THE RELATIONSHIP BETWEEN THE PERCEIVED VALUE OF SUPPLEMENTARY ONLINE COMPONENTS, AND STUDENT ROLES AND RESPONSIBILITIES

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Abstract

Online delivery is becoming more widely used to enhance face-to-face provision within the tertiary sector. What is the value of such supplementation in the learning process? This notion of value is explored through examination of the responses and online output of over 50 students involved in two 3rd year units, each of which used online supplementation. These responses and output are then analysed within teacher-centred and student-centred models of teaching. The findings suggest that the level and amount of self-directed learning undertaken by the students in the supplementary online component is related to the approach to teaching and learning adopted by the lecturer.

Keywords

student-centred teaching, self-directed learning, online supplementation

Introduction

Universities throughout Australia are embracing the call for increased flexibility in learning through the provision of online course delivery. Online delivery can include various types of provision including: that ranges online that supplements to face-to-face or print-based provision; that substantialy replaces replacement of part of a face-to-face or print-based course and online provision that is that which is the primary means of course delivery (Harasim, Hiltz, Teles & Turoff, 1995). In many courses in Australia, a supplementary provision is used. In what ways can this supplementation provide added value to face-to-face teaching?

In examining the value of any online mode of delivery, it is important to consider some universal principles that underlie teaching and learning, and their subsequent implications in practice. Teaching, in whichever mode, should aim to improve the quality of student learning, where learning is defined as developing increasing levels of understanding including basic knowledge acquisition, application, integration of ideas, abstraction of meaning, and ultimately reconceptualising and viewing the world differently (Gibbs, 1992). A major pedagogical approach to improving student learning is that of "student-centredness" and one of the claims made of online provision is that it is "student-centred" (Berge & Collins, 1995; Kearsley, 2000)

However, to be student-centred in any mode of delivery, certain teacher and student behaviours need to occur. For the teacher, these include organising the subject matter and assessment so that:

- they have relevance and meaning for the learner;

- students can become involved in their learning; and
- the teacher can facilitate learning at all levels (Brandes & Ginnis, 1986).

For the learner, there are also responsibilities. These include:

- taking ownership of the learning; and
- participating (Brandes & Ginnis, 1986).

In the face-to-face context, student responsibilities and management of their time can be carefully supported and scaffolded by the teacher. But with the flexibility offered by the online environment, students need to be far more self-directed in the responsibility they take for their learning. Depending upon the course and materials, they need to be able to independently:

- decide what knowledge and skills they need to learn;
- locate suitable materials;
- adopt those learning strategies that help them to better understand;
- find time for learning; and
- decide where they will learn (Merriam & Caffarella, 1999).

How does the online medium rate in terms of students and their learning? In examining the literature, the rhetoric varies. Learning through online media has been reported to provide several learning advantages, particularly for distance education students by providing them with the ability to discuss and share ideas – a collaborative learning process previously not available to this group of students (Eastmond, 1995; Harasim et al., 1995; Singletary & Anderson, 1995).

As an adjunct for face-to-face courses, it has been argued that online components in a course can alleviate the time pressures arising from students' work and family commitments which can affect their ability to attend classes (Franklin & Peat, 2000) by providing student-to-student and student-to-lecturer communication outside of normal classroom hours (Harasim et al., 1995). Despite enthusiastic reports of online advantages to learning, however, as Oliver (2001) points out, several studies have found no difference to learning outcomes whether or not online delivery is used as a supplement to face-to-face. These differences in the literature led us to ask the following questions. How much of the learning success and the perceived value of online delivery is determined by the level and types of responsibility taken by the students? What relationship does that responsibility have with the online experience provided by the lecturer? To address these questions, we decided to explore this idea of the value of supplementary online delivery through examining students' perceptions and output in comparison with the learning environment and intentions of the lecturer.

Methodology

As part of a larger study, this paper examines the perceptions and output of two 3rd year units where the online component was part of an integrated approach to teaching. This approach included face-to-face lectures, face-to-face tutorials/ laboratory time and online delivery. The units, focussing on systems and software development, were part of a managing information systems degree programme and were conducted by the same lecturer. The units had both similarities and differences in the use of the online components.

In both units, A and B, the students had a weekly two-hour lecture in which the major points of each topic were introduced and a variety of problems were discussed. In addition, the students were required to attend tutorials that which were conducted in a computer laboratory. There they answered tutorial questions and gained practical skills in systems and software development. Table 1 shows the points of assessment for unit A and their due dates, and Table 2 shows the same for unit B.

Assessment	Weighting	Due date
Tutorial tasks	10%	Task 1 – week 3 Task 2 – week 6 Task 3 – week 7 Task 4 – week 9 Task 5 – week 10
Assignment 1	15%	Week 5
Assignment 2	25%	Week 13
Final Exam	50%	

Table 1: Unit A Assessment points and weightings

Assessment	Weighting	Due date
Tutorial questions	10%	Tutorials 1 – 5 due week 6 Tutorials 6 – 10 due week 11
Assignment 1 (essay)	10%	Week 5
Assignment 2 (group proj)	30%	Week 12
Final Exam	50%	

Table 2: Unit B Assessment points and weightings

Several aspects of both units involved online components which that were made available to the students through WebCT. Available online were the course outline, the lecture overheads, the lecture guide, links to other sites, the tutorial activities, a sample exam paper, an email facility and a bulletin board. The differences between the units with regard to the online components lay in their use of the bulletin boards. In unit A, bulletin board discussion was not required as part of any of the assessments, though several fora were provided for student interaction and questions: a main forum, FAQs, sample exam discussion, tutorial discussion, lecture guide exercise discussion, and assignment discussion. The students were encouraged to use these to discuss any problems. Contributions were not compulsory and did not attract any marks. In unit B, similar fora were available for the same purpose. One forum, however, was a compulsory part of the first assignment and thus contributed to the final mark. As part of this assignment, the students were required to post one unique question in relation to the assignment topic and were to answer one other student's question.

Students' perceptions of the value and the use they made of the online components were ascertained through a written questionnaire (see appendix I). The questionnaire aimed to ascertain:
- which of the online components the students accessed;
- reasons for choosing to access (or not); and
- their perceptions of the usefulness of the bulletin board to their learning.

These perceptions were then related to and compared with:
- an examination of the online components, including the contributions to the bulletin board fora; and
- the lecturer's intentions.

The lecturer's intentions for the use of the online components in the teaching and learning process were ascertained through a semi-structured interview (see appendix II). The semi-structured interview aimed to determine how the lecturer integrated the modes of delivery, the reasons for doing so and the perceptions of the problems and impacts of the online component on students' learning.

Findings

Components Accessed

Out of a total of 90 students, 50 students (25 from each unit) responded to the questionnaire. Table 3 summarises the components that students reported as accessing.

Table 3 shows that most but not all students accessed the materials or tools on offer. Why did some students access certain components? Why did others not access them? What did some students find useful? What did others find to be unhelpful? The qualitative part of the questionnaire sheds some interesting light on these matters.

Components accessed/used online	**Unit A n = 25**	**Unit B n = 25**
Unit Outline	76%	84%
Tutorial Questions	88%	100%
Lecture Guide	84%	88%
Lecture Overheads	44%	96%
Links to other sites	80%	68%
Bulletin Boards	68%	80%

Table 3: Percentage of students who accessed online components

The Reasons for Accessing (or not) the Different Components

Students' reasons for choosing to access the various components are summarised in Table 4 and the reasons for not accessing are summarised in Table 5. With the bulletin boards being used differently in the two units, the reasons for and against accessing this particular component are reported separately for each unit. Note that not all students provided reasons.

Component	**Reasons for accessing components in both units.** The number of students expressing a particular reason is given in brackets.	
Course Outline & Assessment Details n = 40	Convenience (14) Could access out of uni (7) Up-to-date (3) To orientate to course (2) Could download (1)	
Tutorial Questions n = 46	Convenience (12) Could access out of uni (2) Save printing costs (2) Could get all the questions in one place (1) Could download (1)	
Lecture Guide n = 43	Convenience (8) Could access out of uni (2) Free printing in the library (1) Availability problems in bookshop (3) Could download (1)	
Lecture Overheads n = 35	Convenience (8) Makes following lectures easier (5) Revision/supplement notes (3) Could access out of uni (2) Only option (1) Free printing in library (1)	
Links to other sites n = 37	For further information (10) Download files/software (5) For assignments (5) To orientate to course content and expectations (2) Reduces search time (2)	
	Unit A reasons n = 17	**Unit B reasons** n = 20
Bulletin Board	For help with unit work (5) Just to read messages (4) FAQs helpful (4) Good forum (1)	Compulsory task (11) To read others' questions and answers (8) To ask about assignments (3) To discuss tutorial and lecture questions (1)

Table 4: Reasons given by students for accessing the various online components

Examination of Table 4 shows that most students accessed the components made available by the lecturer. Their reasons for doing so were mainly those of convenience of access to the resources. These students showed one of Merriam and Caffarella's (1999) characteristics of independent learning – they used the medium for locating suitable resources. For three of the components, some students also mentioned study and learning (as opposed to meeting course and assessment requirements) as reasons for their accessing. These included access to the lecture overheads, links to other sites and the bulletin board. For some, the overheads helped them follow and understand the face-to-face lecture. For others, they were useful for revision purposes. Some students specifically mentioned using the links page and the bulletin board to better understand the course content. These students' reasons showed that they were adopting learning strategies to help them to better understand – another characteristic listed by Merriam and Caffarella (1999) of independent, self-directed learners.

Component	**Reasons for NOT accessing components in both units.** The number of students expressing a particular reason is given in brackets.	
Course Outline n = 10	Had been handed out (4)	
Tutorial Questions n = 2	Had been handed out (2)	
Lecture Guide n = 4	Photocopied the guide (1) Bought a copy (1)	
Lecture Overheads n = 5	Lecture guide sufficient (3) Photocopied (1) Not available for this unit (1)	
Links to other sites n = 13	No time (1) Lecture guide sufficient (1) Conducted own research (1)	
	Unit A reasons n = 7	**Unit B reasons** n = 4
Bulletin Board	No marks attached (1) Not enough time (1) Prefer F2F (1) Not interested (1)	No need (2)

Table 5: Reasons given by students for not accessing the various online components

Examination of tableTable 5 reveals that when students did not access a given component, they were still showing self-directed learning behaviours. Most of these students found alternative ways of locating suitable materials, and some indicated that the resources did not necessarily support their learning requirements (for instance the lack of need for the overheads). Only a minority of these students appeared to take a superficial approach to learning such as occurred with one student relying solely on the study guide without undertaking further research. Interestingly, very few students avoided the bulletin board due to lack of assessment, citing other reasons for not accessing. These reasons can also be seen within a self-directed learning framework where students determined the best location for their learning (e.g. face-to-face); the strategies that best suited their learning (e.g. no need to use Bulletin Board, not of interest); and the best use of the time they had for study. Many students did, however, choose to use the bulletin boards. On using them, did they find the experience to be helpful?

Students' Perceptions of the Usefulness of the Bulletin Board to their Learning

Even though the bulletin boards were used differently in the two units, students felt that the amount they learnt from the experience was similar. In unit A, where the bulletin board was used voluntarily for self-help, 2 students (9%) felt that the bulletin board did not help them at all, 13 (62%) felt that it helped them "a bit" and 6 (28%) felt that it helped them "a lot". In unit B, where the one part of the bulletin board use was a compulsory part of an assignment and the rest voluntary, the students responded similarly: 2 (10%) felt that the bulletin board did not help them at all, 14 (70%) felt that it helped them "a bit" and 4 (20%) felt that it helped them "a lot". Table 6 shows the various reasons given by the students in each unit to explain their perceptions.

	Explanations given in Unit A (non-compulsory fora)	**Explanations given in unit B** (one compulsory forum, the rest non-compulsory)
How the bulletin board was helpful	Help from others (2) Similar problems (3) Others' questions (2) Keeps informed (1) Solutions to minor problems (1) Lecturer's contribution (3)	Interaction between students and lecturer (2) Others' questions (4) Discussing unsure questions (2)
How the bulletin board was unhelpful/frustrating	Lack of time to use tool (1) Not enough people using/ little discussion and information (4) Technical problems (6) Unanswered questions (2) Nothing of relevance (1)	Unanswered questions (2) Unhelpful answers (2) Doing research and practising exercises are more useful (2)

Table 6: Explanations given by students in each unit regarding the helpfulness of the bulletin board in their learning

Examination of Table 6 reveals that, even though bulletin board usage in unit B was compulsory and in the other it was not, the students from both units found that the bulletin board only helped their learning in minor ways with unanswered questions and pand poor quality of discussion/ answers being being a major frustration with this as a learning medium. This suggests the adoption of some learning behaviours, but not others. In the non-compulsory fora, many of the students were setting aside the time for learning and accessing the board, but they were not taking what Brandes and Ginnis (1986) describe as ownership of the learning and participating – essential student behaviours for learning with this tool. In the compulsory forum, however, when participation was mandatory, students' perceptions did not improve. In fact, a number of students felt that their learning and study time could have been better spent in other ways.

Lecturer's Intentions and Perceptions of the Impact of the Online Components

In interview, the lecturer revealed that he had two major aims in adding an online component to his face-to-face unit. These concerned the administration of resources and the desire to improve student understanding through increased interaction. Administratively, he wanted all the unit resources online so that students could access these as needed. He was in charge of large units and online access would save him time in dealing with students who asked him through the semester for various handouts and materials. In addition to putting the materials used in face-to-face delivery online, he also placed, in a portable document format (pdf), the external study and lecture guide which had previously only been sent out to external students in print form. This now allowed his internal students access to the detailed lecture notes and exercises that had previously only been available to external students. The students requested that the lecture PowerPoint slides also be made available and he complied. Based on the feedback he had received anecdotally and informally, he felt that the students liked the easy access to all the materials.

With his tutorials being run in a computer laboratory, his second aim for the online component was to increase interaction and thereby improve students' understanding and learning. He wanted a place for students to ask questions and sort out conceptual problems and to this end he provided the students with a variety of fora in the bulletin board. While he was disappointed overall with the amount of interaction that resulted, he did feel that the fora had improved depth of understanding, particularly where the contribution was assessed.

Examination of the Online Components

In both units, examination of the online components revealed an excellent resource base in easy to download formats. The tutorial questions were separated out and placed into one file for easy access. The links page targeted software and information that was directly relevant to their assessments. In addition, there was a full sample exam paper available for the students to work through. The resources certainly met the first aim expressed by the lecturer and, as he stated, putting these online in fact helped him to be better organised and prepared.

The bulletin board fora were designed to meet his second aim – that of increasing interaction to improve understanding. To examine whether this aim was met, the students' contributions were compiled on a forum by forum basis for each unit and these revealed a number of interesting patterns. In unit A, contributions were not compulsory but were made available for self-help. In a number of these fora, such as the forum for the questions in the lecture guide and the forum for the tutorial exercises, students did not make any contributions at all. These resulted in contributions only from the lecturer who posted notices or tips appropriate to that forum. The remaining fora had questions from the students, but these were directed to and answered by the lecturer. These included questions on unit requirements, technical problems and questions about the assessments. None of the students answered any of the posted questions. This contribution by the lecturer was the reason that the students found these boards helpful without needing to participate more fully.

In unit B, most of the non-compulsory fora were used in the same way as occurred in unit A. In one non-compulsory forum, where the lecturer stated explicitly that he would not answer questions (these were to be answered by students only), questions were posted but none were answered. It would appear that the students were not prepared to take the responsibility expected by the lecturer in this type of forum. In the compulsory forum, questions were both posed and answered by students showing that marks certainly increased participation.

Discussion

These findings show that the students adopted roles in which they took certain responsibilities but not others in their online learning. Why did this occur? One way of reflecting on these findings is through reference to teacher-centred versus student-centred models of learning. In teacher-centred approaches, information is handed out to students for learning and later assessment (Brandes & Ginnis, 1986). When students have questions, they direct these to the teacher. It is expected that the teacher as expert is the appropriate person to ask, and hence answer, the question. Other students are not necessarily viewed as a resource for developing learning.

Despite claims that online learning is by its nature "student centred" (Berge & Collins, 1995), this study shows that supplementary online delivery can mimic the roles adopted in traditional classrooms. As in traditional delivery, materials were made available to students in a number of modes, and students met their responsibility of gaining those materials, sometimes through the online medium and sometimes not. They also adopted strategies to suit their learning such as using the overheads to help follow the lecture. In their preparation for assignments and examinations, when the students had questions, they used whichever means they had available to ask the lecturer – bulletin board, email or face-to-face contact. The participants demonstrated self-directed learning and met their roles and obligations as required under a teacher-centred model.

In this traditional view of teaching and learning, it would appear that the students did not see it as their role, or perhaps to their advantage, to answer other students' questions in the non-compulsory fora. Much as occurs in the traditional classroom, some students asked questions while others watched and took note of the teacher's answers. A greater level of participation on their part was not necessary. From this teacher-centred view, the students were overall satisfied with the supplementary provision. It provided additional flexibility in gaining information that otherwise would only have been available through face-to-face and paper modes. As this flexibility simply

provided the same information, it is not surprising that the students felt that it did not impact greatly on their learning. In a teacher-centred use of online supplementation, the value lies in its flexibility not its contribution to increased learning.

In student-centred approaches, there is a shift of emphasis away from the teacher to participation, discussion and discovery amongst the students (Brandes & Ginnis, 1986) and this is considered desirable in the online environment (Harasim et al., 1995) as a means of improving learning. It would appear from this study, however, that despite the best intentions of the lecturer and the provision of appropriate online tools for discussion and interaction to occur, collaborative learning did not occur in the non-compulsory fora and occurred in only a token sense in the compulsory forum. Even though participation clearly increased in the compulsory forum, students still only reported limited learning, suggesting that they took limited ownership of their learning, going through the motions to satisfy assessment requirements.

Why did students not adopt the collaborative learning role required in a student-centred approach? In examining the unit and the online components it would appear that the conditions outlined by (Brandes & Ginnis, 1986) for student-centred learning may not have been met. In order for students to adopt the roles required of them in a self-directed, student-centred environment, the lecturer needs to provide an educational context that allows desired student behaviours to flourish. In this study, the lecturer provided a tool for discussion to allow students to become involved in their learning. However, without the added aspect of a task that has significant relevance and meaning for the learners and which requires collaboration (such as a need to solve a problem), engagement with the material in discussion remained superficial and hence additional learning was minimal. To add to this, student-centred types of behaviour were not required in the face-to-face context. It would appear that students did not reconceive their roles in a different light when shifting from the more teacher-centred approaches of the face-to-face classroom to the more student-centred expectations of the online discussion forum.

Conclusion

This study shows that the roles and responsibilities adopted by students affect the value that online supplementation can bring to face-to-face delivery. Student roles and responsibilities do not, however, arise in isolation. They emerge out of the educational context provided by the lecturer. Online provision is not on its own “student-centred”. Rather, it is a medium for the delivery of a course which can be structured by the lecturer to be more student-centred or more teacher-centred.

For tertiary courses that are either teacher or student-centred, this study shows that online supplementation does provide added flexibility. The students are self-directed and do take the time to obtain the resources, either through the online medium or through other media, and they use these resources to support their own strategies for learning independently. This flexibility is valued by the students.

However, adding value to learning through online supplementation is more difficult to achieve as has been noted by other studies (Oliver, 2001). The online provision has to offer more than is already offered in the face-to-face context. One way that has been suggested is through the more thoughtful and considered discussion that a bulletin board can provide (Harasim et al., 1995). This study shows, however, that to achieve this, the learning environment needs to provide the students with a real and meaningful reason for collaborating or discussing an issue in depth. While the allocation of marks does increase participation, this study shows that participation on its own does not necessarily improve the learning. Online provision needs to be carefully structured if student-centred behaviours are to emerge.

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Appendix I

Student Questionnaire: Use of materials placed online

Do you access the following materials online ?

- Course Outline — Yes — No
  Please explain why/why not
- Tutorial Questions — Yes — No
  Please explain why / why not :
- Lecture Guide — Yes — No
  Please explain why / why not
- Lecture Overheads — Yes — No
  Please explain why / why not
- Links to other sites — Yes — No
  Please explain why / why not :

Use of bulletin board

Did you use the bulletin board? — Yes — No
Please explain why / why not :
If yes,
Did you find that bulletin board helped your learning?
Not at all — A Bit — A lot
Please explain :
What did you find helpful in using the bulletin board
What did you find unhelpful/frustrating about using the bulletin board?

Appendix II

Semi structured interview schedule for lecturer

1. What is the online component of your course? What other resources do your students have ?
2. What do you want your students to get from the online component?
3. Is there an assessment component for online work?
4. What feedback have you had from students?
5. What do you feel has been the value of online?
6. Has it impacted on the depth of learning?
7. Have you any problems with online?