An activity theory approach to the exploration of tutors' perceptions of effective online pedagogy

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The School of Education, University of Nottingham (UoN), UK and Beiwai:Online, Beijing Foreign Studies University (BFSU) Beijing, China have been engaged on a collaborative project to develop a generic module for the training of online tutors as part of the eChina-UK programme. This has led to a learner centred approach to the training that provides trainee tutors with a tool that can be used to support them in taking a critical approach to the analysis of the online learning activities. Activity theory has been used as the basis for the development of this online Learning Activity Analysis Tool which supports tutors in analysing and then discussing with their peers the online activities. The online LAAT provides a rich source of data on the tutors' perceptions of effective online pedagogy. This has the advantage over other approaches such as the use of interviews and/or scenarios in that the data is captured in context with the tutors' underlying beliefs about effective teaching and learning being elicited through the use of the LAAT. The paper describes the LAAT, its use within the tutor training module and the ways it is being used to research tutors perceptions of teaching and learning.

Keywords: activity theory, online learning, tutor training, research, pedagogic beliefs

Introduction

This paper is divided into four sections. The first section covers the context in which a tool for analysing online learning activities was developed. The second section describes the development of the Learning Activity Analysis Tool (LAAT) from activity theory and provides some screen shots of the online version. The third section considers the case for the LAAT as a tool for researching beliefs/perceptions of teaching and learning. The final section presents some tentative conclusions.

The context

The School of Education, University of Nottingham (UoN), UK and Beiwai:Online, Beijing Foreign Studies University (BFSU) Beijing, China have been engaged on a collaborative project to develop an online Masters in English Language Teaching for teachers at tertiary level (MA eELT). Details of these Higher Education Funding Council for England (HEFCE) funded developments and the wider eChina-UK programme of which this project was only one part can be found at http://www.echinauk.org/. As part of the UoN-BFSU collaboration and as a result of a user needs analysis of potential tutors for the Masters course it became clear that a 'new' approach to tutor training was needed. This resulted in further collaboration by the partners to develop a generic module for the training of online tutors as part of the eChina-UK programme, funded by the institution themselves together with HEFCE. The rest of this introductory section of the paper sets out the context for the collaborative eEducator training project and the rationale behind the activity theory based approach to online tutor training. This was as a result of the nature of the activity based tutor training conducted by Beiwai Online as well as the need for a generic learner centred approach to the module.

Tutor training in China

The approach to tutor training that exists in China supports the learning and teaching activities in the course and this has been the approach taken at Beiwai:Online for their current programmes. This tutor training programme like many in China involves face-to-face residential training in orienting the tutor to the nature of the course and their role. At Beiwai:Online there is also an online experiential component to the training which involves an exploration of the materials including an experience of using a discussion forum.

The focus of the training is on the orientation of the tutor to the types of activities in which the students are engaged. For example, one tutor training activity involves the tutor in planning a face to face tutorial and another introduces assessment of student assignments. These approaches present models of effective practice, which the tutors then follow as part of a course assignment on which they receive feedback. However Beiwai:Online are moving to compulsory online learning and this necessitates a more radical approach to the tutor training curriculum.

An 'activity based' approach

The UoN-BFSU materials developed for the MA eELT have self-consciously set out to include a wide range of self study, cooperative and collaborative activities which provide opportunities for students to develop as reflexive and autonomous learners using a wide range of learning tools. This experiential context for learning is 'new' for both the student and the tutor and thus demands a focus within the tutor training curriculum on supporting the range of pedagogic approaches used. Each activity will have its own specific demands. Each student and tutor will bring to the activity their own set of expectations and skills which will need to be considered if the outcome of the activity is to be successful in terms of meeting the course expectations and also the expectations of the students who desire a relevant, rewarding, motivating and social experience (Joyes & Chen, 2006). Our dilemma as designers of the tutor training curriculum was that a focus on specific activities that use specific learning tools means that the training programme would not be flexible enough for use across the HE sector. Our solution was to define the curriculum in broad areas, provide a tool for analysis of the online activities and focus on supporting the use of the tool. Examples of supporting activities that might be used with students could also be provided. This approach supports the tutor to develop an understanding of the context for learning in which they and their students are involved and of how to support their students effectively.

Learning activity analysis

This section of the paper describes the use of activity theory as a conceptual framework for the tutor training module and the Learning Activity Analysis Tool (LAAT) that developed from this. Screen shots of the online LAAT are also provided.

Activity theory

The conceptual framework for the tutor training module was provided by activity theory (Leont'ev, 1981; Vygotsky, 1978). Activity theory is increasingly being applied to aspects of technology-supported learning because of its emphasis on the mediation of tools and social factors on human activity. It has been used in the study of Human-Computer Interactions (Nardi, 1996) in research into online collaborative behaviour and distributed learning (Andreassen, 2000; Russell, 2002) and for supporting the eLearning design process (Jonassen, & Rohrer-Murphy, 1999).

Activity theory argues that an activity is composed of a subject, a person or a group engaged in the activity, and an object (the objective of the activity), mediated by an instrument or tool. The mediation can occur through the use of many different types of tools, e.g. material tools as well as psychological tools, including culture, ways of thinking and language. eLearning tools might be an online discussion forum, an online or paper notebook or the study approaches that support effective learning. An activity system (Engeström, 1987) shown in Figure 1 is a way of visualizing the total configuration of an activity. It has a been argued that eLearning activities that involve collaborative learning can be seen as types of learning support and can be represented as an activity system (Merrill, 2002 ; Oliver & Herrington, 2001).
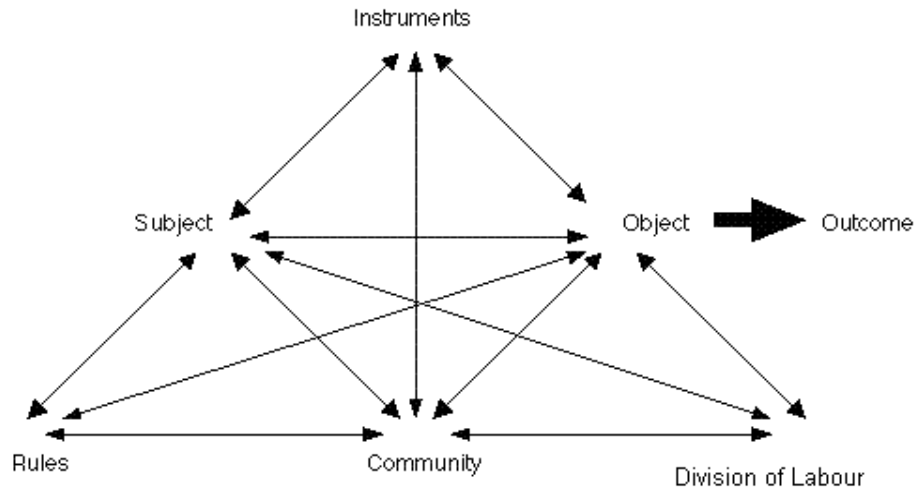
Figure 1: Model of a human activity system (adapted from Engeström, 1987)

Consider the model applied to online learning and the work activity of an online tutor within a course in higher education. The object of this work is to support the student engaged with a particular activity. The outcomes include the intended ones for the students such as ownership of the learning process and successful activity completion i.e. development of knowledge, understanding and skills and associated ones such as skills development. Unintended outcomes such as possible dissatisfaction, non-engagement, tutor-dependence behaviours can have a negative impact on learning. The instruments may include communication tools such as email, discussion fora, which may be used to support the development of understanding and encourage engagement. Other instruments may be diagnostic and pedagogic-related concepts and methods enabling the tutor to develop an empathy for and an understanding of the student within the wider context for learning in which they are working. The community consists of the tutor and their group, but may include other tutors and staff at the institution. The division of labour determines the roles taken on by students and the tutor – some of these will be determined by the institution but some will be additionally negotiated within the learning context. Finally, the rules regulate the use of time, the online behaviours, the measurement of outcomes, and the criteria for rewards (or awards).

The LAAT

The precise nature of each activity component depends upon the context for learning. Any one or more component change results in a disequilibrium that necessitates an adjustment to within the learning context. For example, a new activity may require collaboration and so may need new rules in relation to division of labour, an adjustment in terms of community expectations and new roles may need defining. Additionally in any formal course of study the relationships between the activities will also be important. For example, one activity may rely on skills or content acquired in another. This activity system model provides a preparatory tool for tutors to analyse each of these components for a learning activity. The following Learning Activity Analysis Tool (LAAT) shown in Table 1 has been developed by the UoN-BFSU team to provide a series of questions specific to each component of Engeström's Activity System and is a means of operationalising this.

Table 1: The Learning Activity Analysis Tool (LAAT). Adapted from the 8 step model (Mwanza, 2001; 2002)

Activity component	Support issues
Activity of interest	Is the nature of the activity clearly stated? Is it clear how this is related to other activities? How and when should the tutor check whether the learners have interpreted this correctly?
Objective	Do the objectives need clarifying and how might this be achieved?
Subjects	Who are the learners? What are their backgrounds? How ready are they? Do they currently have the skills/knowledge needed to carry out the activity?
Tools (mental or physical)	Do the learners need support in selecting and using the tools that might be useful to use?
Rules & regulations	What are the cultural norms involved? Is the activity compulsory or optional? Is the nature of the task something the learners would expect to carry out as part of their studies? How can difficulties due to any conflict in expectations be overcome?
Division of labour	Is there a need to support the learners in understanding and carrying out their expected roles?
Community	What is the nature of the learning environment? What are the learners' expectations in relation to community? How can their roles be supported?
Outcome	How will learners know if they have achieved the outcome? How can feedback be provided to support the achievement of the outcome? Is the assessment of the outcome aligned with the nature of the task?

The LAAT, a key feature of the eEducator training module, provides a framework for the tutor to review the learning activity system and so mediate the designed learning experience for the online learners. The LAAT provides the means of matching the designed learning activity to the current context for learning as well as the means by which the trainee tutors are supported in reflecting upon and researching their own practice.

The online LAAT

Tutors can select the LAAT from the navigation in the eEducator training module. They are provided with a choice of reading information about the background to the LAAT and also how to use it and this is shown in figure 2. Having read this 'Using the LAAT' information they can then proceed to select My LAAT from the navigation on the left. When the user selects 'My LAAT' they can view any complete or incomplete LAAT which they can chose to edit. They can also choose to create a new LAAT, at which point they are prompted for a LAAT title which should relate to the learning activity being analysed. Once the title is selected and saved users are prompted to complete an online entry for each of the components (sections in the LAAT), this screen shot is shown in figure 3. Users need to review the learning activity they are analysing whilst they are making their entries and this is facilitated by the fact that the LAAT appears as a pop up window.

Once all sections of the LAAT are complete the user is prompted to enter a summary of their analysis in relation to their understanding of the learning and teaching, the needs of the learner and their views on the nature of support required. On completion of the LAAT the user can then choose to share the LAAT with their peers. Selecting 'All LAATs' in the navigation window allows users to view any LAATs that have been shared. The expectation is that users will then engage in an online discussion with their peers moderated by a 'chair' tutor.
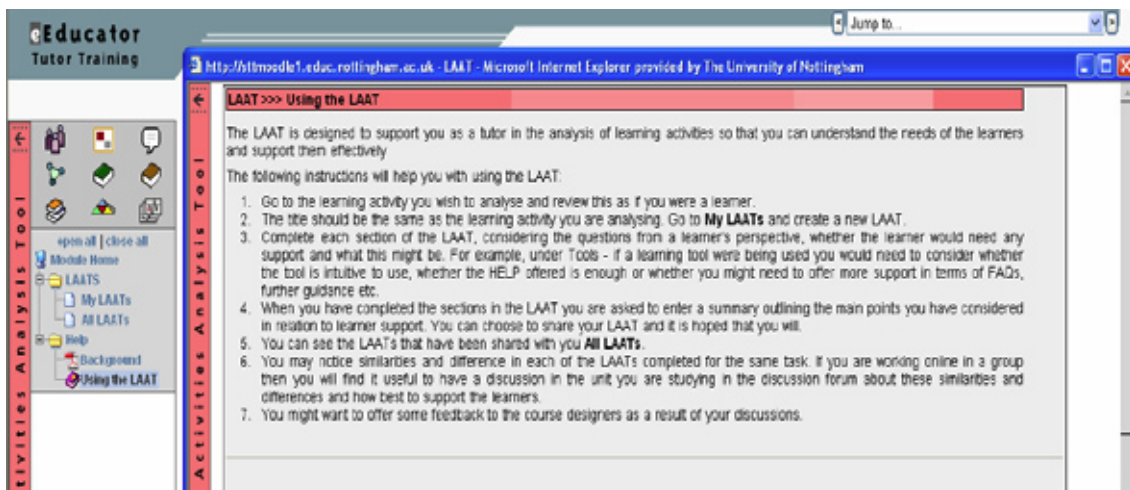
Figure 2: 'Using the LAAT' information screen

Figure 3: Making entries into the LAAT

The use of the LAAT

The third section of this paper provides an example of the ways the LAAT is being used within the eEducator module. A LAAT entry is then shown as a means of considering the efficacy of the LAAT for researching perceptions/beliefs about learning and teaching.

The use of the LAAT in the eEducator module

The following example of the use of the LAAT on the eEducator training module engages the trainee tutors in a discourse around the nature of a group reading task that has been set within one of the introductory units within the MA eELT materials. Users are asked to access this online activity and use the LAAT as a self study activity initially to review it.

The nature of the reading group activity which is presented as a series of video clips of a small reading group together with the transcripts is as follows. An experienced student is seen working with two students and the reading group activity is explained by this experienced student who acts as the chair

person. This involves the students in reading a book chapter and providing a written report on the chapter which they then read to each other. The experienced student then sets the same reading group activity to the online learners who are viewing the online video presentations. The learning design sets out to model good practice in effective reading at Masters level, but it raises a number of issues in relation to what is effective reading and how one might carry out this task with students online. The pedagogic approach is teacher centred and learners are led through the materials without having any overview of the precise nature of the activities or their role in these until they are directed to 'do something'. It is not that clear whether they will be studying alone or interacting with other learners. The following example of the use of the LAAT raises many of these issues.

Table 2 shows a completed LAAT that was produced as part of the pilot of the eEducator module in 2006. This is followed by the summary of the LAAT which was produced as a result of applying it to the reading group activity.

Table 2: A completed LAAT (Title: Reading group activity – completed by Angela)

Activity component	Support issues in relation to the reading group task
Activity of Interest	**Is the nature of the activity clearly stated? Is it clear how this is related to other activities? How and when should the tutor check whether the learners have interpreted this correctly?** Personally I don't quite understand why the reading group is introduced in the course. At the beginning, I thought they wanted to introduce the two books. In the end, I noticed they just gave an example of how to give a book report. If so, the way to do the report was not very clear. Right before the students are asked to listen to the reading group, they need to be reminded the exact purpose of this and the tasks they are going to do after this.
Objective	**Do the objectives need clarifying and how might this be achieved?** Definitely. The objectives should be stated clearly before the reading group starts.
Division of labour	**Is there a need to support the learners in understanding and carrying out their expected roles?** There needs to be a deadline for submitting their reading report I guess.
Community	**What is the nature of the learning environment? What are the learners' expectations in relation to community? How can their roles be supported?** In this activity, learners are asked to send emails to the people who give their report in the video. There is no requirement for them to communicate with each other. Learners can be very lonely. Reading groups can be set up to help build a community. In this way, they share what they've read within their group and get support from their group members.
Outcome	**How will learners know if they have achieved the outcome? How can feedback be provided to support the achievement of the outcome? Is the assessment of the outcome aligned with the nature of the task?** I guess the system will tell the learners they've uploaded their report successfully. They should use the workspace so that they can choose to share it with peers or tutors.

Summary produced after completion of the LAAT shown in Table 2:

> In this activity, learners are asked to watch five video clips in which two book reports are included. They are also expected to write their own reports on any books or chapters they've read. I feel it is important to set it up as a group task rather than asking them to do this individually. Each group can choose a book to read and each member is responsible for one or more chapters. In this way, the reading makes more sense as they understand the book better by discussing and sharing ideas. They also get help and encouragement as well as pressure from each other. What's more, a detailed format of a book report might be needed just in case some learners need help from this aspect (Angela's LAAT entry, 2006).

The use of the LAAT as a research tool

It has been suggested earlier in the paper that data produced in the use of the LAAT has the potential for researching perceptions/beliefs of learning and teaching. The example above provides some evidence for this claim. It appears from the LAAT entries that Angela's approach to learning and teaching is markedly different to the one underpinning the online materials that she was analysing. Angela is a Chinese academic and has some experience of being an online tutor and her emphasis on peer support suggests that she values a community based or a social constructivist approach to learning (Vygotsky, 1978). The apprenticeship approach used in the materials under analysis is heavily teacher led and has resulted in a lack of clarity at the start in relation to any clearly statement of objectives. The assumption appears to be that if learners are expected to go through the materials step by step anyway then they don't need to have an overview of the complete activity and their role in it, until they are ready for this. Angela's entries indicate that she is not in agreement with the pedagogic approach being taken. She is suggesting tools for learning that support learner autonomy, for example she suggests the inclusion of peer support as well as a reading guide to scaffold the learning, in addition to the model of behaviour presented within the reading group. In the outcomes section of the LAAT in table 2 it is suggested that the workspace and peer review be used as part of the learning process and as a way of judging/improving outcomes. The workspace (Joyes, 2006) is an online tool developed by the UoN within the eChina-UK projects as a means of supporting the peer review process. It is worth at this point considering another example of a summary of the LAAT for the same reading group activity and completed by John, who is a UK academic and an experienced online tutor.

'The reading group task provides a model in which the ideas and concepts in the reading are described and then shared. These ideas are related to the students' own experiences, but are not compared to any other ideas or concepts which might be expected at this level of study. Is this model for the task adequate at this level? It could be useful to find out from the students the 'tools' they use to support their reading and reporting and agree upon what the expectations (objectives) are to be and how they might know they have achieved them (outcomes). It might be useful as this group is just forming for us to hold a synchronous video or audio conference to share our reports and hold a discussion about our findings as well as our ways of working. I would check out with the students what they think about these alternatives. An alternative approach would be to just let the task run without any support and then discuss the issues that arise afterwards, but this is probably not the best approach with a new set of students who are going to feel insecure about the learning process.' John's LAAT entry 2006.

The social construction of knowledge is quite explicit in this summary. Reference is made to valuing each learner's experiences and learning approaches and engaging them in a consideration of the nature of the task and the expected outcomes. There is a sense that the teacher centred approach is imposing a rather vague set of expectations of what it means to read and report and that this needs to be explored as part of the learning process itself.

Conclusions

The completed LAATs and the discussion about the learning activity provide a vehicle for the trainee tutors to explore different pedagogic approaches to online tutoring ranging from teacher centred to student centred and provide a means of discussing the nature of effective support within each particular learning context. This paper provides evidence of the efficacy of the use of the LAAT in providing data that can be used to research perceptions/beliefs of learning and teaching. The activity theory based approach ensures that socio-cultural dimensions of learning are considered. A key issue in research into perceptions/ beliefs of learning and teaching is the difference between espoused beliefs and actual practice (enacted beliefs). Richardson and Hamilton (1994) argue measurement and design issues might account for part of the disagreements observed. It may be that differing abilities to reflect on personal pedagogic practice as well as the diverse pedagogic language used by different lecturers and subject disciplines are part of the difficulty. The LAAT provides potential for getting close to understanding beliefs about learning and teaching by focusing on support for learners rather than exploring espoused views in relation to pedagogy.

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