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Using wikis for collaborative learning of technology

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ABSTRACT

This paper reports on a project to evaluate students' use of wikis in a distance learning course on information and communication technologies. The students, who were already familiar with discussion forums, were offered the use of wikis for some of the online tutorials which form part of the course. They were then asked for feedback via an online questionnaire. Students' comments show that they valued the chance to use a wiki and could see its benefits for collaboration. However, they also raised concerns related to usability and to issues of editing each other's work.

Keywords: Pedagogy, Online learning, Wiki, Student collaboration

1. INTRODUCTION

The UK Open University course T175 *Networked living: exploring information and communication technologies* makes considerable use of online tools to support students' learning. In particular, the course adopts a 'blended' approach to tutorial provision, with many of the tutorials consisting of pre-designed online activities. Until recently, these online tutorials were carried out mainly via discussion forums, using the *FirstClass* system. However, the development of the Open University's Virtual Learning Environment (VLE) has provided opportunities for students to gain experience of other tools for collaborative learning.

This paper reports on a project to evaluate the use of the Open University's VLE wiki facility instead of FirstClass discussion forums for the T175 online tutorials. The tutorials were not redesigned for the project, but modified instructions and resources were provided to students by their course tutors. Students' use of the wiki was evaluated using an online questionnaire at the end of the course. This provided both quantitative and qualitative data on students' perceptions of the wiki, and allowed comparisons to be made between using the wiki and using a forum.

2. RESEARCH APPROACH

Nine course tutors took part in the project. They had 161 students between them at the start of the course and 111 at the end (nine months later). Most of the participating tutors offered the VLE wiki as an alternative to a FirstClass forum for the online tutorial in the third block of the course. Several tutors also offered the wiki for the online tutorial in Block 4 (the final block of the course)

For the Block 3 online tutorial, students worked in pairs, allocated by the tutor. Each student wrote an entry in the wiki, explaining how he/she had fulfilled one of the block's learning outcomes. Students provided constructive feedback on their partners' entries, by adding further contributions to the wiki. Each student then used the feedback to improve their initial entry, which they submitted as part of the assignment for the block.

For the Block 4 online tutorial, the student group evaluated a selection of three websites. Each student wrote an evaluation of one site and posted this to the wiki. As students carried out this task, the wiki built up into a set of evaluations of the websites. Using the wiki as a resource, students then wrote a comparative evaluation of two of the websites and submitted this as part of their block assignment.

At the end of the course an online questionnaire, containing both open and closed questions, was made available to all students who took part in the project. 54 students completed the questionnaire (a response rate of 0.49).

3. RESULTS

Quantitative data from the questionnaire

For each of the two online tutorials, the questionnaire asked students whether they were offered the wiki, and whether they had chosen to use it. The results, given in Table 1, show that a smaller proportion of students chose to use the wiki in the Block 4 tutorial than in Block 3.

Table 1. Proportions of respondents who chose to use the wiki

	Block 3 tutorial	Block 4 tutorial
Respondents who were offered the wiki for the tutorial	52	41
Respondents who used the wiki for the tutorial	44	23
Percentage use	85%	56%

Students who had used the wiki were asked to express their views on the experience by agreeing or disagreeing with a number of statements. The statements and responses are summarised in Table 2, with the figures given as a percentage of the respondents who used the wiki for that tutorial.

Table 2. Respondents' views on using the wiki for the online tutorials

	Block 3 Tutorial	Block 4 Tutorial
Enjoyed using the wiki	73%	57%
Found it confusing having others edit what respondent had written	9%	0%
Felt irritated when others changed what respondent had written	16%	17%
Did not feel happy about editing other people's work	30%	9%
Found adding new material to the wiki easy	70%	48%
Found it difficult to add new material to the wiki	16%	22%
Never really mastered adding new material to the wiki	14%	9%
Prefer to use FirstClass forums to collaborate with others in my group	52%	52%
Wikis are a good idea, but OU system difficult to use	50%	43%
Don't think could ever be comfortable using a wiki	9%	9%

As Table 2 shows, for the Block 3 tutorial a large majority of respondents enjoyed using the wiki. For the Block 4 tutorial this decreased to just over half, possibly because the novelty value had reduced.

In Block 3 a small proportion of respondents were confused or irritated when others edited what they had written. In Block 4 the confusion disappeared, but the irritation remained. In Block 3 almost a third of the respondents were unhappy about editing other people's work, but by Block 4 this concern had reduced.

The remaining data in Table 2 suggest that some students found the wiki difficult to use, and this difficulty did not reduce with time. For both online tutorials, just over half of the respondents indicated that they preferred using FirstClass forums for collaboration.

Students were asked a number of questions comparing their experience of using the wiki with their experience of using forums. Figure 1 illustrates students' responses to questions on three aspects of usability:

- time to learn;
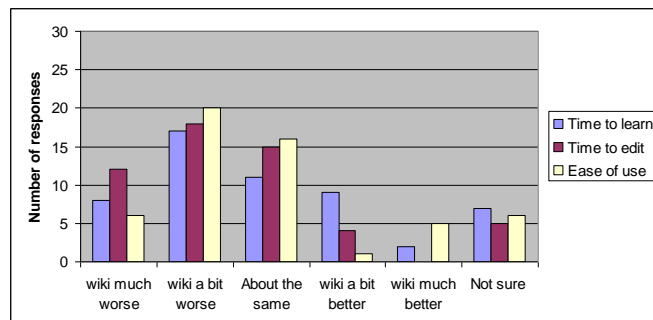- time to edit and post contributions;
- ease of use.

Figure 1. Respondents' perceptions of the wiki in comparison with the forum

In Figure 1, more responses lie to the left of the 'about the same' mark, suggesting that students' perceptions of the wiki were less favourable than their perceptions of the FirstClass forum. These findings may partly be caused by students' familiarity with FirstClass. However, the findings also suggest that, at the time of the project, usability aspects of the wiki needed to be addressed.

Qualitative data from the questionnaire

Qualitative data was obtained from students via open questions in the questionnaire, asking for :

- students' comments about using the wiki;
- their views on whether they would use the wiki again.

The main areas of comment were as follows.

Enjoyment and value
Several students gave positive comments on using the wiki. They found the experience interesting and enjoyable.

> "Yes I'd use it again. It was good fun to edit other people's work and contribute to a group produced document."

Other positive comments related to organising and presenting ideas, and communicating them to others.

> "Yes I would use the wiki again as I thought it was a really good way to get ideas and thoughts organised."

Usability problems
Where students had a negative view of the wiki, this was mainly because of usability issues or lack of functionality.

> "Yes I'd use it again, but it's not an easy system to use."

Social discomfort

Some students felt concern about the 'openness' of the wiki. They were not happy that others could edit their work and that they could edit the work of others.

> "I would not use it, it is not secure enough for me. I felt it was too open allowing anyone to modify it without my knowledge"

Collaborative working

There were a number of comments related to lack of participation in the online activities. Although this issue applies to any collaborative work, characteristics of the wiki may have discouraged some students from participating.

> "I found the Wiki very impersonal and tended not to use it for anything other than the tutorial."

However, some students commented on the value of wikis for collaboration.

> "They make it easy to collaborate jointly on documents which has always been a bit of a logistical nightmare."

Further requirements

A number of students pointed out specific facilities which were missing, and which they felt were needed. In particular, students wanted to know when a new contribution had been added, and who had viewed contributions. These facilities were familiar to students from their use of FirstClass forums.

> "No immediate way of knowing if new messages are present, without opening the Wiki up and searching all the headings - time consuming. No history - can't see who is present, who has read the messages - very frustrating."

It is likely that prior use of FirstClass influenced expectations of the wiki. Some students may have preferred FirstClass because they were already familiar and comfortable with it.

4. DISCUSSION AND CONCLUSIONS

The findings of the project show that students valued the opportunity to use a wiki, and most students enjoyed the experience. However there were usability problems, which were frustrating to students. Since the project, considerable improvements have been made to the usability of the wiki.

Some of the students were concerned about the prospect of editing each other's work. This is a common issue (Wheeler et al, 2008, p. 992, Hemmi, 2009 p. 28) and is not entirely restricted to wikis: students often express concern when asked to critique each other's work. However the environment of the wiki can make this more of a problem because of the lack of clear ownership of the group contributions, and the facility for users to change each other's words. This can cause frustrations for some students, who may feel that their own work is no longer represented in the wiki. To alleviate these problems, it is important for learners to discuss the roles and 'etiquette' that they will use in their collaborative work via wikis. This process in itself can be a valuable experience (Vratulis & Dobson, 2008 p. 291). Indeed the students in this project gradually became more comfortable with the idea as the work progressed. However, the issue needs consideration, particularly when contributions to a wiki form part of the course assessment.

As mentioned earlier, the online tutorials used in this project were designed for use with FirstClass forums, rather than with wikis. Translating these activities for use with a wiki may therefore not give an entirely fair comparison of the two technologies. Nevertheless, the project has contributed to an improved understanding of the different affordances of forums and wikis. It has highlighted issues that needed to be addressed (and subsequently have been), and has explored how the wiki could be developed for the future.

5. REFERENCES

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