitat Oberta dce Catalunya The International Review of Research in Open and Distance Learning Vol 15, No 1

[8] Jones, O & Holt, R (2008) The creation and evolution of new business ventures: an activity theory perspective, Enterprise and Development Vol 15, No 1, pp51-73

[9] Levy, Y, (2008) An empirical development of critical value factors (CVF) of online learning activities: An application of activity theory and cognitive value theory, Computers and Education, No 51, pp1664-1675

[10] Mwanza, D. (2002). Conceptualising work activity for CAL systems design. Journal of Computer Assisted Learning, No18, pp1-18

[11] Mwanza, D., (2001), Challenges of designing for collaborative learning in an organisation. In proceedings of the International Conference on Computers and Learning 2001. CAL 2001 University of Warwick

[12] Nardi, B.A. (1996). Activity theory and human-computer interaction. In B. A. Nardi (Ed.), Context and consciousness: activity theory and human-computer interaction, Cambridge and London, MIT Press, 69-103

[13] Park, S, Cho, Y, Yoon, S & Han, H (2013) Comparing team learning approaches through the lens of activity theory, European Journal of Training and Development Vol 37 No 9 pp788-810

[14] Rovai, A (2002) Building sense of community at a distance, The International Review of Research in Open and Distance Learning, Vol 3 No1.

[15] Vygotsky, L. S. (1978). Mind in Society: The Development of Higher Psychological Processes. Cambridge: Harvard University Press

[16] Yamagata-Lynch, L (2010) Activity Systems Analysis Methods: Understanding Complex Learning Environments, New York: Springer

Lam, W (2004) Encouraging online participation, *Journal of Information Systems Education*, 15(4) pp 335-349

Singh, G., Hawkins, L and Whymark, G. (2009) Collaborative knowledge building process: an activity theory analysis*, The Journal of information and knowledge management systems,* 39(3) pp 223-241

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