The Role of the Tutor: Preparing Learners to engage in collaborative learning using a Wiki as part of a blend

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Abstract: This paper reports on the role of the tutor in enabling student learning through the use of a blend comprising a Wiki application to supplement class-based learning. Interweaved in the descriptive in creating the conditions to support the collaborative learning experience are the intended consequences arising from the tutor role. These consequences were captured through tutor observations and students reflections in a blog. To this end, learners were prepared for the Wiki learning experience in two ways: in class-based sessions and using the discussion facilities of the University's Managed Learning Environment.

Results of a Wilcoxon Signed-Rank test performed on data derived using a pre and post test questionnaire shows that the tutorial activities set by the tutor provided sufficient knowledge to undertake the group work, the learning materials set helped learners to feel a sense ownership of group work and the online activities prepared learners for the collaborative experience.

Introduction

Pedagogy in this study is defined as the "relationship between teaching and learning and how together they lead to growth in knowledge and understanding through meaningful practice" (Loughran, 2006:2). For learning to occur, learning activities need to be set in a meaningful context which is plausible to the student and presented to engage the student (Canole 2002; Schuell 1992; Biggs, 1999; 2003) and the activities need to be highly authentic, interactive and collaborative (Ring and Mathieux, 2002). Authentic learning places emphasis on learners working in groups on real-world problems relevant to practice (Donovan et al, 1999) to help learners make sense and make meaning of their learning (Duffy and Cunningham, 1996). Dewey (1916) posits that learners learn through engagement with real activities. Thus learners engage in learning when learning activities involve active participation and have meaning.

Collaborative learning provides the opportunity for students to work together on activities in groups, share ideas, and to engage in discussing, problem solving and critical thinking (Dillenbourg, 1999). Thus collaborative learning is distinctive in creating opportunities for learners to work together in groups. Synonymous with collaborative learning as defined by Dillenbourgh (1991) is group learning. Lewin (1951) purports that learners in a group must perceive that each member is responsible for the groups learning as a whole and accept the interdependency between the relationship and the overall success of the group. Social constructivists base their views on Vygotsky (1978) and view learning through participation and dialogue in social contexts (Lave and Wenger, 1991; Wenger, 1998; McConnell, 2004). Social constructivists (Vygotsky, 1978) argue that learners learn by constructing their own knowledge through active engagement and interactions with others. It is argued this is mediated by language in social discourse within a social cultural context.

Community of practice theory is built upon Vygotsky (1978) social learning theory that supports the notion that knowledge acquisition is through participation with others. The community of practice theory further builds upon situated learning theory (Lave and Wenger, 1991) which views learning as embedded within social activity, social context and a social culture. Thus communities of practice essentially practice social learning in social experiences where meaning is constructed and formed through dialogic negotiations with others through

these social experiences within the community of practice. These negotiated meanings are formed through participation where participators actually take part and relate to others in the community of practice.

My experience as a tutor has lead me to see the learning environment, whether online or offline, as one that is reciprocal and organic; growing and developing collectively with learners over time. This is based on practice and lessons learnt in the School of Computer Science at the University of Hertfordshire in the United Kingdom (Doolan, 2006; 2007a; 2007b; 2009; 2010). Table 1 summarizes this approach which encompasses the conceptual framework deeply rooted in this work. Mindful that learners are not experts in theory and the practice of curriculum design and pedagogy, my emphasis as a tutor is on learning collaboratively through reciprocal participation, providing flexibility for learners in terms of how, when and where learning occurs whilst nurturing teacher-student, student-student and student-teacher relationships.

	Acquisition	Participation
Goal	Individual enrichment	Community building
Learning	Acquiring facts Surface Approach	Participant Deep Approach
Student	Receiver	Peripheral participant
Tutor	Instructive, Expert	Social Constructive Dialogue partner
Knowledge	Possession 'Fountain of knowledge'	Aspect of practice 'Shared knowledge'
Knowing	Having, possessing	Belonging, participating

Table 1: Tutor relationship learner centric adapted from (Coffield, 2008: 7)

The Study

The study took place on an Information Systems Development course taken by second year undergraduate learners studying in Computing. The course is built around information systems case studies to provide learners with an insight into realistic company environments. The overall aim of the information systems development course is for learners to develop their skill in all stages of developing computer-based, user-friendly information systems. The study focuses on the preparatory activities intended to support group based assessment where learners were required to use a Wiki whilst working in groups of six on group and individual assessed activities. The primary motivation was to ensure learners were prepared for the collaborative learning experience. Interweaved in the descriptive in creating the conditions to support the collaborative learning experience are the intended consequences arising from the tutor role. These consequences were captured through tutor observations and student reflections using a blog. To this end, learners were prepared for the Wiki learning experience in two ways: in class-based sessions and using the discussion facilities of the University's Managed Learning Environment.

Discussion facilities

From the beginning of the Information Systems Development module the discussion facilities embedded in the University's Managed Learning Environment were used by both the tutor and learners to extend the class based dialogue and to promote an ethos of collaborative/community learning environment. Initially the use of the discussion facilities was facilitated by the tutor twice weekly on a Monday and a Wednesday. Monday was chosen to give learners time to reflect on work undertaken in the classes that took place on a Thursday; Wednesday was chosen so that concepts could be taken forward into the classes on Thursday. In this way any misconceptions arising in the discussions could be clarified. However, as learners gained in confidence and it was evident to the tutor they were responding regularly to peers, the tutor commitment lessened. This said, during the assessment period the tutor facilitated the discussion facilities once again on a twice-weekly basis as before and more regularly nearing the submission deadline. The time resource was limited given, overall, the learners themselves responded to postings. In general the postings made by learners around the assessment deadline were targeted at group members for housekeeping, such as to look at the Wiki for the latest update on activity undertaken.

In this way, the tutor observed how the questions asked in class were made visible to others. Learners practiced and consolidated the concepts introduced. Using the discussion facilities in this way afforded the tutor the opportunity to reaffirm the learning outcomes in a safe learning environment. This reduced the tutor time spent with individual questions as the assessment progressed. It was clear to see that the students' confidence levels were increased by providing a safe and sheltered environment within a class based setting to air any misconceptions. In this way, the ethos of collaboration was promoted.

From the outset of the module, using the discussion forum in this way was intended to help learners with the transition to the Wiki learning environment for the assessment. It was important to this study that the face-to-face approach with the online learning approach was carefully designed into the module as this was intended to maximize the learning opportunities provided by each approach (Doolan, 2006). This was supported by the tutor and presented in the following sections.

Introductory face-to-face sessions

The introductory face-to-face sessions were set up by the tutor with the intention of ensuring that learners were adequately briefed and understood the requirements of the learning activities; the lecture room was the most appropriate setting for introducing the online Wiki environment through a live demonstration. In this way it was intended to address the cohort of learners and respond to feedback from learners and to address any potential problems. Following on from the introductory lecture, a tutorial/seminar was used to take learners onto the next preparatory stage. Both the lecture and tutorials created a student-teacher interaction experience as the tutor approach is student centric and predominately interactive.

In a lecture and through other mediums, the tutor constantly sought feedback on using the discussion facilities and class-based practice to feed forward into online and class-based practice. For example at the beginning of a lecture learners were prompted by the tutor to write one good thing and one not so good thing about practice thus far. The tutor provided a feedback box for learners to post comments, compliments and concerns on any aspect of practice as they left the lecture room. This practice was continuous and on-going from the beginning of the module.

The tutor observed the impact on the learners. Firstly, learners' provided valuable comment/feedback on the use of the online discussion forum. Secondly, the majority of learners requested additional online learning activities and for these to be facilitated. Thirdly, learners requested that the tutor oversee the discussion forum on Friday and Tuesday. Learners chose Friday as it was the day after the lecture and Tuesday because, learners said, they engaged in study over the weekend. Fourthly, such feedback continued a dialogue between all parties where the tutor was seen as responsive and supportive. Learners have reflected on this practice *"Having set days when we know that you are going to be looking at and answering our questions really helps and means that we can be sure of resolving our problems"* (S8). Fifthly, learners constantly demonstrated their active

engagement with the discussion facilities by reading and responding to others postings and trying out the activities posted online. Sixthly, learners tried out the learning activities in offline settings, i.e. at home and using the module textbook. By obtaining this informal feedback in a continuous evaluative way the tutor is in a position to respond in time to learners thus promoting dialogue between learner and tutor and tutor and learner in Laurillards (1999) conversational framework. Seventhly, this continues the ethos of collaborative/community learning necessary to promote social learning important in the tutors practice as illustrated in Table 1.

Introducing group members in class

To help support group dynamics (Lewin, 1951) and a sense of belonging (Wenger, 1998) in this study the tutor scheduled time into the learning plan to introduce group members prior to the collaborative experience. This introduction was over a one-week period and took place in two lectures and two tutorials. In this way, the time period was able to include all learners. The tutor used a class list to derive the groups and used this group list during the group-based sessions in the lectures and tutorials. Individual group members were introduced to their group of six and encouraged to get to know each other. In this way, it was intended to help the group to socialize, build a group dynamic and increase their understanding of the complexities of communicating and interacting online. This was supported by activities in the tutorials as set out below. Learners discussed the pros and cons of online communications and interactions. Introducing group members in this way the tutor observed the following consequences:

1. Learners got to know each other before going online.
2. Learners built a rapport; there was evidence of joke-making and working on task.
3. Two learners requested to change group due to cultural differences amongst the group members.
4. The tutor could follow up by email on any members missing from class and make the introduction to the group.
5. This helped build a rapport between learners and with the tutor.
6. Reaffirmed the community/collaborative ethos for learners and tutor.

Varying tutorial activities

Learners were prepared for the Wiki experience during tutorials. A tutorial group consisted of thirty learners although generally activities during tutorials were conducted in groups of (usually) six members. This was to help learners to develop group-work skills and to develop an ethos of collaborative working and learning. On a weekly basis, where possible, students worked in different groups to reinforce topics introduced in lectures and to help learners reaffirm concepts and, in addition, to help learners further their development of group skills such as working and relating to different people in order to enhance learners' communication skills. The group activities were set to promote active engagement and activities were set to promote the sharing of different knowledge and understanding of material. The material was generally delivered in lectures that were directly followed by the tutorials. There were two tutorial groups, given the cohort of learners. Learners were allocated to a tutorial group using a class list. The tutorials promoted the concept of learning in groups. The class-based activities set by the tutor included simulated on-line activities, providing hints, tips, prompts, comments, explanations and preparation for the individual and group online assessed activities and tasks. Because of the nature of the subject and the need for a critical understanding of concepts and methods delivered during the lectures, learning activities set in tutorials were often practical. Demonstrating a level of ability in analysis and evaluation whilst demonstrating an ability to work and relate to others in a team environment was crucial for learners studying the Information Systems Development course and experiential learning approaches provided links with industry.

Simulated interactive exercise

Learners were supported with the transition from face-to-face into the Wiki collaborative environment through a simulated interactive exercise that took place in a tutorial. This involved providing the learners with a

group based problem to solve, using a large piece of white paper to replicate an online Wiki page, some post-it notes, a pen and instructions not to talk as they complete the task. Doolan (2007) showed how this approach provided a simulation of an online asynchronous environment that supported learners in the transition to a Wiki environment. Learners wrote on the post-it notes and attached these to the white paper, thus simulating contributing to the Wiki. During the activity, the tutor observed how learners engaged with each other and gained in understanding of how learners negotiated their meanings. It was clear that learners came to a consensus and agreed how best to complete the task. The learners made problem-solving skills visible to the tutor.

Following the simulated interactive exercise, the learners were encouraged to talk and discuss the advantages and disadvantages of working in an online environment. The tutor observed how learners articulated their need to provide clarity whilst online. Learners realized the importance of planning for online engagement. Learners articulated the need to share information within the group and identified the importance of team working and the need to communicate effectively within the team in order to achieve. These were important observations for the tutor as it was clear learners demonstrated that they were making the connection between the syllabus for learning and their collaborative assessment.

Learners additionally showed that they understood the importance of team working as a life skill. It is important for learning that learners make this connection and see a purpose for engagement in learning (Canole, 2002). This was also important to promote group dynamics (Lewin, 1951), the formation of relationships (Wenger, 1998), for mutual engagement (Wenger, 1998) and the need for interdependence (Lewin, 1951) between individuals to complete tasks. Overall, to promote learning, it was important for learners to view their place in the overall success of the group and cohort.

Instructions - online based documentation

Learners were provided with instructions both on paper and on the Wiki pages. In this way the learners had a reference with permanent access as learners completed the assessment. This was important to provide an opportunity for learners to add the learning materials to their private group space and for this to be made simple by creating links within the online learning environment. In this way this was intended to provide a facility for adding annotations and other content to the learning materials as learners progressed through the learning activities. This was also intended to provide a learning resource for learners to continually review their own and peers progress and feed forward for use in learning designs for subsequent years. This was important to the tutor as learners are perceived as a valuable resource and as co-producers of content (McCulloch, 2009).

Familiarizing learners with the Wiki tools

Time was set aside by the tutor to put the learners into groups for the assessment, generally groups comprised of six members chosen randomly from a class list. This time was further intended to ensure that learners had time to become familiar with the Wiki tools given they would use this to support the undertaking of the assessment. The tutor found that some students had experience of using a Wiki. This created an opportunity for a group of learners to form a "Wiki-support" group to engage in the redevelopment and upkeep of the Wiki learning environment. This group offered support to the tutor by acting as consultants to the tutor; this was especially helpful given their knowledge of social technologies and background in computers. The tutor observed how learners continuously added their technical expertise to the development and management of the Wiki. This allowed the tutor to then step back, after the assessment was underway and the supplementary learning materials were uploaded to the Wiki and distributed to learners. The face-to-face introductory session, under the guidance of the tutor, was not only intended to introduce the Wiki learning environment but also to help learners understand the assessment requirements of the five associated learning activities. In this way, the tutor carefully prepared learners for the online collaborative experience. To this end, the tutor's role was front-loaded in terms of committing time upfront to the development of the learning design.

Data Gathering

In addition to qualitative data derived from the tutor observations and student reflections captured using a blog. Quantitative data came from a pre and post test questionnaire which was undertaken one week prior to the start of the study and one week after completion of the study in an attempt to measure the learner attitude and impact of the tutor role. 44 (73%) out of 60 students responded to both the pre and the post test questionnaire and a Wilcoxon Signed-Rank test was performed to determine whether there was a significance difference between the responses.

The questionnaire was distributed during a taught lecture using an EDPAC answer sheet and results were fed through an optical mark reader. The questionnaire was designed using a Lickert type response 'A' to 'E'. Where 'A' indicates 'Strongly Agree', 'B' indicates 'Agree', 'C' indicates 'No View', 'D' indicates 'Disagree' and 'E' indicates 'Strongly Disagree'.

Findings and Discussion

The results are shown in figures 1-3 below. 'SA' indicates 'Strongly Agree', 'A' indicates 'Agree' and classed as 'Positive Responses' 'SD' indicates 'Strongly Disagree' and 'D' indicates 'Disagree' and classed as 'Negative Reponses.

Results indicate a more positive attitude following the group work experience that the tutorial activities provided during the preparatory stage such as the online simulated activity set by the tutor and undertaken by learner groups during tutorials prior to the group work experience (as described in this paper) provided sufficient knowledge to undertake the group work z = -2.21 N = 44 p = 0.03 as illustrated in figure 1.
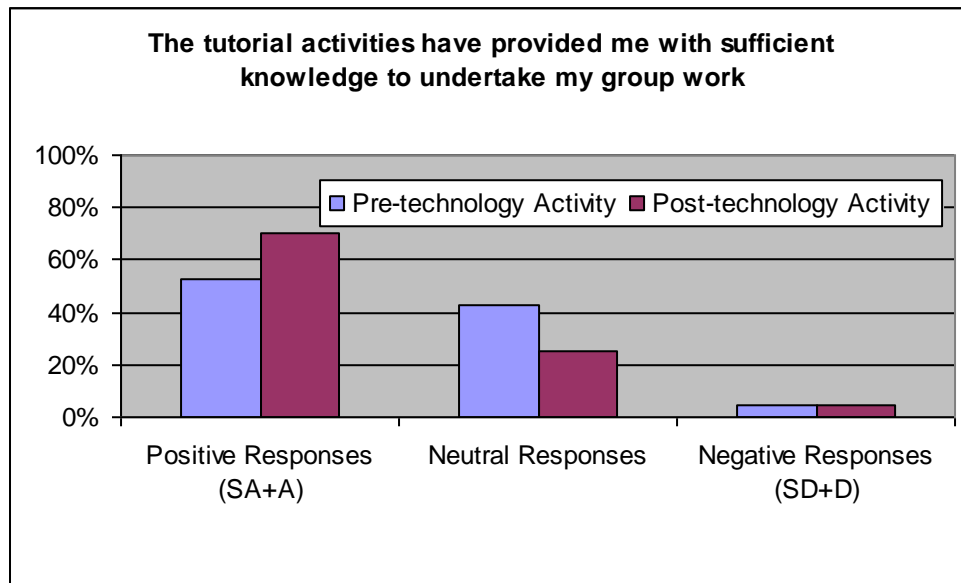

Figure 1: The tutorial Activities

The introductory class-based activities were set by the tutor to engage students in simulated on-line activities, providing hints, tips, prompts, comments, and explanations to prepare students for the individual and group online assessed activities and tasks. Findings suggest that the students felt adequately prepared by the tutor to work in the online Wiki environment to support their group based assessment. These findings further suggest that learners were supported with the transition from face-to-face into the Wiki collaborative
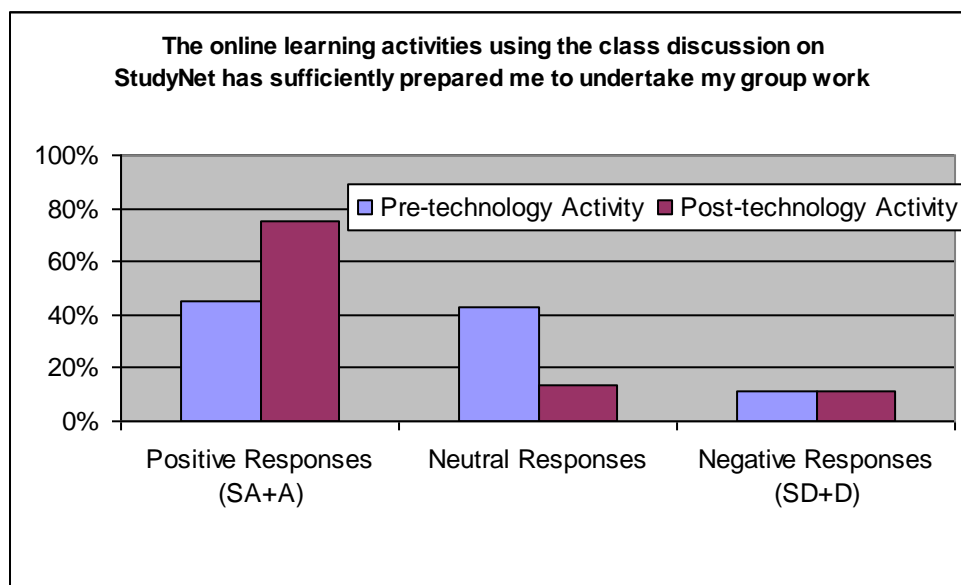
environment through activities such as the simulated interactive exercise that took place in a tutorial.

Results from the Wilcoxon signed test illustrated in figure 2 show learners with a more positive attitude that the learning activities set helped them to feel a sense ownership of group work $z = -2.56$ $N = 44$ $p = 0.01$. This refers to the varying learning activities set by the tutor and used in the tutorials to prepare learners for the Wiki collaborative experience. These results are in keeping with the tutor teaching philosophy empowering students to take responsibility and ownership of learning helping to build on each other's knowledge and skill base in addition to the learning materials provided by the tutor.

The learning activities set help me to feel a sense of ownership of my group work

□ Pre-technology Activity ■ Post-technology Activity
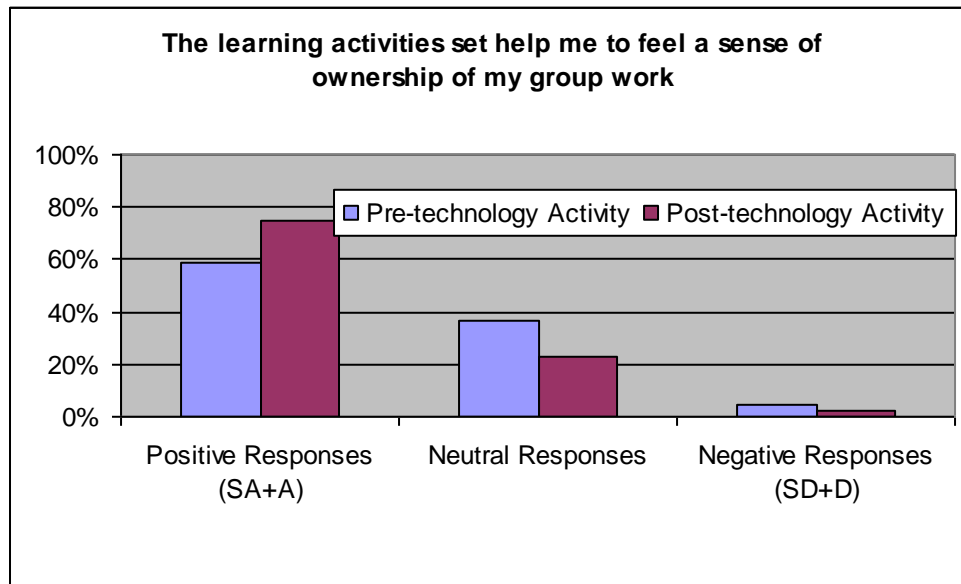
Figure 2: Ownership and group work

Finally, the results show a more positive attitude towards the online learning activities which were designed to prepare students for the group experience $z = -2.21$ $N = 44$ $p = 0.03$. These activities formed part of the preparatory stage designed by the tutor to prepare learners for the online social networking experience.

The online learning activities using the class discussion on StudyNet has sufficiently prepared me to undertake my group work

□ Pre-technology Activity ■ Post-technology Activity

Figure 3: Using the Class Discussion in preparing students for group work

The discussion forum was used to extend the class based dialogue and learning tasks as described in this paper. On a weekly basis tasks were provided on the class discussion by the tutor and set to encourage learners to seek, find, share, work and relate with each other. The concept of students as a valuable learning resource was utilized. The tutor was available to respond to postings twice weekly and postings contributed by learners were discussed during the preceding tutorial sessions, this appeared to encourage students to contribute further postings, enabling the tutor to step back over time. This seems to have helped students prepare for the group work and the co-constructional approach using Wiki; one that sees the tutor less as an expert and more of a supporter of learning by preparing the students for the online social networking learning experience using the Wiki to support group based assessment.

Conclusions

This paper set out the preparatory activities as part of a learning design necessary to prepare learners for using a Wiki technology as part of a blend supplemented by class based learning. The learning design described a clear role for the tutor in preparing campus based learners with the transition to an online Wiki learning environment when used as part of a blend to support collaborative learning through assessment.

Results from the Wilcoxon signed tests performed on the data derived from the student pre and post test questionnaires showed the impact of this practice on student learning. The learners rated the tutorial activities set by the tutor as positive. These findings suggest that the learning activities designed by the tutor to prepare learners for the Wiki based collaborative experience provided learners' with sufficient knowledge to undertake the group work. Additionally, learners showed a positive attitude that the learning materials provided by the tutor helped learners to feel a sense of ownership of their group work. The results further indicate that learners were satisfied that the online learning activities using the discussion facilities provided on the institutional Managed Learning Environment were appropriately designed by the tutor to prepare learners for the collaborative experience in particular to encourage ownership of the group work.

Tutor observations and reflections of practice highlight lessons learnt from undertaking this practice. For example the use of the discussion facilities afforded the tutor the opportunity to clarify misunderstandings of subject material and to bring these forward into the class for further discussion and clarification. It also became clear that students grew in confidence posting and responding to questions posted by their peers. Such insights enabled the tutor to respond appropriately in this case to reduce the time spent on moderating posts thus empowering students to take ownership of their learning.

The rapid pace of the emergence of technologies such as Wikis raises a number of pedagogic challenges and opportunities for academics and staff developers. If we are to meet the expectations of current learners it is important for practitioners to be provided with opportunities to continuously update themselves with the increasing possibilities that these technologies afford in the education sector, and their potential to enhance knowledge development and transfer and support for collaborative/community learning. This paper is intended to support other practitioners in helping to meet the pedagogic challenges and opportunities. Particularly, to support colleagues with preparing learners to engage in collaborative learning experiences using technologies such as Wikis.

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