



**University of Strathclyde
Department of Hospitality and Tourism
Management
Introduction to Tourism
Case Study Report**



**transforming
assessment**

Re-Engineering assessment Practices (REAP) Evaluation Team

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Overview/ About the class

This is a large, first year class which runs over two semesters. Over the past three years, student numbers have increased from 80 to over 200. In 2006/2007, 230 students were registered for the class. Although the class text was changed in 2005, the format of classes has otherwise remained the same for several years. 44128 is the only first year tourism class currently in the curriculum and is designed to provide an overview, in little depth, of the scope of tourism studies, exploring key issues and themes. Thus the emphasis of the class is on breadth, rather than depth of knowledge. Topics are touched on in the class, which are explored in further detail across the second and third years of the degree programme. Staff involved in teaching the class are Mr Rory MacLellan, Senior Lecturer in Tourism and Dr Karen Thompson, Lecturer in Tourism. Mr MacLellan is class coordinator. These staff between them currently deliver two one-hour lectures per week across both semesters. In addition, students are timetabled to have four one-hour tutorials per semester. These tutorials are normally staffed by five or six research students from within the Department of Hospitality and Tourism Management and are administered by Graduate Teaching Assistant, Miss Clare Speed. Attendance at tutorials is compulsory and students are assessed on their preparation for these sessions. Attendance at lectures is currently optional.

General Drivers for Change

The class is assessed by a mixture of tutorial input, short answer tests (SATs), essay and examination. The essay has typically been very traditional in nature, asking the students to explore a topic of their choice in further depth, but providing them with little more than a reading list as guidance. The SAT tests have been a mixture of multiple choice, true or false and short paragraph answers. These tests have been administered during class in the lecture theatre, under what are clearly not ideal conditions.

It is possible for students to be exempt from the examination by performing well in the other pieces of assessment. Feedback to students on SATs has been given in tutorials, but this was mainly to provide the student with their marks. There has been little opportunity for students to explore their performance in these tests. Written feedback was provided for essays, but this was fairly brief and general. Since this was often the first essay that students had undertaken at university, or perhaps ever, students may have had difficulty interpreting the assignment brief and often had little concept of the goal/standard expected and how their performance measures against this. Moreover, no model answers were provided and there was no opportunity for students to close the feedback loop.

Attendance at tutorials was good but lecture attendance was poor and tended to tail off towards the end of the first semester. This was aggravated by an unfortunate timetable slot. There was a desire to modernise the class, making the student experience more enjoyable and entertaining for students who are mainly rather young and do need to be motivated. However, there was also a strong wish to instil in the students a greater sense of responsibility for their own learning and to achieve a deeper level of learning through new forms of assessment. In addition, as students taking the class were entering the university with different entry criteria, it was desirable that ways be found to support weaker students who typically struggle with the traditional forms of assessment used.

The class has made reasonable use of the virtual learning environment (WebCT) for the past two years and most students log on to the class site very regularly. However, WebCT is being used merely as a repository for information (transmission model) which the students are already provided with in other formats (class handbook, lecture slides etc.). A WebCT import file is provided by the publisher of the core textbook, which constitutes an electronic copy of the core text plus additional learning and self-test materials that students can obtain access to,

via a password, if they have purchased the core text. To date, no structured use of these materials had been attempted by the teaching team.

Specific Drivers for change and aims of intervention

The 3-4pm Monday and Friday timetable slot was poor and is highly restricted by one group of students (HHM) who had laboratory classes from 9-2.30 pm three days a week. By halving the number of contact hours and splitting the class in two, it would be possible to remove these students from the timetabling equation and find a more appealing second timetable slot than the 3-4 on a Friday afternoon. The size of group was large and there were few lecture theatres which could accommodate the group. This added to the timetabling restrictions, but could be resolved by splitting the group in two. Lectures were based on a core text book and posted on WebCT, which called into question the usefulness of the lecture platform. It was felt that staff time could be better used by making more inventive use of the virtual learning environment. However, although staff are relatively competent WebCT users, there was no web development expertise within the department. No 'WebCT standard' had been achieved between staff involved in the class in terms of who does what, for example with regard to answering questions on the noticeboard within a certain timeframe or posting lecture slides by a certain deadline before the lectures.

As the previous point suggests, there was repetition within the course and too much duplication between the textbook, what was available on WebCT and the lectures. As a result, there was a lack of motivation among students to attend lectures, since they did not see their value. The class was arguably less dynamic and/or entertaining than some of the other first year classes within the business school and LASS, with which we are competing for student numbers. There was a poor conversion rate from first to second year tourism principle subject, which may be improved if the students enjoyed the class more. There appeared to be a lack of engagement with the subject/discipline in comparison to other subjects. The class administration was rather unwieldy and could be streamlined through greater automation and use of learning technologies. The class was arguably over taught and over assessed. Students saw assessment as an unpleasant surprise/interruption to their studies, rather than something to work towards. Administering SAT tests to 230 students creates logistical problems. The assessment was disjointed and little feedback is provided, considering the amount of assessment which is undertaken.

Summary of drivers for change:

- Increase attendance;
- Improve student experience;
- Decrease contact hours and increase private study time, perhaps supported by peer assessment;
- Improve group cohesion;
- Increase interactivity of lecture slots (on-demand teaching);
- Greater use of diagnostic testing to assess student progress;
- Allow/facilitate student assessment of own knowledge;
- Increase enjoyment of subject;
- Assist weaker students;
- Improve feedback to students, including feedback from peers;
- Make better use of educational technologies;
- Ensure greater alignment of teaching and assessment.

Method

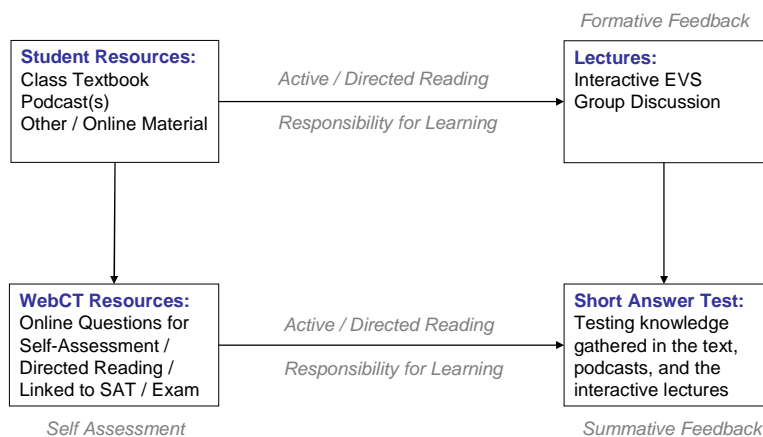
The number of lecture hours was reduced to one hour per week and the class split in half. In place of the second lecture slot, a more student centred activity was undertaken via webct using secondary and tertiary courseware on WebCT. Videopodcasts were created with the assistance of Spoken Word Services at Glasgow Caledonian University (<http://www.spokenword.ac.uk/>), and were supplied with links to additional materials. Students were encouraged to watch the podcasts prior to the appropriate lecture and to undertake independent learning around the topics.

Personal response systems were employed within the lecture slots to increase feedback and self-assessment possibilities for students, encourage dialogue between students and reinforce the learning from textbook and videopodcast. This use of electronic voting systems (EVS) was practically supported by a member of the REAP team.

More frequent online SATs replaced the traditional tests and allowed the students to test their knowledge on a more regular basis, towards a more formative learning experience. These tests were set up via WebCT with built in feedback, so that students received immediate feedback on their achievements.

Students were required to produce a group presentation at the end of the second semester. Into this was incorporated intermediate online activities between students and tutorial group leaders which fed into the student presentations.

Proposed Re-structure for Introduction to Tourism



Note: This model excludes the tutorials, which cannot be changed at this time.

Evaluation Methodology

Qualitative evidence was collated from course leader interviews, two student focus groups and open-ended responses from a student questionnaire. Quantitative data was also collated from the questionnaire. Class grades averages and progression rates were compared across cohorts for sessions 2005-6 and 2006-7.

Course redesign in relation to David Nicol's 7 Principles of good feedback practice & Gibbs & Simpson's first 4 conditions of good assessment practice

Principle 1: Helps clarify what good performance is (goals, criteria, expected standards)

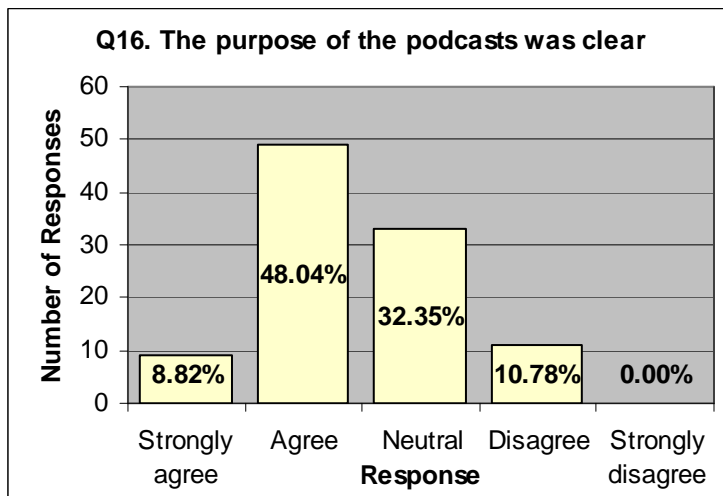
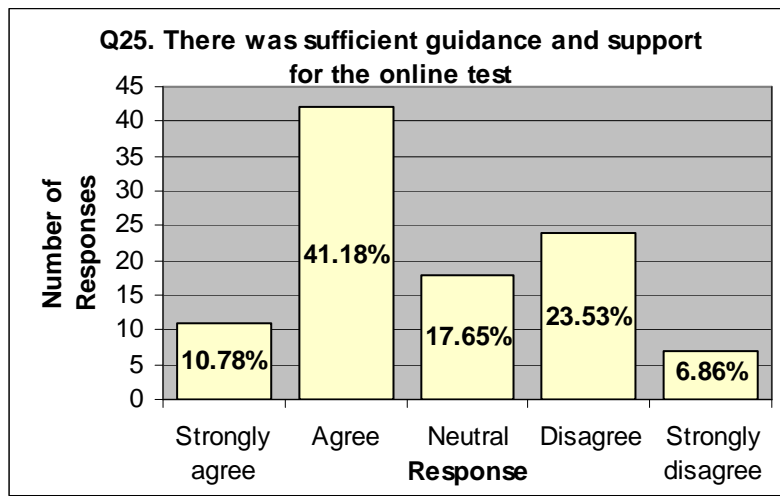
Learning outcomes which had previously been provided in the class booklet were available on WebCT. The learning outcomes were stressed to students via WebCT and additional directed reading was provided via the podcast. A number of questions were set that students were asked to reflect on (after having read the book chapter and watched the podcast) and which were tested in the lecture. By having an opportunity to view the podcasts and think about questions before the lecture, students were able to gain a clearer idea of the learning criteria before attending the lecture. Students were made aware of the differences in learning expectations upon them by staff. As Karen illustrated,

They were spoken to at the end of the first semester to outline, not the fact that the learning outcomes had changed but that our expectations were different on them in the sense we expect them to come to class having done more preparation than they would have in the first semester and that the teaching style would be different.

A link between proximal and distal goals was provided by the invitation for speakers from the Tourism industry to give the students presentations based on their own experiences of studying and working in the field. These real life applications of the learning goals provided students with example of tangible benefits to fulfilling their individual task goals.

Student perspective

Students in both groups were very satisfied with the standard of criteria that they had received for their essay in the first term but they were also in agreement that there had been a lack of consistent criteria or expected standards for the presentation tasks. Students in group 1 felt that there had been a lack of guidance about how the group presentations were expected to be carried out and that they would have benefited from having access to an exemplar. In addition they considered the task to be too vague. Discussions from focus group 2 indicated that there appeared to be some inconsistencies between student understanding of the presentation task instructions across tutorial groups. Although students had been supplied with an instruction sheet, the verbal instructions that they had received from tutors reportedly digressed from this. In contrast group 1 students said that they had felt very well supported in the essay task in terms of clear criteria and expected standards. Although one student commented that it took a while before an understanding fell into place, the guidance notes provided had been extremely useful in helping to achieve this aim. Group 2 students were also satisfied with the criteria that they had received for individual tasks. One student who did have a query was extremely impressed to have received a reply within half an hour on a Sunday and generally felt that the level of personal attention and communication was good as students were always made to feel welcome in their office at any time. Results from the student questionnaire revealed that 57% of the students had felt that the purpose of the podcasts had been clear to them compared to 11% who disagreed (*Figure 1A*) while 52% felt that there had been sufficient guidance on the online tests compared to 30% who believed it had been unclear (*Figures 1B*).

Figure 1A: Criteria for podcast learning outcomes**Figure 1B: Criteria for online tests****Principle 2: Facilitates the development of self-assessment (reflection in learning)****EVS**

The use of EVS in class was designed to promote self-assessment. Karen explained the process,

I think answering questions and discussing the answers in class should be valuable, for example, why did I press a particular button or in some cases obviously it was because they just didn't know the answer and they just picked one but it was obvious that some students were actually thinking about their answer before they pressed it, especially when we asked it twice. If we asked the question again it was obvious that they had been evaluating their own knowledge and also discussing it with other people in the class.

Online tests

Students were able to record their progress on online tests and access it at multiple time periods because their performance is tracked by WebCT and they could also compare their performance with their peers on WebCT as well as in lectures using EVS graphs. Karen elaborated,

On the online test, we gave them quite intensive feedback and WebCT was set to tell them what answer they had given and what answer was right and so they should have been able to see... On WebCT all the marks are there and they get marked for each tutorial as well. The tutors are asked to put that in within a week of the tutorial so they know how their tutorial profile is building up in terms of their score, the online test scores they are provided with immediately when the test is finished... There's an option to release the statistics in WebCT so that they can see how they are performing in terms of the class profile.

Student Perspective**EVS**

Results from the open ended questions in the student questionnaire suggest that some students found that the clickers to be a waste of time or pointless and distracting and one student felt

they could take more effective notes without clickers. The clicker questions were described as *very easy* and *based on opinion not fact*. One student put it:

I didn't like using the clickers, I would just press any button because I really did not like them. It seemed more like repetition than learning.

Quantitative results revealed that while 31% thought that the EVS questions had been challenging, 33% disagreed (*Figure 2A*). 51% felt that the same objectives could have been achieved without the use of clickers compared to 26% who disagreed (*Figure 2B*). However, 43% of the students believed that using the clickers had increased their understanding of the course content compared to only 25% who disagreed (*Figure 2C*); 66% considered the clickers to have increased their concentration compared to just 15% who disagreed (*Figure 2D*) and 57% felt that overall, the clickers had contributed to their learning (*Figure 2E*).

Figure 2A: Student questionnaire responses to level of challenge posed by EVS questions

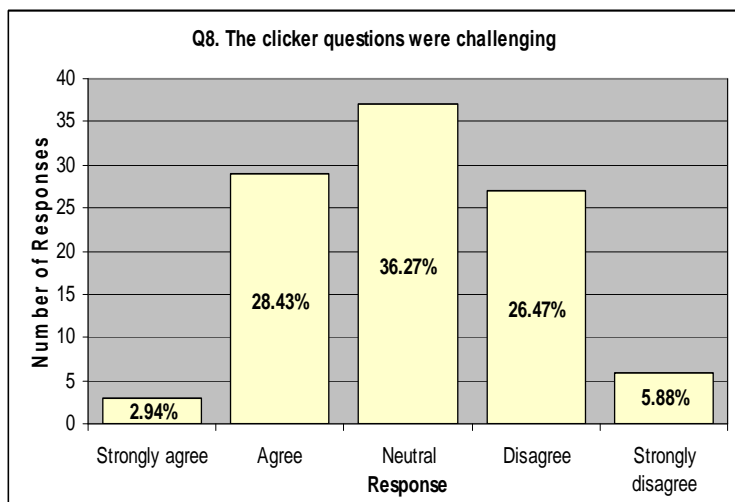


Figure 2B: Student questionnaire responses to the requirement of the technology to fulfil objectives

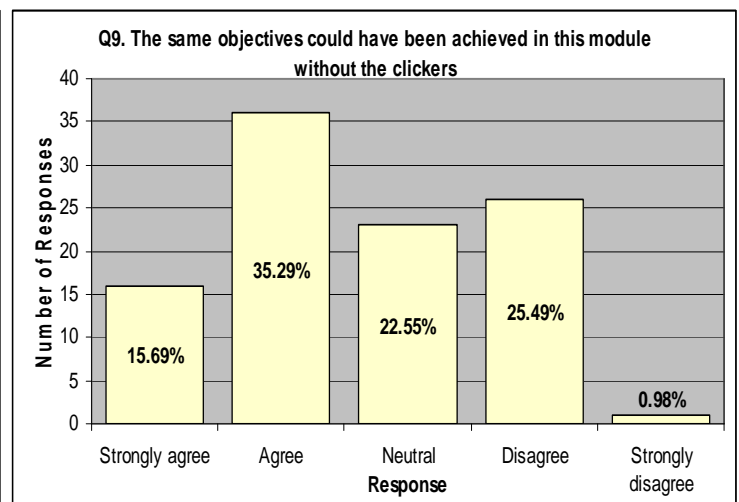


Figure 2C: Student questionnaire responses to changes in understanding through EVS

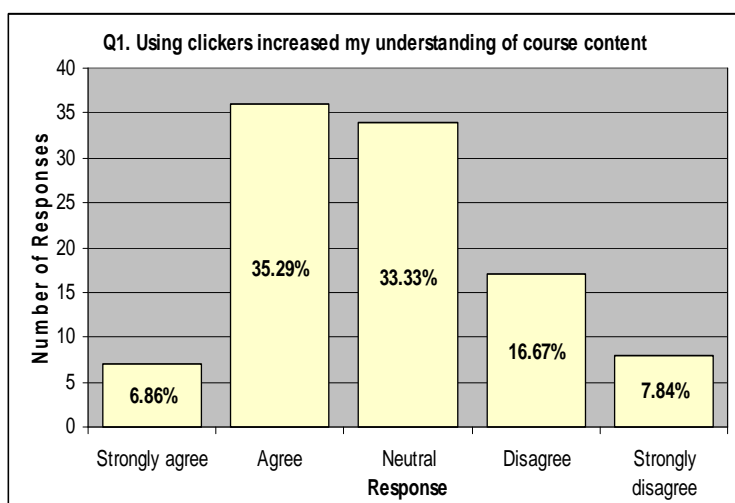


Figure 2D: Student questionnaire responses to changes in concentration through EVS

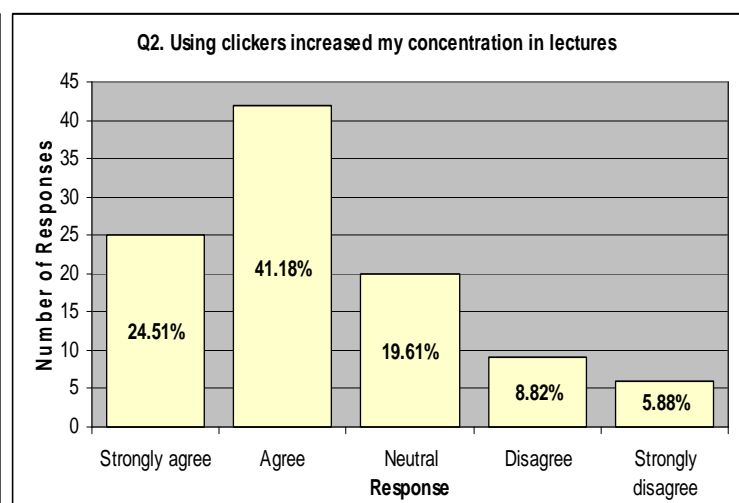
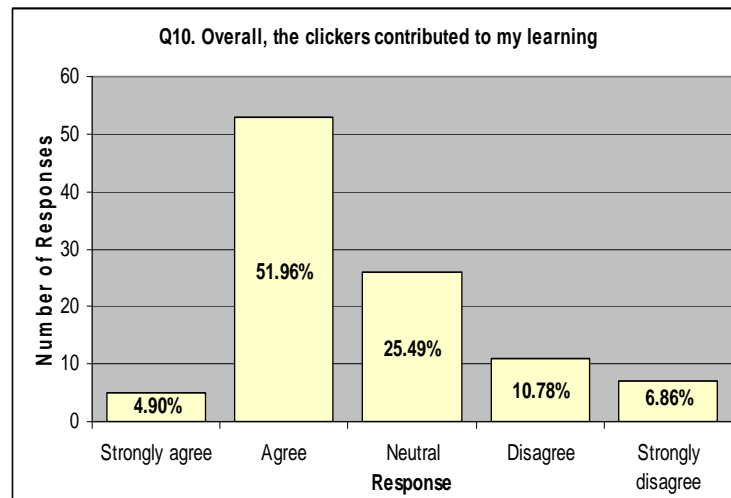


Figure 2E: Student responses to the overall benefit of EVS

Online Tests

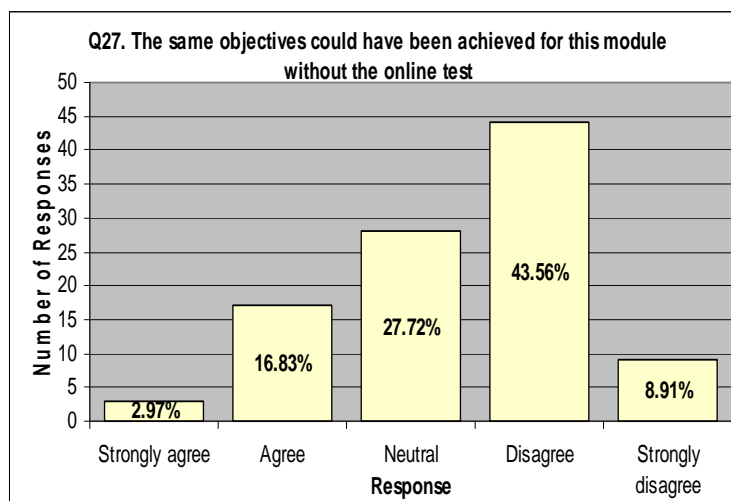
Some students in focus group 1 felt that the gap between questions on the online tests were too short to be an effective learning aide. There was also a perception that it was difficult to differentiate a correct answer because '*all the answers sound right*' and there was some suspicion that due to technical aspects, two answers could be exactly the same. Several students expressed their views that the on-line tests had been a useful way to help them to reflect on their learning but again commented that the questions were too fast paced, which lead to more guessing than informed decision making. Some students felt quite panicked by the limited time process. Students also said that they had not had any feedback on the on-line tests although one pointed out that they were able to gauge their own performance, which motivated them to study more. However there was suspicion that peers would at times access the on-line tests as a group and pass answers on to friends who could then achieve an unfair advantage in performance.

The results from the students questionnaire suggests that many students found the online tests to be beneficial, and unlike the EVS clickers and podcasts, more students felt that the same objectives could *not* have been achieved without the tests than did (*Figure 2F*). However the questions were considered long and complicated by some, and the limited time scale also increased stress levels. One student found that the questions in the online test included content that had not been covered in lectures or the main sections of the textbook. One student found

The limited amount of time made available for the online tests made it impossible to look up any answers you did not know at the time and inevitably lowered your mark as you wasted time looking for some.

One student also mentioned '*collusion*' of some students regarding the online test. Notwithstanding these issues, students were positive about the flexibility offered by online testing and the added motivation to regularly study course content. Thus, it appears worthwhile to retain the online tests for the future, and address the technical and process issues.

Figure 2F: Student questionnaire responses to the requirement for the importance of online tests to learning objectives



Principle 3: Delivers high quality information to students about their learning

Verbal feedback during lectures/ multi-media content delivery

The shift from transmissive to interactive learning has resulted in a high quality of content delivery and learning opportunities for the students in general, as Karen explained,

Well the lecture materials have been altered completely from contact delivery to testing so the content delivery has really gone into the podcast and the students have been encouraged to read the textbook. What I generally tend to do is to offer some questions then do a little bit of content delivery in terms of where the weaknesses were maybe from the questions that I'd asked but then gone back to maybe retest some of the questions or maybe ask some more questions or focus the content delivery on something that was not in the textbook or hadn't fitted into the podcast so I would say that the content of the lecture has changed completely but I don't think it affected the quality of the students' learning because the information was available in other ways. I think we created the podcasts to compensate not only for the fact that there would be less delivery in the lecture but also the fact that students only had one lecture a week as opposed to two. I think that the fact that they were able to use real life examples from BBC archives was quite valuable.

This meant that students benefited from being able to have regular feedback on their learning during each of the lectures.

Feedback on online tests

Students in both focus groups were both very unhappy about the length of time that was available to them to read written feedback comments on their essays during the tutorials in the first semester, although some inconsistencies emerged between tutors from the second focus group discussion. Group 1 students pointed out that because it was not always their own tutor who marked their work but they may not recognise the name of the marker, it was difficult to obtain any clarity on the meaning of any ambiguous feedback. In contrast, during the second semester, students had an opportunity to gain immediate, frequent and consistent feedback from the online tests.

Tutorials

Because the tutorials were fixed and thus not subject to the learning and feedback cycle in the way that they potentially could be, however students had the opportunity to pursue feedback on their general understanding of the learning material.

Student Perspective

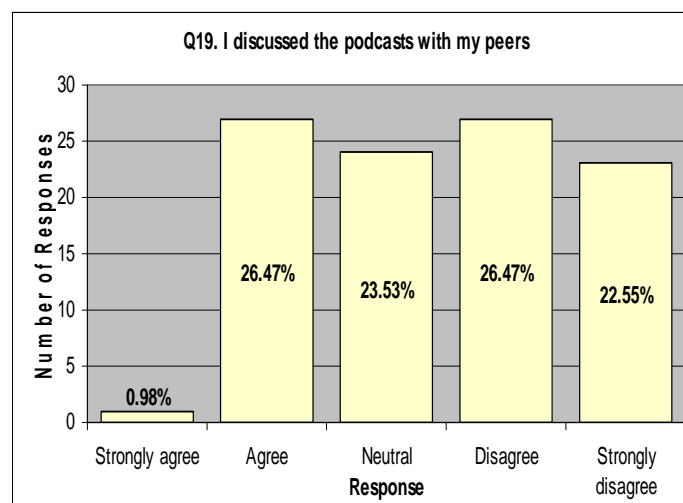
Verbal feedback during lectures/ multi-media content delivery

Some students felt that the interactive nature of the lecture with the combination of materials was instrumental in increasing active learning. As one student put it,

There's so many things relating to the BBC news, she puts on all these different things, she's got so many things relating to outside the uni and bringing it all together and she comes in and asks us questions and we do it on the clickers and she looks at the statistics of it in our class and we look at it as well and it says, so many, 75% of you think this, why do you think this and then goes on to explain it. We get to speak to her, we don't just sit there, take notes, sometimes don't understand the notes, like she's actually making sure we understand what she's talking about.

Although responses from the student questionnaire suggest that only 27% of the students had specifically discussed the podcasts with their peers while 49% had not (*Figure 3*), this could be explained by the use of provision of the opportunity to discuss the content during class time using the EVS clickers.

Figure 3: The role of podcasts in increasing active learning



Feedback on online tests

Although focus group 1 students claimed not to have received feedback on the on-line tests, students in the second group said that they had received immediate feedback, which they had valued.

Tutorials

Verbal feedback in tutorials was felt to be lacking in value for both groups and there a consensus that tutorials suffered from a lack of effort on the part of some students. Suggestions for improvement from both groups included the promotion of more discussion during tutorials. While group 1 suggested generic formative feedback during tutorials for on-line tests and more structured criteria for tasks, group 2 suggested on-line formative feedback and EVS in tutorials to promote discussion. In contrast to the discussions in the focus groups, many students found the tutorials to be the best aspect of the course. Tutorials were found to be fun and informative. The discussions in tutorials were enjoyed by a number of students as

a means to interact with others and to learn new information or reinforce ideas and ask questions in a relaxed, informal manner responses on the students questionnaire indicated that the tutorial tasks were seen as a good way of applying theory that was learned in the lectures. As one student put it,

I have always liked the tutorials as you can interact with the class and the tutor. It helps understanding of topics when you discuss them.

Principle 4: Encourages teacher and peer dialogue around learning

EVS

The use of EVS in lectures encouraged lecturer/peer discussion around the learning activities. Karen described the process in the following way,

Well they had a week to watch the podcasts before the lecture and some of them probably had longer than that because they had a lecture on a Monday and on a Friday and normally we start off with some very general questions, whether they had enjoyed it or whatever but the nature of the subject was that the questions were designed to promote discussion rather than to sort of test the students. Occasionally there would be a question that I thought would have a right or wrong answer that you know prevailing opinion would have centred at one end of the scale or whatever but there was certainly scope for discussion at the end of each question once the results had appeared but there were particular students who were very willing to participate in that and then there was a whole bunch of other students who sort of just sat back and listened but I think towards the end of the class that was changing.

Group work/ Presentations

Students had an opportunity to gain peer feedback during the online discussions as Karen explained,

They had an opportunity to discuss each others destination choices in the online discussion that they had leading into the presentation and of course they watched each other's presentations as well and would have been able to make comments and ask questions

Some students had reportedly suggested setting up a study group but the fact that the lectures became smaller and more interactive appeared to remove the need for informal study groups to some extent. However to encourage more peer dialogue, course leaders set up specific discussion threads. As Karen elaborated,

We split them up into groups so they only had access within their tutorial groups to the discussion thread and that meant that they could communicate with other people in their tutorial group constantly rather than just every other week or whenever they saw them.

Student perspective

EVS

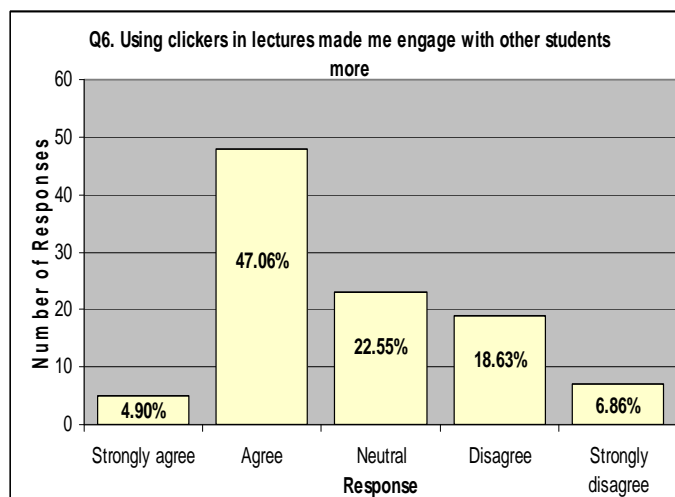
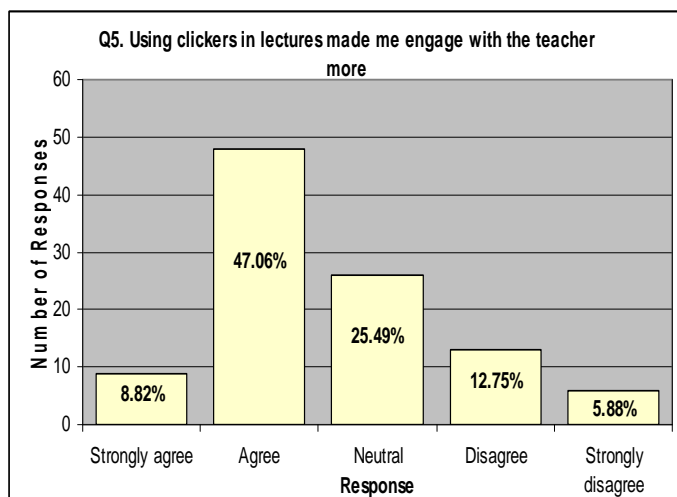
Students in both focus groups felt that there were potential benefits in using EVS in lectures to increase attention and encourage discussion but they also agreed that the question formats were too ambiguous. There was also awareness that the EVS questions were not always taken seriously by some students. The idea of using the EVS as a means to promote more discussion and debate during the lecture was welcomed by most of the students in focus group 1, although one did comment that some students were too intimidated to talk within such a large group of people. However focus group 2 had more mature students who were initially cynical

about the objectives behind the introduction of EVS. One student admitted that he had approached the introduction of the EVS with a negative mind set because of his initial experiences with the podcasts and general lack of explanation about the purpose behind the re-design. Once he had reconciled these issues, he supported the use of EVS. Another student felt that the lecturer had been very helpful by encouraging discussion and providing explanations, although others indicated that they would have appreciated more discussion.

Notwithstanding some negative appraisals and uncertainties, most students indicated that they did enjoy the interactive nature of the lectures in semester two more than in the previous more traditional semester, although there was some dissent about this, with one student suggesting that he felt more comfortable speaking out in the traditional style lectures than in the EVS format. However results from the student questionnaire revealed that 56% of the respondents felt that using the clickers had encouraged them to engage more with the lecturer compared to 19% who disagreed (*Figure 4A*) while 52% felt that using the clickers had helped them to engage more with other students compared to 25% who did not (*Figure 4B*).

Figure 4A: Student questionnaire responses to role of EVS in promoting increased engagement with teaching staff

Figure 4B: Student questionnaire responses to role of EVS in promoting increased engagement with peers



Groupwork/Presentations

Students in both groups were unanimous in their dislike of group work due to fears of social loafing and perceived unfairness in the marking system. One group 2 student declared,

Hate it and I don't how to get in touch and obviously you can e-mail them but they're just complete strangers so you don't know how much time they are wanting or are willing to or are interested in giving the task.

Students in group 1 also indicated their preference for more individual working with comments such as,

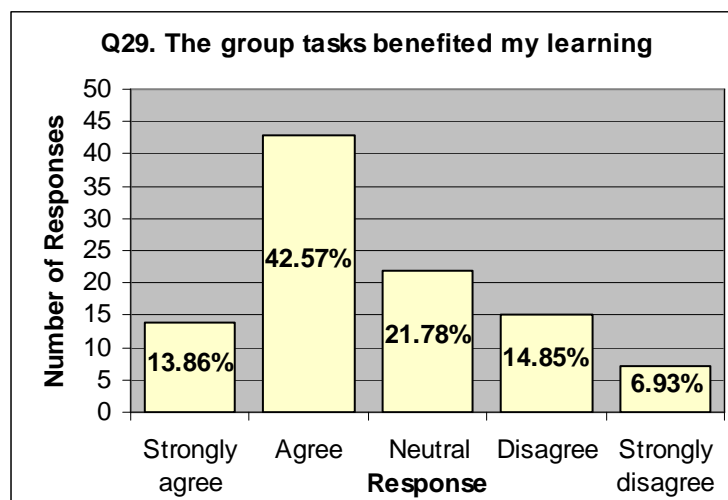
I always thought that getting your degree was about what you did and not to be having to rely on other people.

Students felt that they could learn much more effectively from researching and producing an essay individually than they did from doing a group PowerPoint presentation. There were also concerns about social loafing with one student commenting that,

There's people that literally haven't done anything the entire year and just pretend to sit there while a select few get marks for it.

Some students felt that groups often had a lack of direction, with members going off and researching individual areas and then trying to tie their efforts together without really knowing how to connect them and what direction to aim for. However, there was a suggestion that if the roles were clearly defined, there may be value in working with peers. Support for the merit of group work was gained through the student questionnaire responses in which 56% of students agreed that the group tasks had benefited their learning while 22% disagreed (Figure 4C)

Figure 4C: The role of group tasks in increasing learning



Principle 5: Encourages positive motivational beliefs and self esteem

Student motivation to engage with learning material and attend lectures

EVS

In the previous course format there was repetition and duplication between the textbook, what was available on WebCT and the lectures. This had resulted in a lack of motivation among students to attend lectures, since they did not see their value. The class was also considered by the course leaders to be less dynamic than other class with which they were competing for student numbers. By introducing the EVS into the format it was intended that student interest and enjoyment would be increased through more active learning so that they would be more motivated to attend lectures.

Podcasts

Similarly students were provided with an opportunity for more active learning with the podcasts, with less repetition of material while maintaining a degree of reinforcement. The flexibility of the podcast system also offered students an increased sense of course ownership, which it was hoped would motivate them to take more responsibility for their own learning.

Presentations

Students also had an increased opportunity to gain a sense of course ownership through the tutorials by having scope to collate information in different ways and in the final presentation, students under guidance from the tutors were able to select a particular designation and apply some theoretical concepts to it. Karen expanded on this,

One of the assessment criteria is them selecting an appropriate destination in the first place but that choice is left to them and given the nature off the subject I think it's relatively easy for the students to identify with particular examples and that's what we tried to do with the podcasts. Rather than repeat the theory or introduce new theory in their podcasts the idea was to illustrate those theories and hopefully allow those students to relate them to their own sort of travel behaviour and activities. Also, at the very beginning of the class I based the first lecture of the second semester on a survey that I had done of the students so that it was sort of directly related to their answers that they had provided me with but again relating to the theory and discussing the theory in terms of their responses.

Social cohesion

By providing the students with a smaller lecture group by dividing the cohort in two and by offering them the opportunity to work with peers in working groups for the presentations, it was hoped that an increased sense of social cohesion would ensue and that this would in turn enhance the group identity with the subject, which may have a positive impact on progression rates.

Student perspective

Student motivation to engage with learning material and attend lectures

EVS

Responses from the student questionnaire suggest that students in the second term may have been more motivated to engage in the learning material than in the more traditional format. 50% of the students felt that using the clickers had increased their interest in the lecture topic compared to 27% who felt that it had not (*Figure 5A*) and 62% claimed that they had enjoyed using the clickers in lectures compared to just 11% who did not enjoy it (*Figure 5B*). However this did not appear to make any real difference to attendance rates with 35% suggesting that the use of the clickers had improved their attendance and an equal 35% suggesting the opposite (*Figure 5C*). However the apparent lack of improvement in lecture attendance was also likely to be indicative of the poor timetabling slots. As one student noted of the Friday 3-4pm slot in the open response section of the student questionnaire,

It's our only class on a Friday so had to spend time and money just for an hour – caused low attendance in lectures.

Focus group 1 students from the Friday lecture slot noted a higher drop in attendance and were more unhappy with their time slot than the others. Attendance drops were blamed by both groups on a cycle of increasing lack of motivation due to dwindling numbers and assessment pressure points. Lack of preparation and timetable gaps were also highlighted by group 2 members as being instrumental in the decline in attendance.

Figure 5A: Student questionnaire responses to the role of EVS in increasing interest in learning material

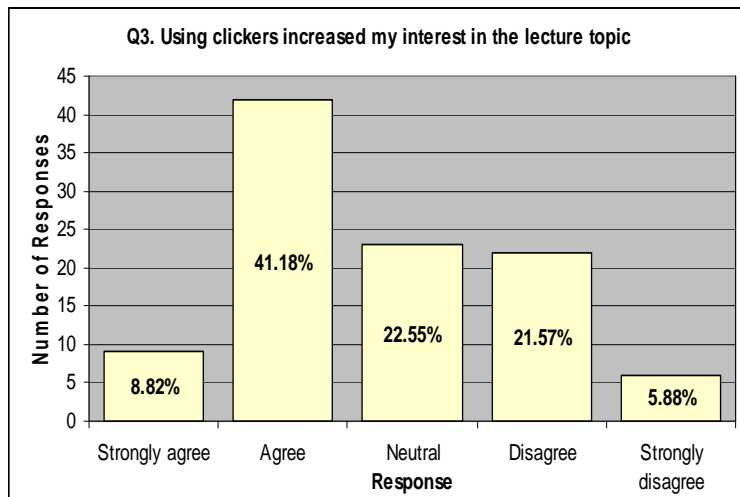


Figure 5B: Student questionnaire responses to the role of EVS in increasing lecture enjoyment

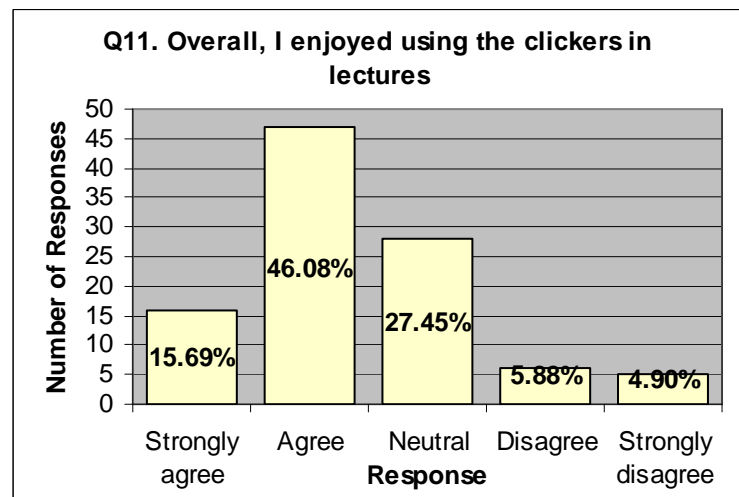
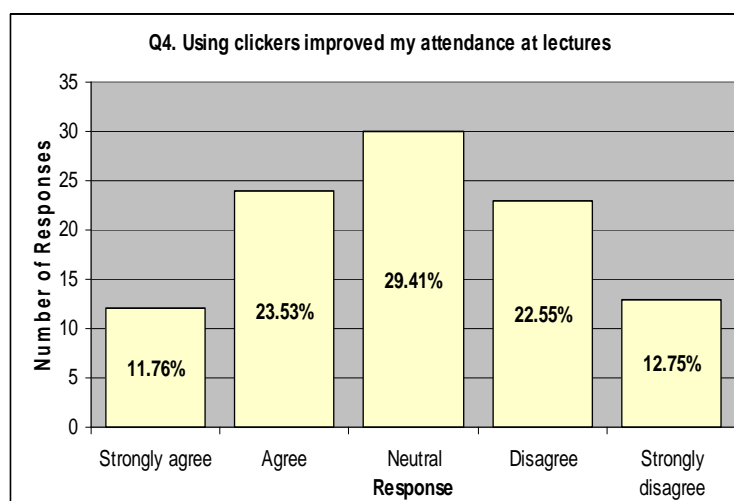


Figure 5C: Student questionnaire responses to the role of EVS in lecture attendance



Podcasts

There was fairly positive engagement with the podcasts, which may have explained the low lecture attendance to some extent as students may have been choosing to watch the podcasts as a substitute for attending the lecture. 61% of the students said that they had watched the podcasts while just 26% stated that they had not. 13% opted for the neutral responses which may indicate that they watched some of the podcasts but not all (*Figure 5D*). Overall 47% of students felt that they had enjoyed watching the podcasts while just 21% actively disagreed (*Figure 5E*).

Figure 5D: Student questionnaire responses to engagement with podcasts

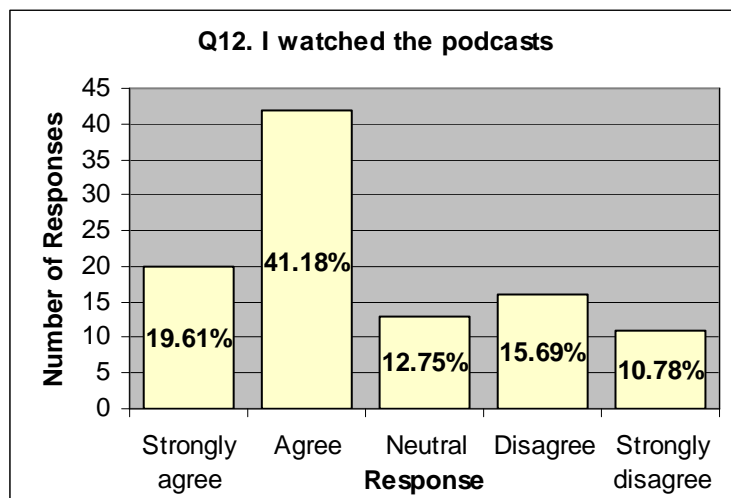
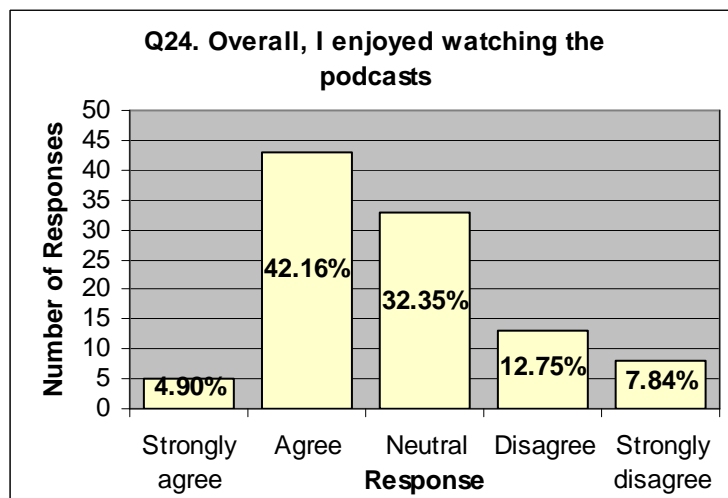


Figure 5E: Student questionnaire responses to enjoyment of podcasts



Social cohesion

There was an apparent lack of group identity and cohesion in both groups, particularly among the non-Hospitality students. Students in both groups seemed to be unsure about progressing with the subject in later years and although the students in group 1 were fairly enthusiastic about the inclusion of Tourism in the Hospitality social room, students in group 2 felt that this may not be enough to consolidate the group. In addition, while group 1 indicated a preference for a return to being taught as one group, group 2 students expressed their support for the idea of a smaller class size, although with two Monday timetable slots.

Principle 6: Provides opportunities to close the gap between current and desired performance

Course Alignment

The redesign of the course would ideally have incorporated multiple opportunities to feed each learning and assessment component into the next one in order to provide a sequence of learning activities. However in practice there were a number of difficulties in achieving this aim. Karen explained some of the difficulties,

Well now most of them don't do the exam of course and one of the problems was we didn't restructure the whole class so we had a mixture of new techniques and old techniques and it was not ideal in my view because decisions had started to be made at the start of the year that couldn't then be changed which meant that there were only certain things that we could actually introduce in terms of the cohesiveness of the different methods of learning. The tutorials for example, there was much more opportunity for the lecturers to feed into tutorials and although I tried to do that as far as possible the fact that tutorials were fixed made it less straightforward and also one of the things we suggested for next year was that the online test for example, we could write feedback for those in the tutorials or indeed they could even be done in the tutorials you know. I think it's an area that that could be improved but the main problem was that we couldn't do everything at once because we were starting half-way through but we knew that from the start and we tried to work round it as much as we could.

Practice Opportunities

More frequent online tests administered via WebCT replaced the traditional tests and allowed the students to test their knowledge on a more regular basis, towards a more formative learning experience and receive immediate feedback on their achievements.

Student perspective

Course Alignment

While some students in group 2 shared the consensus in group 1 that there was too much overlap between podcasts and lectures and supported a return to a more traditional format, some group 2 students voiced support for the mixed medium of lectures, podcasts and EVS use. Students in both groups cited the podcasts as being the most beneficial part of the experience, with support for increased interaction and some members of both groups voicing support for the course in general. Of the podcasts, one student pointed out,

I think I've learned more from watching the podcasts than I would have in the lecture.

Another student commented that,

Everything is kind of interlinked so I feel like, honestly personally I feel from semester 1 to semester 2 that I'm learning a lot more in semester 2.

An additional student agreed but pondered on whether the cost/ benefit ratio with regard to time inefficiencies was justified. Despite their misgivings, most of the students agreed that they had enjoyed semester 2 more than semester 1 and this was primarily due to the interactivity of the lectures and the perceived increase in the level of explanation of the material between semesters. Although students commented on the perceived repetition between the podcasts and lecture content, they were enthusiastic about the BBC clips, which they found to be very interesting. One student suggested that the present tutorial format be altered to facilitate more discussion of the podcasts.

Practice Opportunities

Students in the first focus group suggested that the on-line tests could be followed up with targeted intervention for weak areas of understanding in the form of generic feedback in the following lecture or tutorial. Students in the second focus group indicated that they had appreciated the frequent opportunities for immediate feedback but noted that the tests would be more effective with a longer time limit to reflect on the questions and perceived an element of unfairness in the reward/effort ratio. Responses on the open-ended items on the student questionnaire indicated that the multiple practice opportunities had encouraged students to actively link the learning more to the learning material while in lectures. Thus the learning cycle had apparently been reinforced for some students by the process.

Principle 7: Provides information that can be used to help and shape the teaching

EVS

Information about students understanding of the lecture content was primarily gained through analysis of EVS response data, as Karen explained,

The EVS stores all the student responses, so I've actually found that quite useful because it gives me a picture not only of the responses individual students have given but it scores them as well so it automatically assigns each question a score so that at the end of a lesson you can compare student scores and see which students have to the degree that there is a right or a wrong answer, the extent to which, or the score that students have got over various questions in that session but you can also look at it by question so you can see where the knowledge gaps are, which questions the students as a whole had answered poorly... I felt that I had had more dialogue with students than I had in previous years but again it was particular individuals that I would get feedback from rather than the whole cohort but still it was improved on previous years in my view.

Karen further explained that this data could potentially shape the lecture but that this was not without practical difficulties,

You can only really look at that information in detail and after the lecture, there's no opportunity to do that during the lecture, because you are sort of thinking on your feet. You can react to the students or the overall profile of answers to a question so if the answer is completely unexpected or wrong in the sense that it is against the prevailing opinion, which did happen occasionally then that I would normally have after some sort of discussion on that, probably re-pollled and just made sure that the answers had changed and that they had actually understood and normally I would have built in maybe questions at the end as well which would have tested the same thing but in a different way... In an ideal world the tutorials would have focussed on the weak points that had come out of the lecture but they were fixed so it just couldn't happen.

Condition 1: Sufficient assessed tasks are provided for students to capture sufficient study time

Podcasts & Online tests

The reduction of lectures from two weekly sessions to one and the shift towards podcasts for content delivery coupled with the online tests provided increased and more regular opportunities for students to participate in active learning outside of class time as well as during lectures.

Student Perspective

Podcasts

There was some support for the podcasts in focus group 1, as one student pointed out,

I think I've learned more from watching the podcasts than I would have in the lecture.

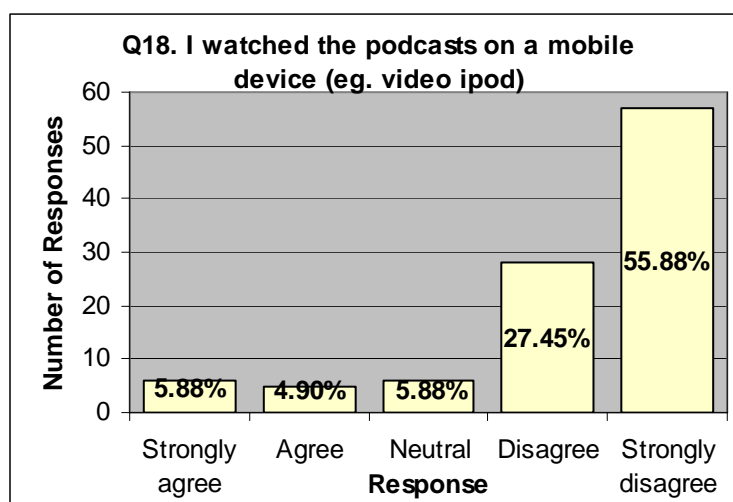
However other students claimed that they were not always motivated to watch them due to a lack of accountability for having watched them or not and the ease with which questions could be answered without knowledge gained from them. Some students chose to watch them only for exam preparation while one commented that

It's easy to download it and just sit and watch it but not actually pay attention to it'.

Although students commented on the perceived repetition between the podcasts and lecture content, they were enthusiastic about the BBC clips, which they found to be very interesting. One student suggested that the present tutorial format be altered to facilitate more discussion

of the podcasts. Many of the students in the focus groups evaluated the podcasts to be the most effective vehicle through which to learn because of their interesting content in parts and interactive nature. A large proportion of students who responded on the questionnaire felt the podcasts had both contributed to their learning and had been enjoyable. However, in terms of ranking their preference for which formats to receive course information, podcasts were commonly ranked last. Yet, a considerable number of students (almost a quarter of respondents) in contrast found podcasts as the most preferable format. The bimodal distribution of responses is similar to the response pattern of lectures as an information reception format. Perhaps those students that are not enthusiastic about lectures are the same students that have a preference for podcasts. Nonetheless, whilst it may not be right to institute podcasts as a compulsory part of the course, a considerable minority of students really value them. Only a very small proportion of students took full advantage of the flexibility that the podcasts offered to learn out of class time in any location by downloading them on mobile devices (Figure 6A).

Figure 6A: Student questionnaire responses to the role of podcasts in offering more flexible learning outside of class



Online Tests

A number of students listed the online tests as one of the best aspects of the course. Students often did not give a reason, but those that did mentioned the flexibility of when the test could be taken, and that the tests encouraged students to study and pay attention. For instance, one student wrote

I found the online test useful, this made me pay more attention at the lectures as well as I had to force myself to study more on daily basis which is very good!

Condition 2: These tasks are engaged with by students orienting them to allocate appropriate amounts of time and effort to the most important aspects of the course

Podcasts

It was hoped that the extra time on task that students would be engaged in would help them to spread their study efforts in a more evenly distributed manner. Karen explained,

One of the things we were trying to achieve was to get them more engaged and to make them take more responsibility for their own learning which inevitably does mean more time reading the textbook before class but then hopefully when it comes to

the online test if they've been to class and they've done the preparation for class then it makes the test easier and if they don't have to do the same amount of last minute reading and revision.

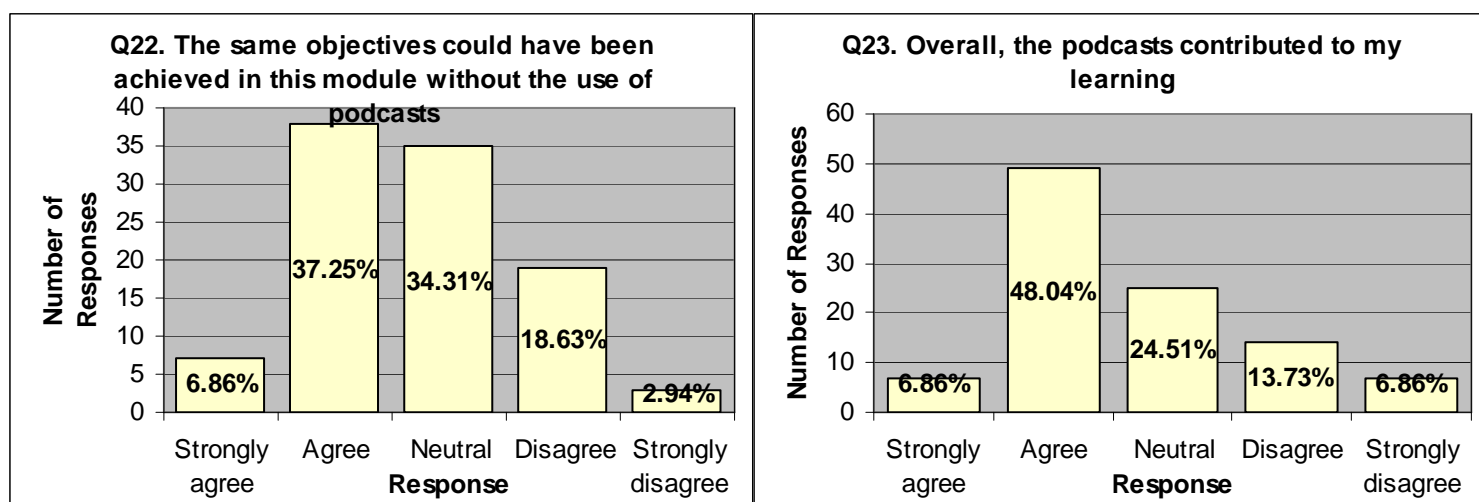
Student perspective

Podcasts

Responses from the student questionnaire indicate that 44% of students felt that the same objectives could have been achieved in the module without the use of podcasts while only 22% considered the learning outcomes to be dependant on their use, however 50% of the respondents considered that the podcasts had contributed to their learning (Figure 7A) while only 21% disagreed (Figure 7B).

Figure 7A: Student questionnaire responses to the importance of podcasts to the learning objectives

Figure 7B: Student questionnaire responses to the overall learning benefit of podcasts



Condition 3: Tackling the assessed task engages students in productive learning activity of an appropriate kind

The repeated learning cycle of multimedia formats including viewing of podcasts, completing pre-lecture exercises, EVS enhanced discussions during lectures and online tests were designed with the objective of deepening student understanding of the learning material. The increased opportunities for tutor and peer formative feedback through presentations and the immediate feedback and revisions process offered in the frequent online tests served to reinforce the main learning outcomes. The use of EVS offered more depth and expansion of concepts and the real life applications available through the podcasts and the presentations provided students with a richer dimensions to the learning material by helping them to put it in context.

Student Perspective

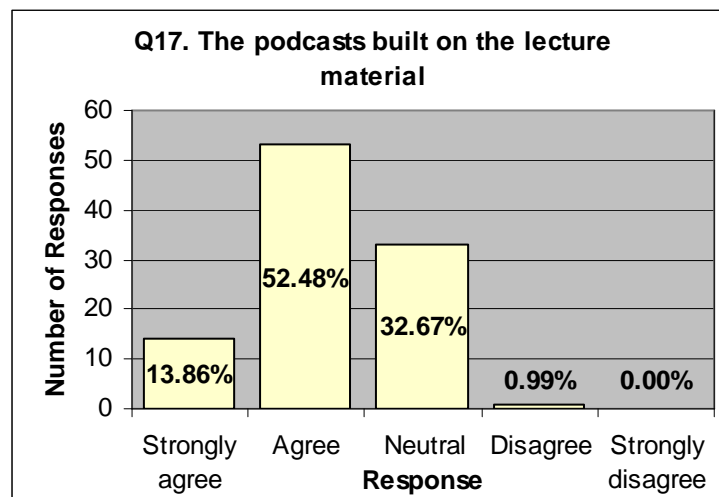
Online Tests

Students in both focus groups were concerned about time constraints on the on-line tests resulting in some doubt about the reliability of the results. There was also dismay in both groups about the accuracy of the results, although while students in group 1 suggested that high test score may have been the result of shared information, those in group 2 questioned the quality of the lectures if non-attendees could achieve high test scores. Although students in group 2 appreciated the immediate feedback, the online tests were not perceived by students to be a valid measure of effort or knowledge because of the incongruence between student lecture attendance and performance in some cases and because of the limited time on task.

Podcasts

There were mixed reviews of the podcasts in both focus groups with some students gaining more knowledge from either the podcasts or the lectures. While some students in each group felt that there was too much repetition, others appreciated the interlinked support between lectures and podcasts. 66% of respondents in the student survey indicated that they felt that the podcasts built on the lecture material (*Figure 8A*). Lack of monitoring of podcast downloading activity was highlighted as a problem in both focus groups.

Figure 8A: Student questionnaire responses to the link between lectures and podcasts



Multimedia formats

The majority of students (65%) indicated in the student survey that they enjoyed having the information presented in a variety of formats and the interactive nature of some of the media types (*Figure 8B*) although 42% felt that there was repetition in the various formats (*Figure 8C*) Podcasts were mentioned by a few students, as having a choice of sources of information. One student found the course,

More interesting learning through a variety of different interactive ways rather than the traditional lecture/textbook way.

Figure 8B: Student questionnaire responses to the benefits of multimedia presentations

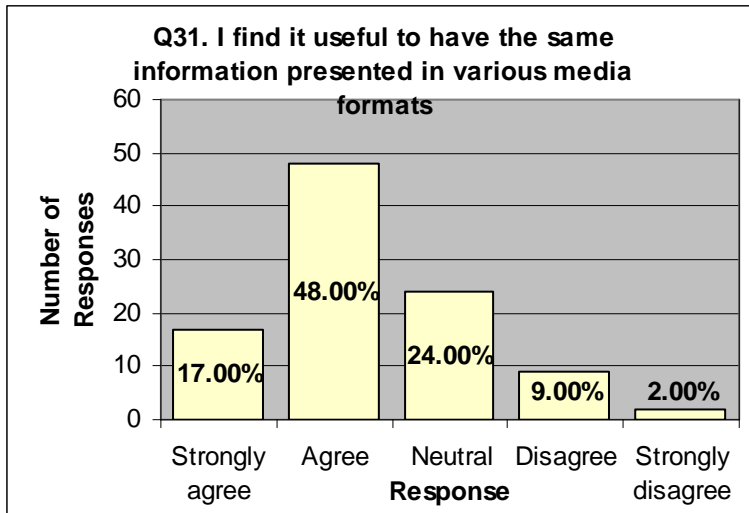
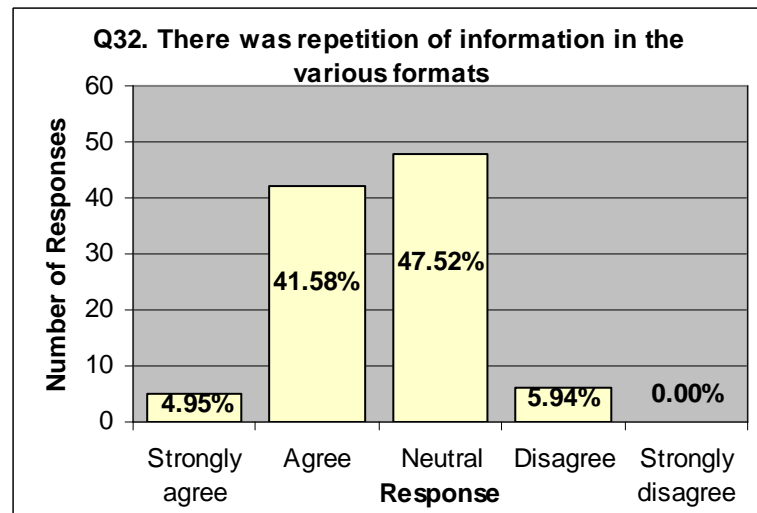


Figure 8B: Student questionnaire responses to the degree of repetition between various formats



Relative Benefits of Various Formats

Questionnaire responses indicated that 55% of students felt that using the EVS during lectures was more than less beneficial for their learning while only 10% disagreed (*Figure 8D*); 41% felt that the podcasts were more than less beneficial while 22% disagreed (*Figure 8E*); 64% felt that the online tests were more than less beneficial compared to 11% who disagreed (*Figure 8F*) and while 51% of students indicated that they preferred the format in semester 2 to semester 1, just 22% disagreed (*Figure 8G*). Overall the student questionnaire responses indicated that lectures were the most popular format for receiving information, followed by tutorials. Podcasts were the least popular, with textbooks and WebCT fairing slightly better in the rank ordering.

Figure 8D: Students responses to benefit ratio of EVS use

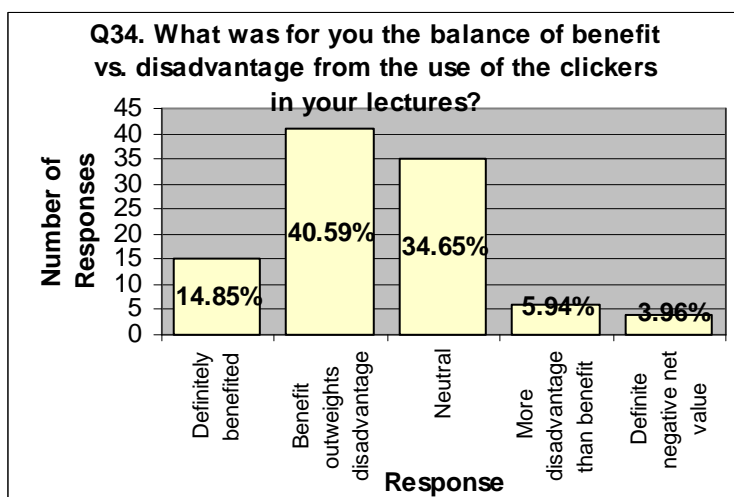


Figure 8E: Students responses to benefit ratio of podcasts

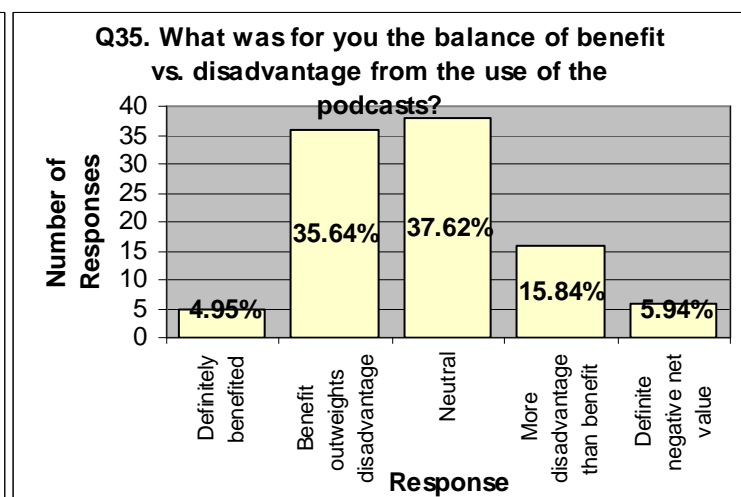


Figure 8F: Student responses to benefit ratio of online tests

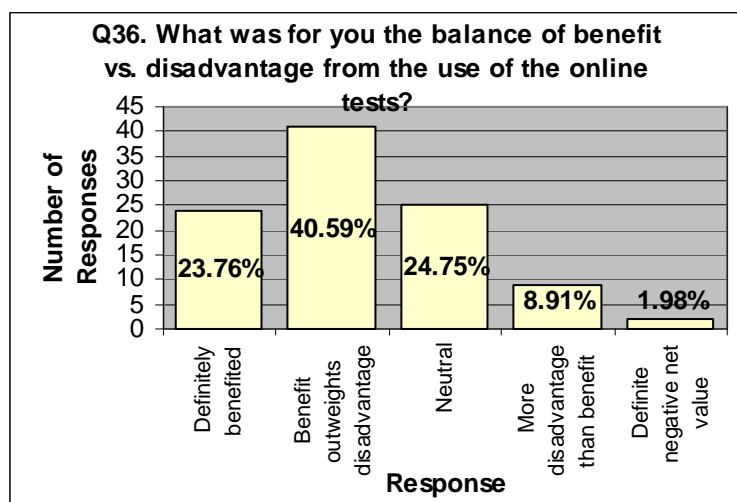
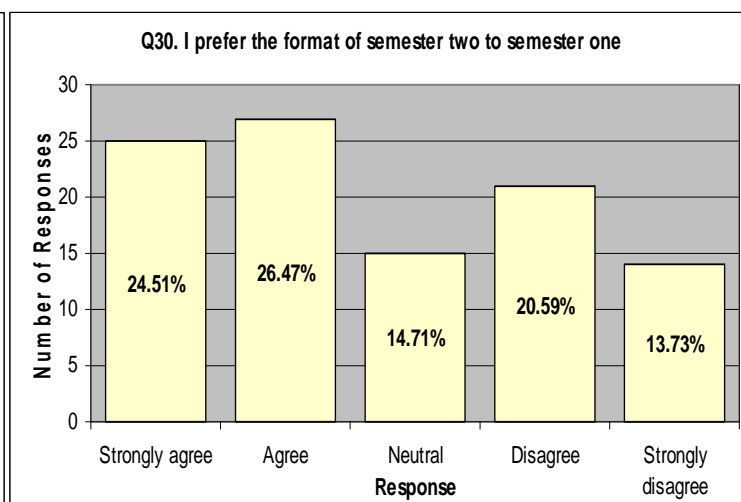


Figure 8G: Student responses to benefit ratio between semesters



Condition 4: Assessment communicates clear and high expectations

Online Tests

The cycle of frequent tests and immediate feedback enabled students to gradually build upon and increase their expectations in terms of their performance.

Presentations

The online discussions enabled students to gain an understanding of their peers' standards and expectations for the joint piece of work produced.

Student/tutor perspective

Online Tests/ Presentations

There was a perception among students in the focus groups that there had been some inconsistencies with regard to performance expectations on both the presentations and the online tests. While the presentations had been perceived to high inconsistent criteria provision, the online test outcomes did not always from the student perspective match the standard of effort in some cases.

Formal evaluation outcomes

Although attendance was improved from previous years, it was still at a lower than desirable level. The Monday slot achieved roughly 50% attendance but the Friday slot was around 30% only. For the forthcoming year, a timetable change has been effected which will hopefully improve attendance further. Figures on retention and student achievement demonstrate a considerable improvement over the previous year. Equally, student performance has improved. In the academic year 2005/6 40 students were deemed Not Qualified to take the class and the overall coursework average (including NQ students) was 47.8. In 2006/7 30 students (i.e. 25% fewer than the previous year) were NQ and the average coursework mark rose dramatically to 60%.

Efficiencies

Although there had been initial start up cost in terms of staff time, these were likely to be offset against potential benefits of potential efficiencies and time redistributions in terms of reduced tutor marking time and student learning gains. Karen described the efficiency balance,

Putting the podcast together was very time consuming. First of all going through the BBC archives to find material then watching everything to see if it was useful, then putting everything together into the podcast format and then going to record it and everything, I mean it really was very time consuming. Whether that saves time this year, I don't know. I have to see the extent to which the materials are sustainable. I think it will carry over for a couple of years but I don't think it will carry over for longer than that but I think that's probably fair enough but we should be updating the lecture materials regularly anyway. The tutors had different things to do. They previously spend a lot of time marking tests whereas they were done on WebCT so they didn't need to do those but we did require them to moderate the online discussions instead and some of them did that and were very sort of conscientious and others didn't do it quite so well.

Potential efficiency gains

An additional dimension to efficiency gains includes the impact on the experience of the lecturer and their interaction with the class and on progression rates.

One of the key motivations was that I didn't feel the class worked very well and I didn't enjoy teaching it, particularly from the point of view of students' engagement. It wasn't a very rewarding class to teach. A lot of the students were taking the subject as an elective in the first year and I sort of thought of it as a class that I put a lot into but then didn't get a lot out of and well the amount that I put in, I don't think has changed but I have found that, I still find it stressful this year but I find it a lot more enjoyable and the interaction with the students was definitely improved and I felt that I had more control over the class as well, just attendance was better so yeah that was one important thing. From the point of view of the department as well you know I think it's a really important class, its by far our biggest class, it's a class which is very important in terms of the proceeding year and the following years as well because if you've done appeals for students in that first year class then they don't elect to take the subject for second or third years so from the point of view of being a good citizen and trying to ensure that we have as many people as possible taking the subject.

Limitations

Technical Issues

Podcasts

Although the podcasts had been fairly well received in terms of their pedagogical benefits, Karen described some limitations in their current format,

When we started discussing the podcasts it was my understanding that we would be able to build links into the podcasts that the students could click on and go off and read various things and access articles related to that and in the end the technology didn't really allow us to do that but what we did was to provide links on the HTML

page for each podcast so we identified further reading opportunities in the podcasts and provided links to those on the HTML page so the students could go off and do that in their own time but I don't know to what extent that actually happened. I'm not sure whether WebCT might allow me to investigate that.

Pedagogical Issues

Online Tests

There were some problems with a minority of students who had printed the online test feedback it out and gave it to some of their colleagues who then used it to answer their tests so discussions about a revision to the current system are planned.

EVS

In addition, there were some concerns over selection of suitable EVS questions that would raise the level of discussion while remaining appropriate for an introductory subject. As Karen explained,

Although the theories are quite difficult, it was hard to come up with questions that weren't just common sense and that did actually allow the students to relate the common sense to the theory and I think some of the students thought the questions were not making them think enough about it or maybe there was too much duplication or they didn't see that testing them on the knowledge they had gained on the podcasts was particularly valuable because they are used to a lecture format where they have been given new information so they didn't see the reinforcing of the information as valuable and so I think that needs thinking about.

There was also a feeling that while some students really appreciated the new techniques and required reinforcement of knowledge, other others who have a better grasp of the material may become bored with the repetition and this may lead to a lack of engagement. Thus a solution that benefits both groups must be sought.

Student Perspective

Technical issues

Discussions from the focus groups suggested that neither group experienced any real problems with the EVS and only one student in focus group 2 experienced problems with the on-line tests. Students in both groups described experiencing some technical problems with the podcasts, particularly the lengthy download times. While the lack of support was only highlighted in focus group 2, students in both groups indicated that they could have benefited from more initial instruction in using the technology.

Podcasts

Results from the open ended questions on the student survey in relation to technical issues indicate that the podcasts were commonly found to be problematic. The main complaints regarded difficulty to access and use the podcasts, both at the university and at students' homes (private homes as well as student accommodation). Moreover, a couple of students mentioned that they didn't enjoy watching the podcasts or that they found them unbeneficial. One student put it:

Watching the podcasts when you don't have internet access at home. Podcasts were good but were difficult to access at times e.g. no computers available in library or not enough time to download and watch in one sitting.

Quantitative data indicated that 44% felt that there was sufficient guidance and help to use the podcast technology compared to 28% who did not (Figure 9A); only 27% found the podcasts

easy to use on campus while 36% actively disagreed (*Figure 9B*); 33% felt that they were easy to use off campus while 37% disagreed (*Figure 9C*); 53% had experienced problems with the podcasts downloading in time while just 20% indicated that the timing had been satisfactory (*Figure 9D*). However 58% of students agreed that other than the download time, they found it easy to watch the podcast compared to 24% who disagreed (*Figure 9E*).

Figure 9A: Student questionnaire responses to technological support for podcasts

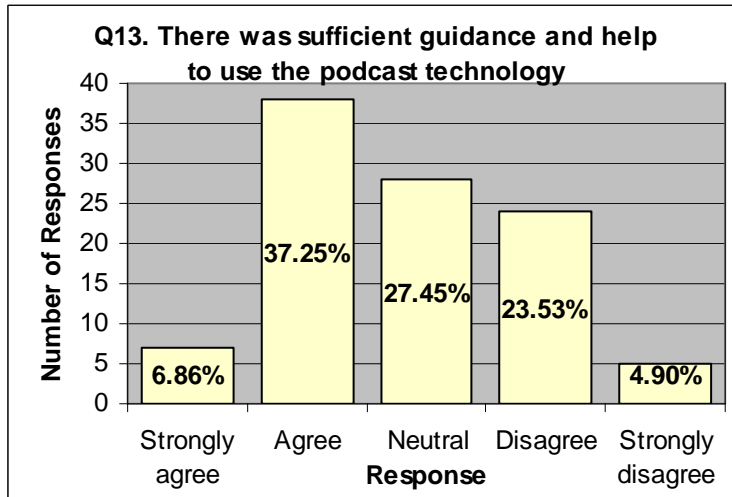


Figure 9B: Student questionnaire responses to technological accessibility of podcasts on campus

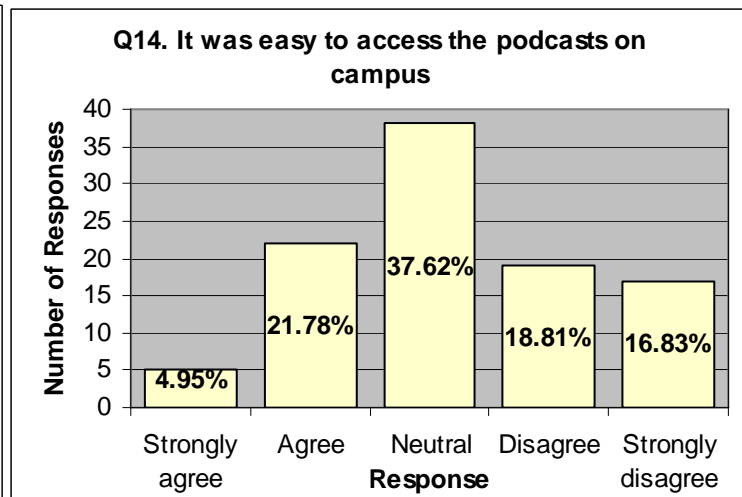


Figure 9C: Student questionnaire responses to technological accessibility of podcasts off campus

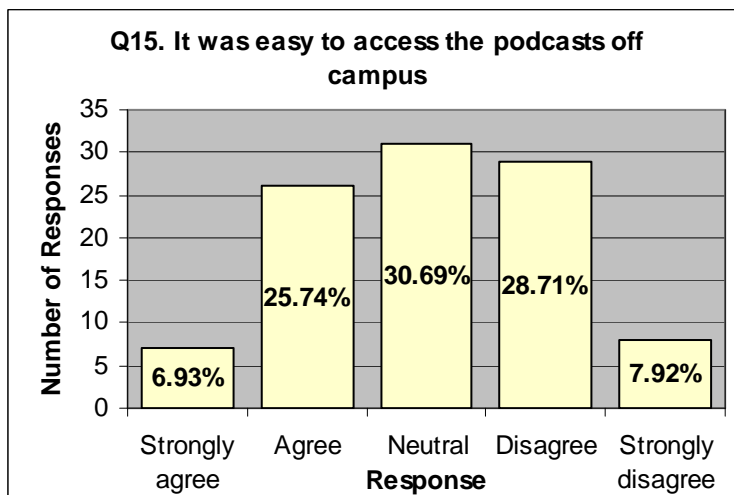


Figure 9D: Student questionnaire responses to technological efficiency of podcasts

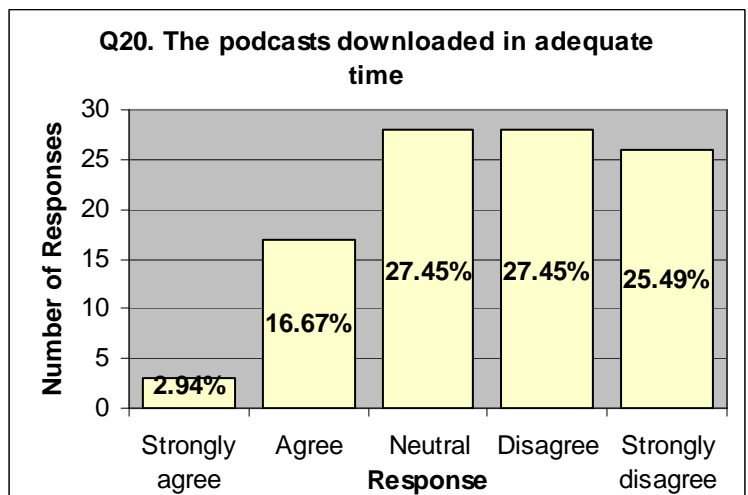
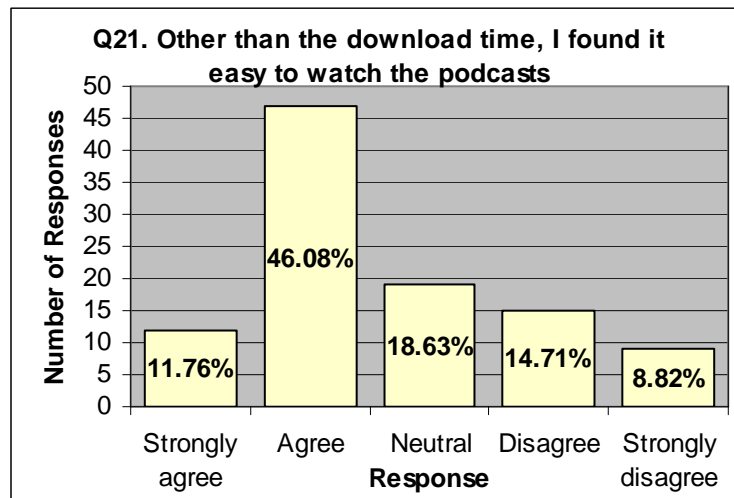


Figure 9E: Student questionnaire responses to general usability of podcasts

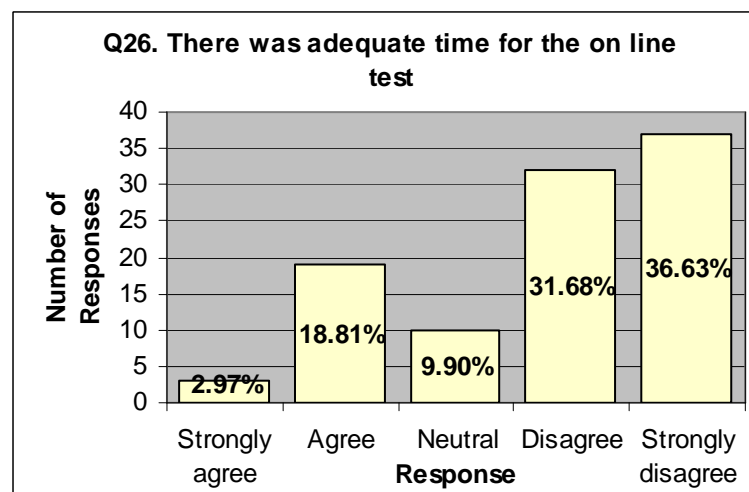


Of the new technologies, the podcasts were faced with the most technical difficulties. The predominant complaint related to downloading the podcasts both on and off campus. As this was the first semester that podcasts were introduced and many of the issues were solved by technical support staff during the semester, future use of podcasts should not be as problematic.

Online Tests

With regard to technical issues, questionnaire responses indicated that the online tests were found to be one of the worst aspects students' experiences. Some students found that inadequate instructions and assistance were provided. A couple of students mentioned that the tests would freeze. 68% of students found the time limit to be insufficient in order to complete the test in a successful manner (*Figure 9F*), and some mentioned guessing in order to provide a response in time.

Figure 9F: Student questionnaire responses to time limits on online tests



Sustainability

There has been a change to the teaching team from previous years, however the new member of staff has already been in contact with the REAP team to investigate what support can be offered for his use of the EVS technology. An application for funding was lodged with the HEA subject network for the creation of further podcasts to cover the second semester. Unfortunately, due to high volume and quality of bids this was not forthcoming. However the HEA have offered a smaller sum of money to conduct an indepth evaluation of the use of videopodcasts by the 2007/2008 student cohort, with a view to funding further podcasts in the following year.

Institutional support

Institutional and departmental support had not really been sought in this particular redesign as the technical and pedagogical support were primarily provided by the REAP team.

Future progress and strategic development

Suggested revisions for next year course included tying the lecture material and interventions more into the tutorials, redesigning the EVS questions and finding a way to make the course more challenging for students with higher expectations.

Lessons learned

- An independent evaluation of the class indicates that the EVS technologies made a very positive contribution to learning for the majority of students, but that there was a minority of students who considered them either intrusive or as a sort of 'dumbing down'. Podcasts also made a significant contribution for those who watched them, but technical difficulties unfortunately prevented many students from gaining access.
- Unfortunately, serious IT problems were experienced with regard to accessing the podcasts from within the Strathclyde University campus. Delays in dealing with this issue on the part of IT Services unfortunately contributed to this implementation issue. Support from REAP with regard to use of the EVS technology was excellent.
- It is important to ensure that IT Services are made aware of plans involving any sort of new technology. One should never assume that, just because something works at home or in another university, that it will work here!
- A particular group of students engaged in cheating during the online tests. It is desirable to delay the future release of feedback until all students have taken the test.

Dissemination

Plans are underway for a presentation as part of the Learning and Enhancement Network in November and for a journal paper submission to the Journal of Hospitality, Leisure, Sport and Tourism Education, the HES subject network journal.

Conclusion

From the student perspective, the various technologies introduced in the second semester of the course have added learning value but have not been without some teething problems.

EVS

Findings from the focus groups suggested that students could see the potential in using EVS for its interactive benefits but required a more effective learning design in relation to the question types, which were considered to be too open ended. Conclusions from the student questionnaire suggest that in general, the use of EVS clickers appears to have been a positive experience for the majority of students. Students who reacted positively to EVS use gave reasons that fulfilled the intended aims of the introduction of the technology, such as increased attention, concentration and interest. However, an equal number of students found that the use of clickers did not affect their attendance in lectures as those that felt that they had. There was however a number of students that found EVS use to be a negative aspect of the course. The reasons given included the apparent lack of benefit to students, distraction from learning and the impression that better lecture notes could be taken without the clickers in class. A large proportion of students also felt that the same objectives could have been achieved on the course without the use of clickers. However clickers appear to be having a number of positive effects in areas that were of concern to staff. A revision of the question design has been identified by the course leader as an area for development before the next sessions commences.

Podcasts

Discussions from the focus groups suggest that podcasts were generally popular but could benefit from reduced quantity but increased quality of information in them. Students were unhappy about the overlap between lecture and podcast material that led to a spiral of poor lecture attendance leading to poor motivation to attend and this was compounded by the Friday timetabling slot. Initial difficulties in downloading the podcasts led to reduced viewing activity. Students indicated that they would benefit from more interaction with the podcast material through tutorial discussion. The on-line pre-lecture questions and tests were felt to be too rapid for students to be able to assimilate learning and the legitimacy of test scores was questioned by some students. Podcasts were welcomed for their contribution to a more holistic interlinked learning design than had previously been offered. However, the lack of monitoring had led to some resentment between students and the change of format between terms without adequate introduction to the changes had left some students feeling like guinea pigs.

Responses from the student questionnaire suggested that a large proportion of students felt the Podcasts had both contributed to their learning and had been enjoyable. However, in terms of ranking their preference for which formats to receive course information, podcasts were commonly ranked last. Yet, a considerable number of students (almost a quarter of respondents) in contrast found podcasts as the most preferable format. The bimodal distribution of responses is similar to the response pattern of lectures as an information reception format. Perhaps those students that are not enthusiastic about lectures are the same students that have a preference for podcasts. Nonetheless, whilst it may not be right to institute podcasts as a compulsory part of the course, a considerable minority of students really valued them. Of the new technologies, the podcasts were faced with the most technical difficulties. The predominant complaint related to downloading the podcasts both on and off campus. As this was the first semester that podcasts were introduced and many of the issues were solved by technical support staff during the semester, future use of podcasts should not be as problematic.

Online Tests

Responses from the student questionnaire indicate that the negative feedback from students regarding the online tests concerned process and technical issues. The majority of students found the online tests to be beneficial, and unlike the EVS clickers and podcasts, more students felt that the same objectives could *not* have been achieved without the tests than did. Students were positive about the flexibility offered by online testing and the added motivation to regularly study course content. A major concern for a number of students was the inadequate time allowed in order to complete the test satisfactorily. Students felt needlessly stressed and did not provide accurate answers due to the short time limit. A second issue raised by one student is the issue of the test being vulnerable to 'collusion' as students complete the test unsupervised. Whilst there were multiple versions of the test, staff may wish to consider including a larger pool of items or some other means to discourage efforts to cheat. Finally, a number of students felt there had not been sufficient guidance and help to complete the online test. A couple of students experienced technical issues such as freezing of the computer whilst completing the test. In response to the problems, discussions with other departments who have been using similar technology have been ongoing in order to draw upon the successes of other test designs so that a more efficient system can be installed for the coming session.

Presentations

From the focus groups outcomes, it was apparent that the group presentations were not popular and the students felt that the lack of clear criteria and expected standards for this task, which resulted in confusion contrasted sharply with the guidance that they had received for the essay task in the previous term. Too much unstructured group work was also felt to be of little benefit to their learning and it was felt that the course would benefit from more feedback in tutorials and more guidance for group tasks. Plans are underway to introduce increased consistency between tutorial group criteria provision.

General

Students in the focus groups felt that there were some inconsistencies in criteria provision and feedback opportunities between tutorial groups. They could have benefited from more constructive discussions in tutorials, perhaps by using the EVS and from receiving a greater opportunity to reflect upon written feedback, through on-line provision. There was an apparent lack of group social identity and cohesion. This was due in part to some students perceiving and selecting Tourism as a soft option, identifying more with another chosen subject, feeling isolated if other students share another subject and to poor social opportunities within the department. There were mixed feelings about content alignment with some students appreciating the interconnectedness of the technology and learning material, while others failed to see the objective of the redesign. Some students felt over-burdened by preparation requirements before lectures and tutorials and by the style of the core textbook. The pressure to prepare along with academic assignment pressures, inconvenient timetabling and the perceived poor effectiveness of the EVS question types was thought to be instrumental in low lecture attendance. Future plans include the restructuring of tutorials to shape them more around the learning cycle of the various technology aided tasks, a revision of the timetabling options and a revision of the EVS formats.

Informal outcomes in light of stated objectives, derived from quantitative evidence

Attendance was somewhat increased but it is likely that the relatively modest increase compared to the anticipated gain is most attributable to poor timetable slots, which will be revised before the next session. Quantitative results from the student questionnaire revealed that the student experience was enhanced through increased concentration and engagement with the lecturer, lecture material and peers during lectures due to the use of EVS. Attention to lecture material was also increased by the online tests. Student contact time was reduced and private study increased through podcast viewing, online tests and presentation preparation including online discussions. Group cohesion was increased to some extent at least for Hospitality students through perceived learning benefits from group work but could be further

improved. Interactivity of lectures was increased through the combination of podcast material feeding into EVS questions and discussion.

Diagnostic testing was increased through the use of online testing and EVS during lectures. Self-reflection on learning has been somewhat increased by the EVS use in lectures and students considered that the learning objectives could not have been fully achieved without the use of online testing. Enjoyment has increased through the interactive use of EVS during lectures and with the interactive variety of media formats available. Weaker students have been assisted through reinforcement of learning material with repeated cycles of learning activities and multiple iterations of course material through the combination of podcasts, lectures, textbook, EVS, online testing and regular feedback. Feedback has been improved through immediacy of online test feedback and peer feedback has been increased a little through EVS discussion and on-line discussions for group work on presentations. The use of educational technologies has been enhanced through the synergy of EVS, podcasts and online testing through the university's VLE, to produce a technological package to facilitate the strengthening of the pedagogical underpinnings of the course. There has been a somewhat greater alignment of teaching and assessment through cycle of multimedia interactive activities.

Formal outcomes from exam data

Formal outcomes revealed a 25% reduction in students deemed Not Qualified (NQ) to take the class than in the previous year and there was an increase in course grade averages to 60%.

Future

Sustainability looks favourable in the short term at least. Plans for the future include the revision of EVS questions and of online test timing and feedback provision and a move towards a more inclusive design of the tutorial format in line with the whole cycle of redesigned learning activities with more consistent criteria for tasks. In addition, the purpose of the technological interventions will be more comprehensively explained to students at the beginning of term in order to provide a learning incentive by explaining the pedagogical benefits of the design.