University of Strathclyde Department of Educational & Professional Studies B.Ed. 111 Case Study Report

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TABLE OF CONTENTS

Overview

The *Bachelor of Education (B.Ed.) (Honours)* degree is a four year degree in primary education run by the Department of Childhood and Primary Studies. Completion of the degree leads to a teaching qualification in primary (elementary) education. The degree was revalidated in 2004 to incorporate Personal Development Planning (PDP) as a core component throughout the four years. The purpose of the PDP was to enhance the coherence of the student learning experience by integrating related work from modules across the course. In the revalidated course, PDP involves students keeping a paper-based 'Progress File' to document their achievements and development needs and to reflect across their professional, academic and personal development at University. Progress File activities include keeping records of coursework and assessment; writing a 'reflective log' where students make on-going entries across any topic or event they wish to record and explore (e.g. an experience and what they have learned from it); carrying out an audit of professional or personal skills; the development of action plans and a CV. The Progress File provides an evidence-base that students can draw on for assessment work. See Table 1 for more information on Progress File activities. The model of support for PDP is to provide greater scaffolding in the early stages of the degree with students expected to adopt increasing responsibility as they progress. Maintaining a record of development is essential for professional registration and subsequent Continued Professional Development (CPD). Hence PDP is particularly important in teacher education.

The integration of e-supported PDP within the B Ed programme, as piloted in the Childhood and Primary Studies project, is having a far reaching effect on other modules in the B Ed and beyond. This has inspired a new pilot within the B Ed 1 Educational and Professional Studies module 'Learners and Learning', provided by the Department of Educational and Professional Studies. A radical redesign of student coursework tasks was implemented in this module throughout the year 2006-7. The traditional B Ed 1 Educational and Professional Studies module 'Learners and Learning' was a 20 lecture course accommodating around 170 students. Assessment included 10 sets of independent study tasks (each set contained a series of independent study tasks and resulting tutorial activities). Formative assessment include informal assessment of student portfolios while summative assessment incorporated one end of year exam comprising 50 multiple choice questions and one 'seen' article to be critically analysed.

Drivers for Change for ED111

As a result of analysis of student end of year module evaluations and anecdotal evidence from staff, the director of the ED111 course had become aware of the extent to which student engagement in the course was variable, that here was a lack of standardisation in approaches to formative assessment of student portfolios by staff and students alike and that there existed a mismatch between tasks associated with course lectures and the final summative exam. Resolving to address these concerns, and aware of aims of educational and government bodies worldwide to promote the implementation of formative assessment strategies and effective use of e-technology in higher education, he and another member of the course team embarked on an action research project which was intended to provide answers to the underlying questions, "How can we change the assessment system to improve the student learning experience? How can we modify the learning environment? and How can we offer timely, high-quality feedback to support student learning and engagement?

The module under consideration had been designed to help students, in the first year of a four-year degree course, develop understandings of the processes of learning and also to help them develop insights and sensitivity to the needs of learners, including themselves. Students were expected to be able to demonstrate their understanding of various explanations of learning and

development processes and they were required to be able to use well-recognised psychological and sociological literature as a basis for developing their own thinking and practice.

The original course was organised around a weekly lecture programme, supplemented by fortnightly tutorials. The entire cohort of students (170, in 2006-7) was divided into eight tutor-led groups which met to discuss independent study tasks related to the lecture content. These tasks were normally based on readings chosen by the lecturers. Students were asked to prepare these in advance of the tutorials and to maintain a portfolio detailing their individual responses. This portfolio was subjected to informal formative assessment by tutors at the end of the first semester. However, there were no clearly specified mechanisms which allowed course tutors to ensure that all students were actively engaged in developing understanding of course materials and there was wide variation between the methods of scrutiny adopted by the tutors, and between student engagement - as evidenced by the contents of the portfolios. Some students produced lengthy, multiple responses and others very little. It was agreed that this method was largely ineffective in motivating students to engage with course materials, and that it was necessary to find other approaches to monitoring student input. The decision was made to remove the previous formative assessment task and investigate alternative methods of maintaining student portfolios and to consider how overall student engagement in tasks could be improved.

As course coordinator Magnus Ross noted,

> *Interestingly the enthusiasm of the tutor team, the whole staff team, tutors and lecturers, to take this forward is probably in itself a fairly convincing bit of evidence suggesting their own recognition that whatever happened we needed to do something to improve where we were at before.*

Aims of current intervention

In Phase 1, the e-portfolio was supplementary to the PDP work; Phase 2 aimed for a transformation of the B.Ed. 1 learning experience, with e-portfolio use being built in to programmed activities across all B.Ed. 1 modules. The aim of the intervention was to evaluate the extent to which a peer based approach to formative assessment could improve the quality of student engagement with the module material, student reflection and self-regulation and whether ultimately this would produce an improvement in eventual performance in the module as a whole. Course leaders Magnus Ross and Mary Welsh were interested in improving the nature of the first year experience by facilitating the development of reflective practitioner skills earlier in the course than their past experience had suggested was the norm. They felt that students from previous cohorts generally had not demonstrated a high level of reflective practitioner skill until much later on in their undergraduate programme. The goal was that by developing these reflective skills at a very early stage in their undergraduate programme, students would be able to take much more of an active responsibility for their own learning from an early stage and that there would be additional benefits in terms of the efficiency and effectiveness of the delivery of the course.

Method

In a significant redesign of activities in this module, PebblePad was used to aid the management and effectiveness of a series of inter-tutorial group work tasks conducted by tutorial subgroups. This facilitated collaborative processes and time on task in a staged way throughout the module, provided increased and more timely feedback through peer processes and sample tutor feedback, helped students to create their personal portfolio electronic management, and reduce and redistribute tutor workload.

The Technology

After extensive investigation a technology was selected to support the implementation of these objectives. PebblePad is a user-friendly, web-based e-portfolio that students can use to store, organise and share resources and information created by them or sourced externally. A key feature of PebblePad is that the student is completely in control of the portfolio contents and can determine who has access to each resource and how they are shared. It also has communication tools and formats that when used appropriately can support reflection (e.g. students can annotate their own and each others' resources with reflective comments, there are formats for carrying out skills audits, action plans). Hence this tool has significant functionality to support self-managed learning, self and peer assessment and interaction and dialogue with peers and tutors.

This software is produced by Pebble Learning based at the University of Wolverhampton. It was decided to use their externally hosted PebblePad service in the short term rather than develop local hosting at the University Strathclyde. More time would have been required to install and host the software on local servers. External hosting gave time to evaluate the product during Phase 1 of the pilot. For further information about this tool see: http://www.pebblelearning.co.uk.

PebblePad training was offered to students, and staff, at the beginning of the year. Technical support and advice was provided, throughout the year, by a Teaching and Learning Technology Adviser employed by REAP. Students were introduced to the procedures involved as an integral part of Professional Development Portfolio (PDP) provision throughout the BEd degree. It was also thought likely that students would be expected to utilise the technology in several different areas of their work as it became embedded in the delivery of other modules during the four years of their degree programme. Students are currently required to maintain personal records and reflections, as sets of assets, brought together on PebblePad. They are encouraged to utilise assets generated for other parts of the course to contribute to any aggregation and sharing of assets relating to the specific seminar tasks set.

Pedagogy

The previous programme of course work tasks was carefully rethought and restructured to create a more streamlined progression of tasks throughout the year. A scaffolded, collaborative methodology was devised which would be supported by the e-portfolio system PebblePad for peer sharing and feedback. Training was provided to the 8 module tutors and practical step by step guides produced for staff and students. Under the new model, which began operation in September 2006, the student cohort was divided further into 'sub-groups' with a maximum of five students per sub-group, using a simple formula which can be applied to any number of students. Membership of each sub-group was assigned at random, but was identical to sub-groups created in other course modules. Students were instructed to work together, in these sub-groups, on module activities. The ED111 project team, with the assistance of the REAP team, identified 5 'learning milestone' points during the year at each of which students should be able to demonstrate that they had developed specific theoretical insights and understandings. A 'Core Task' was associated with each of these and the resulting core tasks became the focus of peer group activities. These core tasks became progressively more difficult during the academic year. As Magnus explained,

> *From the five learning milestones, it was then a relatively short step to thinking about these learning milestones in association with tasks that had to be done to demonstrate achievement up to the point of each milestone. So that then provided us if you like with the framework for our formative assessment strategy. When we looked closely at the lecture programme as we had planned it, it was clear that we could actually insert*

> *these milestones at the end of certain blocks of lectures. The next bit of the exercise was to think of how are we were really going to accomplish this? There was no way that we wanted to replace some over-burdensome form of tutor based assessment and that in any case wouldn't have been consistent with our whole aim for the thing and because we wanted to involve the students and give them responsibility for their own learning, we thought about how we could get them to assess for themselves on a peer based system the extent to which they were actually achieving the learning milestones.*

Each student was invited to post his/her individual response to the core task to the e-portfolio environment to be shared with other sub-group members who were encouraged to offer feedback to their peers. At this stage only students in each sub-group could view the responses received for that group. Following peer assessment of individual responses, the sub-group worked together, either face to face, or using the e-portfolio environment, to create a synthesis response which addressed the core task. This group response was then posted to the e-portfolio environment where it was subjected to feedback from the course tutor who, until this point, had been unable to view the response. Throughout the year each student, in turn, assumed responsibility for collating, and posting, the group synthesis response to the e-portfolio environment.

After sub-group submissions were received, tutors undertook to offer feedback to one sub-group only within a timescale of one week. When the tutor posted his/her feedback this, and the response on which it was based, was posted to all eight sub-groups within each tutor group, so that students might measure their individual and group responses against the one receiving feedback with the aim of identifying gaps in achievement between their response and that one. Tutors ensured that each sub-group received tutor feedback once during the year and this response was to support students in achieving the various learning milestones. Independent study reading tasks and questions associated with each lecture input also continued to be set. Opportunities for tutor support in dealing with independent study tasks and for individual peer groups to work towards their core tasks was available in tutorials. Each student was required to assume responsibility for collating and posting the group response on one occasion during the year. This also mean submitting the group response to the e-portfolio environment, before midnight, on the correct date, as the 'gateway' to which each group response was submitted was locked automatically at midnight, after which time no further responses could be posted.

The entire module was re-designed:

Activity	**Previous model**	**New model**
Lectures	20	20
Tutorials	10	8
Independent study tasks	10 sets (each set contained a series of independent study tasks and resulting tutorial activities)	0
Group study tasks	0	5 'learning milestones'
Assessment	Formative: Informal assessment of student portfolios Summative: 1 end of year exam comprising 50 multiple choice questions and one 'seen' article to be critically analysed	Formative: Peer and self assessment of each learning milestone. Supplemented by feedback from tutors. Summative: 1 end of year exam comprising 50 multiple choice questions and one 'seen' article to be critically analysed

Evaluation Methodology

Qualitative anecdotal evidence was collated from course leader interviews, tutor and student focus groups, the **Learners and Learning Student Questionnaire** (LLSQ) and the **Assessment Feedback Experience Questionnaire** (AFEQ) 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)

Exlpicit criteria

It was intended that students would receive an example of a reflective log entry and a tutorial on reflective writing. Students would then be free to write this in a format that suited them. Students would receive a benchmark audit template and exemplar, and complete a complete a 'benchmark audit for formative assessment', rating themselves against professional criteria for Initial Teacher Education. Students were also to receive a key skills audit template and exemplar and complete a key skills audit for formative self assessment. Students could use PebblePad formats to record on-going development towards these standards, based on information released electronically by the tutor. The PebblePad 'action plan' takes students step by step through the process of creating an action plan and also includes a useful SWOT (Strengths, Weaknesses, Opportunities, Threats) tool.

However, given the time constraints and demands of implementing a new innovation, another recognised approach, using a criteria sheet, with carefully crafted performance-level indicators, devised by a member of the course team was adopted. This provided students with a simple guide to evaluating the progress of peers. Each of the core tasks were tied to a separate theme corresponding to each lecture block. Thus the learning criteria were variable between tasks and it was the responsibility of each tutor to set appropriate criteria for each of these. However as Magnus pointed out, the tutors were provided with guidelines regarding the broad aims of the new course structure in terms of the incremental progression of tasks, so that some consistency in the objectives could be communicated to students. As he described,

> *We shared with them our intentions on how we saw the whole pattern of the year because again one of the things that we felt had not been done effectively before was to have everybody involved in the module sufficiently inclined to see what the module as a whole. … Staff had started to make the links for the students and make them explicit in the guidance that was given to students in the core task with criteria provided both to students and staff for dealing with these core tasks. That was something that had not happened before but the staff very, very happily cooperated in providing that kind of guidance.*

Course leader Mary Welsh added that

> *I think cooperation at the staff group paved the way for development of appropriate criteria because clearly once they had bought the notion that there was an incremental development envisaged for the core tasks…it was up to them to develop whatever criteria for their own tasks.*

Goal formation (proximal and distal)

It was also envisaged that PebblePad would enable personal development towards key skills or other personal goals to be recorded in the same way as reflective log items. The course coordinators felt that were clear benefits to having the students work in randomly selected peer groups in order to facilitate their professional development and link the pedagogical benefits to career goals, making the learning process more relevant to them and ultimately associating student's proximal goals with their distal goals. As Magnus explained,

> *It's very strongly built in to the process that there should be outcomes that are very, very relevant for their professional future and professional lives. It's one of the things that we were so delighted about because it gave us the opportunity to do that. For example the peer group working situation is one that they will have to do. In their professional life, they will have to learn to work with other people, other people who have not necessarily been chosen by them to be friends but other professional colleagues and there's a great resonance of that in what we do with them. So the social dimension of it, the group working, the learning to lead a group, learning to be a part of a group because the way we rotate the process for submissions in the task means that every individual in the group gets the opportunity to take the leadership role and actually takes responsibility for coordinating the work of that little group. Every student will have the opportunity for making it work and actually making sure that they can bring people together and actually bring the submissions in, having responsibility for the progress of that within each individual group. So that's all built in and it's all very, very relevant to their future professional life.*

Expected standards

Magnus summed up the key change this year in relation to the explicit expectations placed upon the students in the following way,

> *I think the process has undoubtedly helped. What it has helped to do is make it much more explicit to them that this* [self regulation] *is an expectation. Instead of bringing them in and playing a very softly, softly approach, kind of hiding it away from them. What we have done in the past is we have sometimes preached this message to them that we want them to take responsibility for their learning but we haven't actually structured the learning in such a way as to actually make that explicit and said well that's what actually makes that happen. Now, that's one of the things we've consciously done because we've not only said to them this is what being on the course is about, it's about becoming a teacher, it's about becoming a reflective practitioner. We've actually embedded that in the methodology of the teaching and learning approach right from day one.*

Student and tutor perspective on goals, criteria and expected standards

Student focus group responses suggested that the students were in favour of the idea of working together in peer groups with other students that they have not previously known and were keen to relate in academic and professional contexts. However they did indicate that they felt that there was a degree of inconsistency between tutor criteria for tasks and that they sometimes found it difficult to relate the task material to the classroom context. They also expressed that while they welcomed the idea of working autonomously, they felt that the

scaffolding was not strong enough to support them in this in the early stages of their academic development particularly in terms of making links between different course components.

Tutor focus group discussions indicated that tutors felt that the students understood the requirement of the core tasks but they reinforced the concerns of the students regarding the ability of the students to link the learning goals of the lecture material to those of the core tasks. There was some suggestion that the way the structure of the core tasks was explained to students could be improved upon. However in contrast to the students' lack of confidence in their ability to be self-regulatory, there was a perception among the tutors that the students on this course were much further ahead of other students, even in higher level year groups in terms of autonomous learning.

Student LLSQ responses reinforced focus groups impressions suggesting that there has been some variability between tutor groups in relation to the clarity of criteria with 37.4% responding that they felt that the criteria had been clear and 31.3% suggesting that it had been less than clear in advance of marking (*Figure 1A*). Results from the AFEQ support these findings. 34% of respondents felt that it was clear to them what they should be doing, 39% did not. 31% of students indicated in the AFEQ that the criteria used in marking had been clear to them in advance while 45% disagreed (*Figure 1B*). AFEQ responses also suggested that student understanding of how tasks should be performed is derived from their peers (89%) and their own reflection and initiative (79%) slightly more than from staff guidance (60%) (*Figure 1C*)

Figure 1A: Student LLSQ responses to the clarity of criteria prior to marking

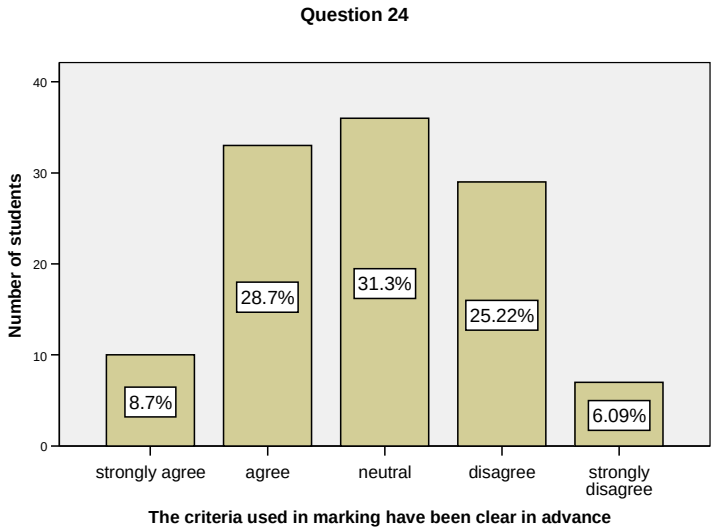


Figure 1B: Student AFEQ responses to the clarity of criteria prior to marking

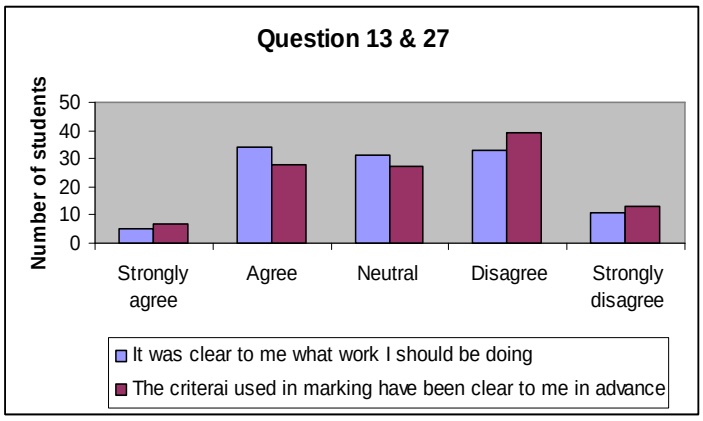
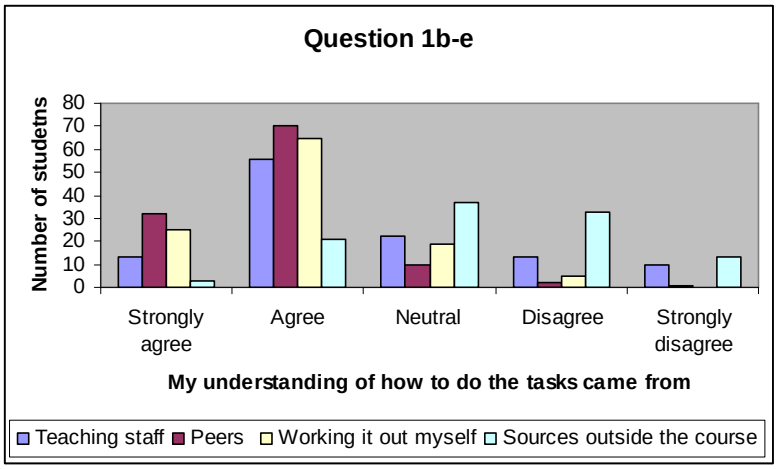


Figure 1C: Student AFEQ responses to origin of understanding of tasks



The area of inconsistency between individual marking criteria within the larger framework of standardised criteria was acknowledged by the course leaders as being an issue that they had already identified and had formulated plans to address in course re-engineering development plans. These plans include the intention to tie each of the tutorials more specifically to the core tasks. As Magnus illustrated,

> *The staffed tutorials next year will be very, very strongly geared towards the core tasks that are due to be submitted the following week. The tutorial will be the week before the submission date so that there will be a sequence within the pattern of things on the block of lectures that's coming to an end. On the second last meeting of that block of lectures there will be a support tutorial and I want to gear that much more closely towards supporting and completing that core task so that they will feel better prepared.*

This planned revision to the redesign is likely to contribute towards more perceived consistency in criteria provision across tutorial groups in subsequent iterations of the course redesign.

Principle 2: Facilitates the development of self-assessment (reflection in learning)

A key feature of PebblePad is that the student is completely in control of the portfolio contents and can determine who has access to each resource and how they are shared. It also has communication tools and formats that when used appropriately can support reflection (e.g. students can annotate their own and each others' resources with reflective comments, there are formats for carrying out skills audits, action plans). Hence this tool has significant functionality to support self-managed learning, self and peer assessment and interaction and dialogue with peers and tutors.

To maximise effectiveness, tutor feedback was provided to only one sub-group in a tutor's class for each Core Task submission. Different sub groups were identified as the focus for tutor feedback for each Core Task. Students were then invited to participate in further peer analysis and interpretation of both the submission and its feedback to encourage development of professional reflective skills applied to their own work

Mary expanded on the provision of opportunity for students to self-reflect by emphasising that,

> *It's done the same way each time for each core task so we would hope that they would reflect before they post an individual task and then reflect again before they do the group posting and then reflect again when they've got the final stage feedback from the tutor. That's supposed to have encouraged them and we did say that to them, we did want them to go back and close the loop by going back to see what the difference was.*

It was recognised that, in order for students to develop self-regulation and associated improvements in learning and achievement, they should be provided with opportunities to practice self assessment. In order to facilitate this, submission of core tasks to the e-portfolio environment happened over two stages. First of all, students were required to post their personal response to the core task to the e-portfolio system, for scrutiny and feedback by peers, before individual responses were synthesised to provide the group response. Core tasks were issued at least four weeks before the submission date for the group task and students were free to offer feedback to sub-group peers during this period. Students were given training in use of the "Two Stars and a Wish" strategy and were advised that this was appropriate for learners at all stages. Students were able thus to self-assess their personal response, identifying strengths and weaknesses, against those posted by other members of the sub-group. It was hoped this would lead to in-depth discussion of the issue under consideration and facilitate deep, rather than surface, learning. In the second stage of the process the sub-group met, face to face or online, to synthesise their group response from those posted. Again, the "Two Stars and a Wish" strategy was recommended to promote discussion between sub-group members and allow work to be selected for inclusion in the group portfolio submission.

Although the self-assessment was a key element in the design of individual submissions to group tasks, there was some difficulty in establishing whether students were completing this stage in their learning activity as Mary cautioned,

> *I think it is really quite crucial that they go in and they use the final stages of it once the tutor feedback is there, that should be then their opportunity to use the final stage of their own measuring up of individual personal learning against what the group did and what the tutor said. That is in theory what is supposed to happen and it's very, very important. The problem with that is that the way it is structured, we actually don't in all honesty have a way of monitoring that final stage. Now I suppose that is like the final stage in the learning process that ultimately they have complete responsibility for but we can't be responsible for them doing it.*

Thus while the private space facility offered by PebblePad is in theory a valuable tool for the promotion of self-regulation, in practice not all students may take advantage of the opportunity. However students also had the opportunity to self-assess by comparing their performance with their peers. The original piece of work and feedback comments that they got as a small group were made available to all the small groups in that tutor's group and some tutors gave students the opportunity to discuss each groups' feedback in class.

Student/Tutor Perspective on Self-assessment in the group task process

Peer feedback was felt by the tutors in the staff focus group to have a very instrumental role in the learning experience of the students. A particular tutor described staff feedback as requiring less active engagement than peer feedback and that although it generally takes first year students a while to appreciate the process, the reflection and debate inspired by peer processes are much more valuable to the students than direct staff feedback.

Students in the focus group indicated that they felt that they may have benefited more from more individual feedback in order to maximise reflection. Whilst staff and students had raised concerns about group work on the module, questionnaire data revealed that 72% of students believe the group tasks supported their learning (*Figure 2A*) and 75% that the individual work had supported their learning (*Figure 2B*). Indeed the response patterns for these two questions were remarkably similar.

Figure 2A: Student questionnaire responses to how well they felt group tasks supported their learning

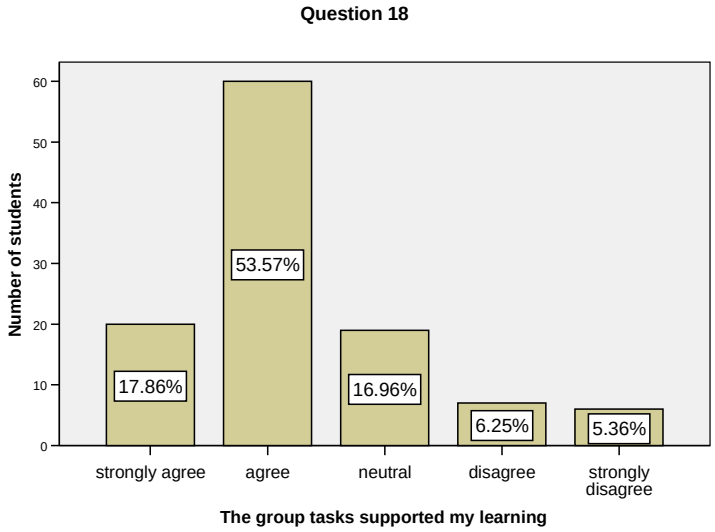
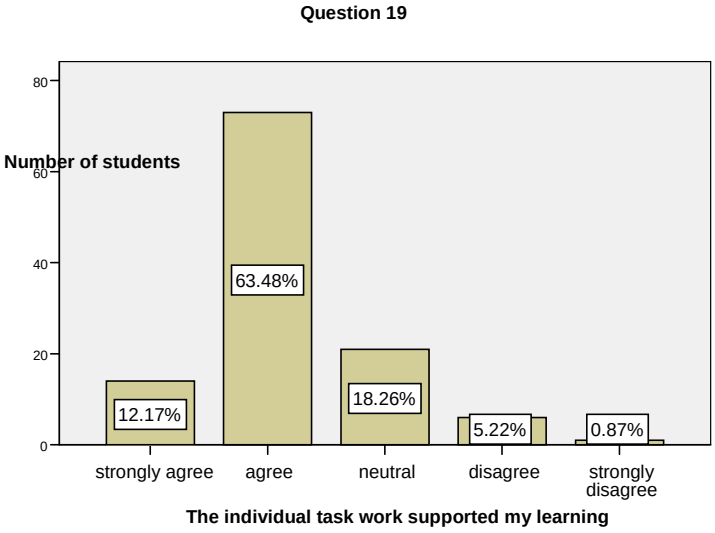


Figure 2B: Student questionnaire responses to how well they felt individual tasks supported their learning



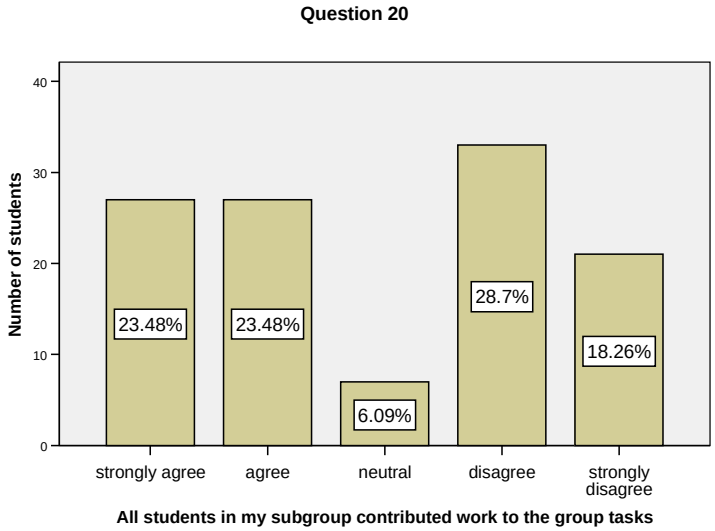
A number of students in the focus group had not enjoyed the experience, largely due to the 'loafing' of some students, while other students were carrying the workload for the whole group. Although there was considerable support for the idea of working in groups in general, the success of the group process significantly depended on cooperation of all of the members. There was substantial concern expressed about the issue of social loafing, where some group

members felt that they had contributed most of the work with others taking the same credit for little or no investment in terms of time or effort. As one student noted,

> *if you are in a group where there's a few people who don't pull their weight then they can go on there and look at your work that you've spent hours trying to do and basically they can get that information in two minutes and that can be quite frustrating.*

47% of students who filled in the student questionnaire disagreed that all students in their subgroup had contributed work in the group tasks (*Figure 2C*).

Figure 2C: Student questionnaire responses to how much they felt that all of the students in their subgroup had contributed to tasks



Students in the focus group expressed a clear preference for a change of process to one in which their individual submissions would be monitored by staff in order to avoid social loafing. In responses to the notion of direct individual tutor feedback, one student claimed that,

> *I would be a lot more motivated and have a lot more drive and enthusiasm to actually get it right and do it to the best of my ability and even though I do it within a group, it's different when it's not being recognized as an individual's work. .*

Student focus group participants expressed that they would be open to staff monitoring group work activities to counteract the non participation of group members. Open ended items posed in the Learners and Learning Student Questionnaire regarding the most and least beneficial aspects of the experience suggested that there may be a need to revise the group work core tasks. Whilst students accepted the importance of group work, they felt that more staff monitoring was required to ensure against social loafing. For example,

> *The tutor should have more access to all group members' work, even if it just to attach individual contributions to the group task so that it can be checked to ensure everyone contributed.*

71% of students agreed in the questionnaire that staff should monitor group work activities (*Figure 2D*) and 64% agreed that marks should be awarded for individual contributions (*Figure 2E*).

Figure 2D: Student questionnaire responses to how they felt about tutor monitoring of their group work activities

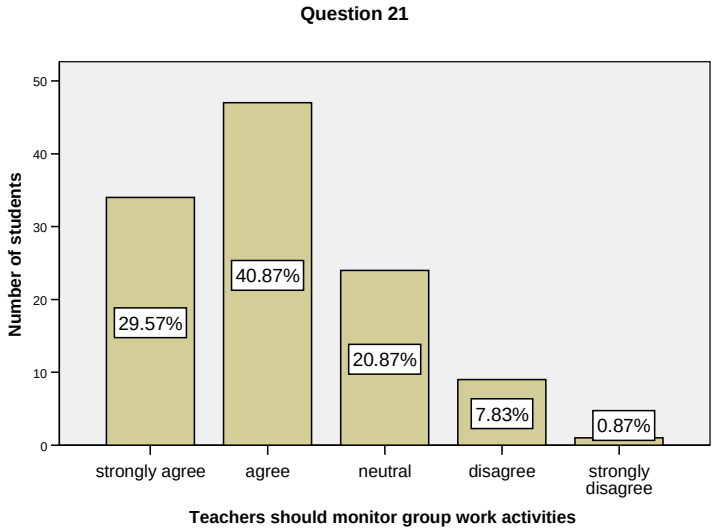
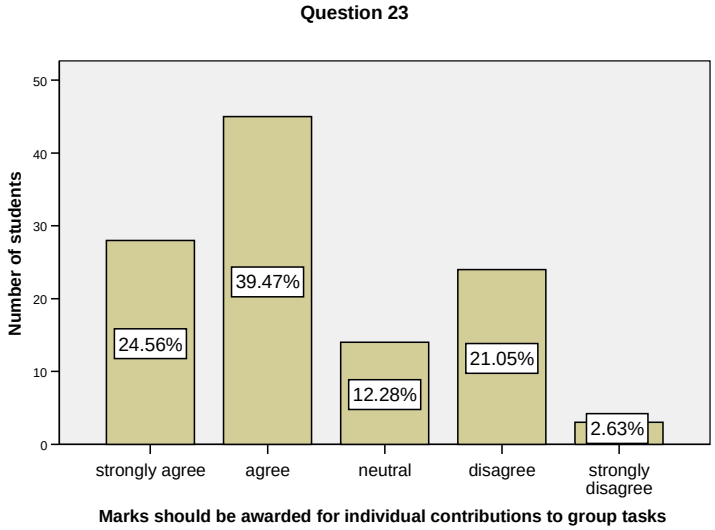


Figure2E: Student questionnaire responses to whether marks should be awarded for individual contributions to group tasks



Despite concerns raised by students in the open-ended questionnaire items and in the focus group, quantitative results showed that group work was viewed as one of the positive aspects of the course. Positive comments were often qualified by recognition that the positive experience relied upon having a 'good' group where all members contributed. The group work was described as well organised, challenging and enjoyable, and a common reason for the positive view of group work was the ability to share ideas and clarify understanding with peers. For example,

Group work was the best aspect, as long as the whole group contributed.

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

Course leaders have adopted a blended learning approach to providing high quality information to their students about learning. As Magnus clarifies,

> *It is the blended learning approach. It's the synthesis of the face to face lecture with the electronic learning environment, with the e-portfolio, with the staff seminar contact. It's that blend of all these that come to together to enhance the personal learning experience of each student. But the whole notion, we're talking about the student experience, even at the first year level for brand new students, the value of this is inestimable, the huge value of the face to face contact that the students have. Now one of the things that I think our particular blend facilitates, is that you actually give them more time, the students have more time than they ever had before in which they can use the face to face contact time because they've got this available. We are not impinging on most of their Friday 10-12 slots at all so they actually have a very much more useful chunk of time that they can use themselves and have ownership of themselves to develop that aspect of their skills. It emphasises if you like what we were saying to them about how this becomes more and more crucial and we do need to do more of that at the beginning.*

During the third stage of the core task process, sub-groups received feedback from tutors which aimed to support and develop self-regulation by offering a more in-depth evaluation of the response to the core task. External feedback is valued by students, but in order for it to be successful in developing understanding, it is vital that external feedback is delivered in a timely manner, close to submission of the response, so that students can take action to improve performance. Tutors undertook to offer feedback to one sub-group within one week of the group submission and this was accomplished, except on one occasion when staff illness meant that one tutor response was three days late. When tutor feedback was posted this was made available to the entire tutor group and students were advised to check their individual and group responses against the response selected for feedback on that occasion.

When posting tutor feedback to the e-portfolio system staff were asked to re-visit the success criteria for the core task, but, in order to ensure that students really understood tutor feedback, tutors were invited also to discuss their comments on each task, with the whole tutor group, during tutorials following submission. Furthermore, lecturers who devised core tasks also offered written advice to tutors so that some standardisation of response might be achieved. Tutor responses to each group remained online for the remainder of the course so that students might re-visit them if desired.

Module leaders stressed the benefits of students receiving timely feedback but did recognise that future iterations of the course may require increased opportunities to resubmit work once feedback had been received. Formative feedback only was supplied as it was felt that it would be more constructive than summative for the purpose of providing students with a means of progressions. As Mary suggested,

> *No matter where they are, the feedback is always able to give them a way of moving forward.*

It was noted in the tutor focus group that more extensive direct feedback was available to students this year because there is less to mark than in previous years when it was more a case of checking that the work had been done than providing constructive formative feedback.

Student Perspective on Written Tutor Feedback

Results from the LLSQ revealed that 62% found the written feedback from tutors helpful (*Figure 3A*). However responses from the AFEQ suggest that they may have benefited from more explicit feedback on performance on tasks with only 16% feeling that they had had a clear idea of their performance on tasks (*Figure 3B*) and more students gained understanding from peer feedback and reflection than from tutors (Figure 3C).

Figure 3A: Student LLSQ responses to helpfulness of tutor written feedback

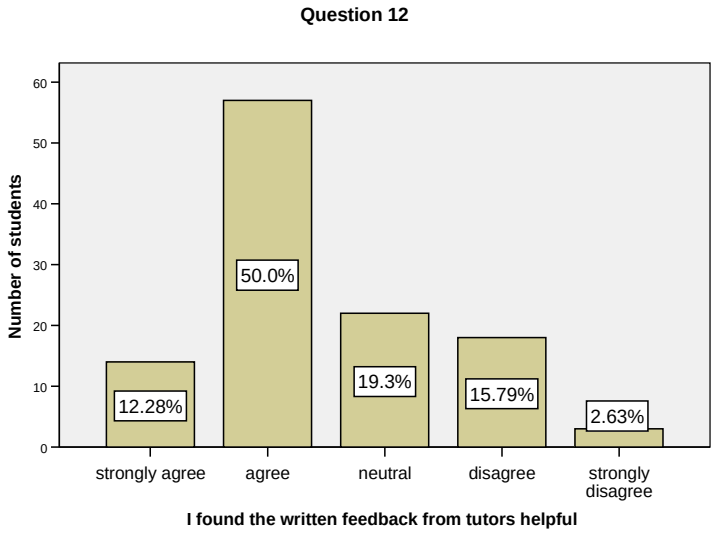


Figure 3B: Student AFEQ responses to helpfulness of tutor written feedback

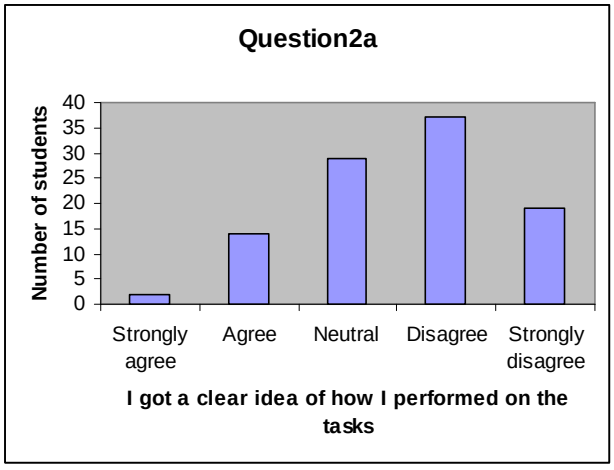
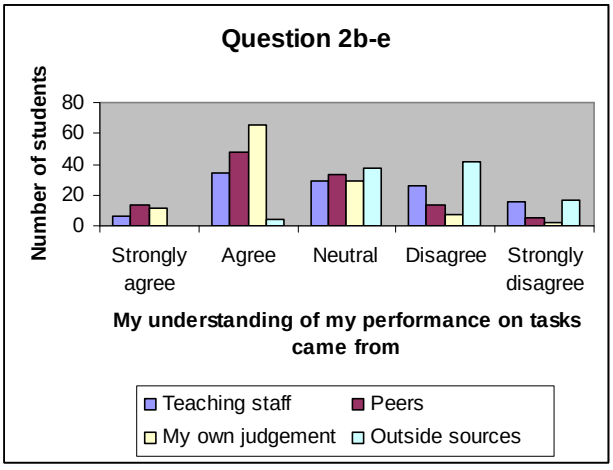


Figure 3C: Student AFEQ responses to helpfulness of tutor written feedback



These results may have been due to students' preference for supplementary verbal feedback to provide further clarification of feedback on tasks. 61% of students who responded on the AFEQ felt that they would have benefited from more detailed comments on their work (Figure 3D), which may have reflected the group rather than individual feedback and 89% felt that they would have benefited from discussion alongside their written feedback (Figure 3E).

Figure 3D: Student AFEQ responses to the degree of detail on feedback comments

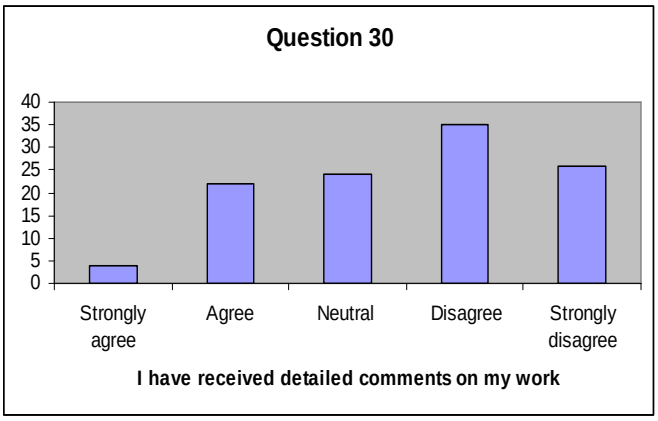
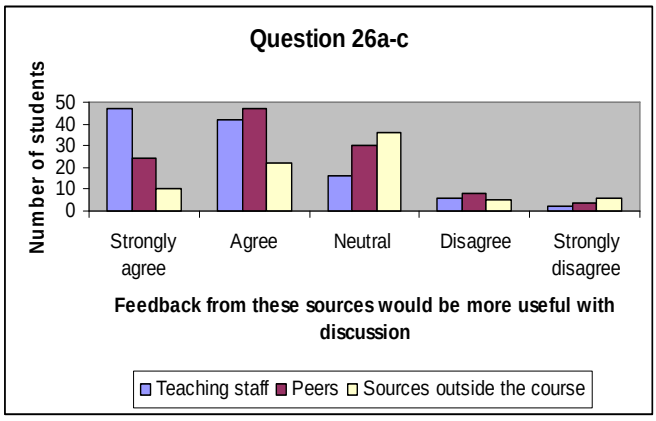


Figure 3E: Student AFEQ responses to the idea that written feedback would be better if accompanied by discussion



Principle 4: Encourages teacher and peer dialogue around learning

Tutor/peer discussions

Staffed tutorials offer students regular opportunities to discuss ideas with both peers and staff with some tutors opting to seat students in their subgroups during the tutorial session. However staff would provide only one sub-group per task with feedback on their task in order to facilitate greater peer dialogue around learning and to increase self-regulation. The dialogue between students and tutors in tutorials, and the use of the e-portfolio system to store submissions and responses, allowed participants to engage in meaningful discussion which developed deep, rather than surface, learning. Students were able to develop understanding further by exploring alternative perspectives and by discussing feedback that they found helpful. Comments that were thought helpful by some students were sometimes regarded as unhelpful by others, and the resulting discussion allowed for further investigation, not only of the issue, but of the impact of evaluation on students. Students were encouraged also to develop metacognitive skills through this dialogue. While there has not been a high degree of correlation this year between tutorial content and core tasks, Magnus and Mary plan to reduce the present format of eight tutorials with six core task clearly related to tutorials next year.

Individual Tutor Dialogue

Staff on the course have made every effort to make themselves available for students to come and see them in person to seek feedback on both academic and non-academic issues and this has always been the case. However, there may have been an additional benefit from the redesign in terms of students' willingness to take up this opportunity. As Magnus explained,

> *If we are looking at a system, a particular blend of learning that was designed in order to encourage them to take a greater responsibility for their own learning then if we are succeeding in any degree at all in helping them to take responsibility for their own learning then they should at the same time as a sort of spin off from that become more confident individuals and more willing to approach tutors and I think there is at least some anecdotal evidence to suggest that they are less intimidated than previously.. My experience in the past has been that first year students are terribly intimidated by university and university staff and they don't want to put their heads up and knock on somebody's door*

and I think that it maybe has helped them in that. I'm not surprised at that because if it's achieving making them more independent in their learning it should be an automatic outcome, that they will be more assertive and demonstrate more skills in personal contact.

Student/Tutor Perspective on Tutor Dialogue

Discussions from the staff focus group suggested that if students experience particular difficulties, tutors took action such as going over specific topics in the next tutorial or took advice from the lecturer about how to answer a specific query, but they could not access each other's feedback in order to ascertain information about general problems of student understanding. This was an area that the tutors were keen to expand as they indicated that they could utilize such a resource to deliver targeted feedback to students.

Students in the focus group felt that tutor feedback in the tutorials was a useful way in which to interact with staff given the time constraints on them that may reduce the opportunity to make set appointments with them. They also felt that they could benefit from the indirect feedback through the chosen sub-group feedback. This was considered to have mixed costs and benefits. It was felt to be quite useful to have to work out how to apply other people's feedback to their own work in terms of forcing them to think about it. There was a strong general preference for tutor feedback because of the level of expertise. However, in the absence of tutor feedback, peer support was largely welcomed since students did not want to feel that they were entirely on their own with their learning. Results from the LLSQ revealed that 72% found the spoken feedback from tutors helpful (*Figure 4A*). As students only received feedback as a group during the module, staff and evaluators were interested in investigating whether this had been sufficient for students. Quantitative Likert scale responses on the student questionnaire showed that 50% of students agreed that the group feedback they received was relevant to their own work (*Figure 4B*).

Figure 4A: Student LLSQ responses to helpfulness of tutor spoken feedback

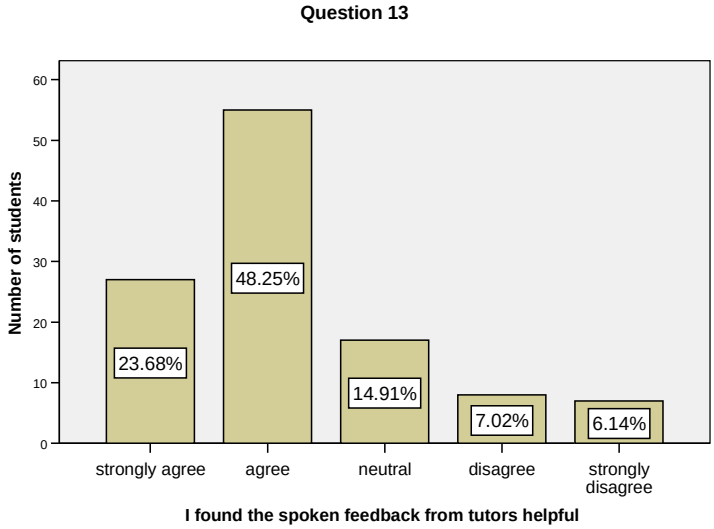
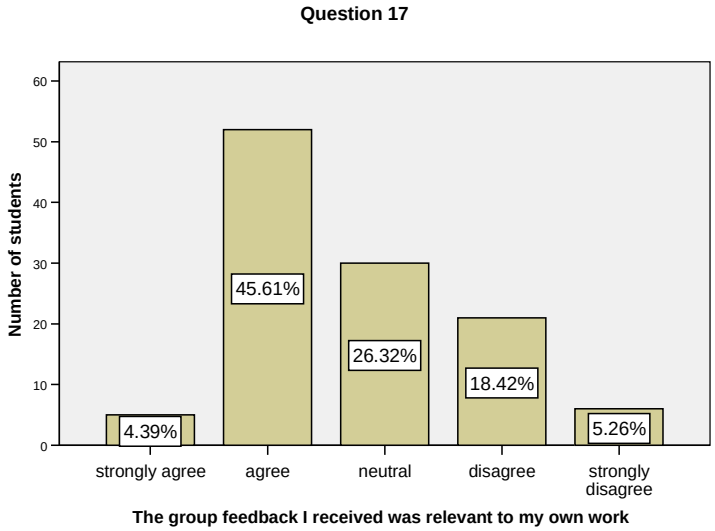


Figure 4B: Student LLSQ responses to relevance of feedback to their own work



In the open ended LLSQ items, many students listed tutorials as one of the positive aspects of the course. The main factors for a positive tutorial experience appear to be helpfulness, friendliness, approachability and enthusiasm of the tutor, clarification of lecture material in tutorials and the interesting content. One student also mentioned that the tutor had prepared the class well for the exam. Typical statements included,

> *Tutors are excited and enthusiastic while being approachable.*

A number of students also commented on their positive experience of the course leaders. They were described as friendly, approachable, fun, enthusiastic and supportive. There were also some comments regarding staff in general, who were described similarly as approachable, friendly, helpful and enthusiastic. For example,

> *The enthusiasm and support of module leaders Mary and Magnus.*

Social cohesion

Magnus illustrated how the change in the division of seminar groups has led to enhanced cohesion within each group,

> *When we were devising the actual design for the whole experience for the students we wanted to maintain as much continuity with what they were doing elsewhere in the course as possible. The reason we want to do that is try to assist the process of breaking down barriers to the module process…so in collaboration with colleagues in the course we decided that we wanted to have the same common seminar groups. Now that had not happened previously. Previously you had different seminar groups in different modules, and it had been up to the leader of the module who made up these seminar groups in different ways.*

This standardisation enabled students from each seminar group to build a greater social bond with each other, which in turn may have increased the quality of their interaction in tutorials. Further to this each of the five sub-groups in each seminar were also standardised across different modules. Although it was acknowledged that at times there may be difficulties with

group dynamics, course leaders opted not to provide a mechanism for changing group, reasoning that this practice reflected the requirements of their professional development.

Face-to-face peer discussion

Regular opportunities for face-to-face informal peer discussion have been built into the course as Magnus highlights,

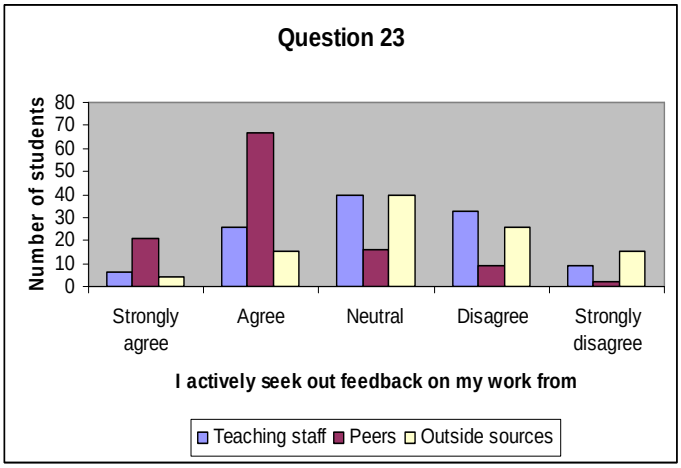
> *We have actually got them timetabled for the whole Friday morning and on the weeks when there are not staffed tutorials the lecture is from 9-10 and they are free for the rest of the morning to 1 o'clock. So there plenty of time for face –to-face time.*

Discussions during the student focus group showed that in the course of group submissions, students often sit together to discuss and contribute to the submission, while one person types it. They thought it was useful to use the on-line facility to share ideas when they were unable to meet face-to-face, but were also keen to meet in person.

Student perspective of all types of feedback and consistency across tutor groups.

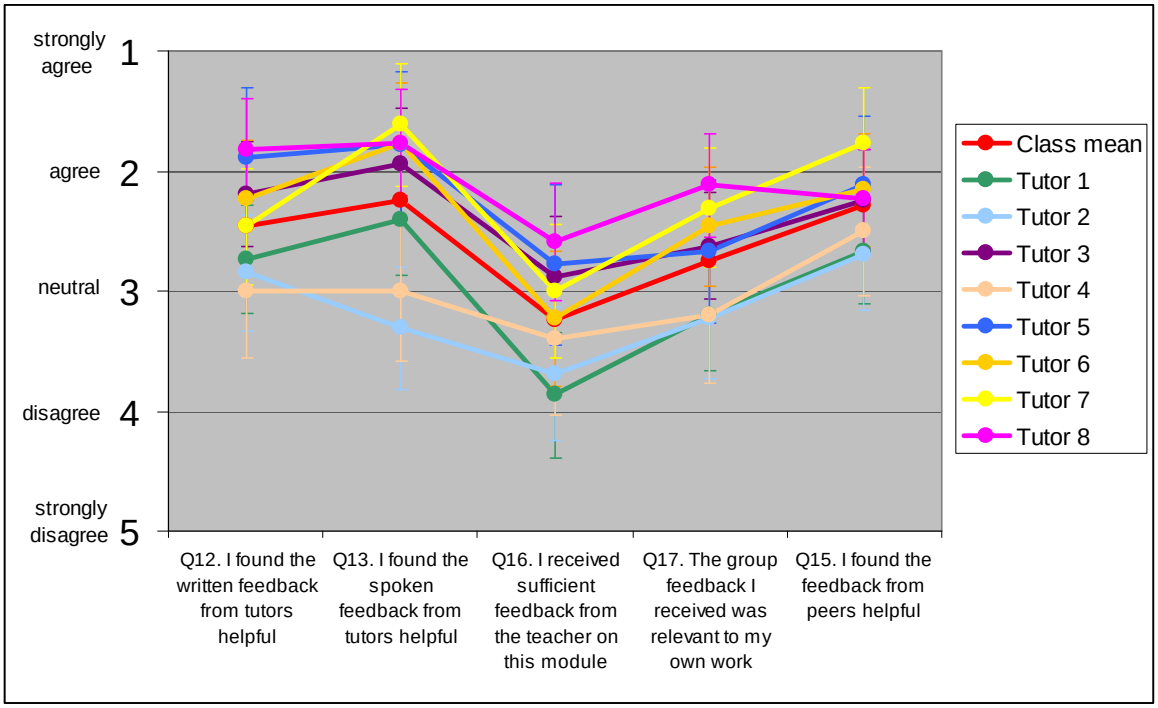
Student responses from the AFEQ revealed that students tended to seek feedback considerably more from peers (76%) more often than they did from teaching staff (28%) or other sources (16%) (Figure 4C)

Figure 4C: Student LLSQ responses to where students actively sought feedback from



Feedback and tutor groups were flagged as two aspects of particular concern in the focus groups for both students and staff. The main issues were related to the fact that students only received group feedback, the inconsistency between students' satisfaction with tutor feedback, and the difference in student attitudes toward peer feedback. Moreover, focus group discussions with students and staff indicated that students were having varying experiences dependant upon which tutorial group they were assigned to. A 2-way ANOVA performed on the student questionnaire response data revealed significant main effects for feedback questions, F (3.38, 331.60) = 25.58, $p < 0.05$ and tutors groups F (7,98) = 6.91, $p < 0.05$ (*Figure 4D*)

Figure 4D : Student responses to feedback questions across tutor groups



In response to the issue of consistency in feedback across tutor groups Magnus acknowledged that there was an issue of consistency to be addressed. Responses from tutor focus group reflected course leader and student concerns about inconsistencies between feedback from different tutors due to a lack of standardised guidelines or exemplars for tutors to base their feedback or tutorial structure on. However plans have been put in place to reduce any inconsistencies for next year's course development.

Notwithstanding some degree of between group variance, students appeared to value the tutor feedback on the whole. Post hoc analysis on the written and spoken feedback questions in the student questionnaire revealed that students found the tutor feedback to be significantly more helpful than relevant to their own work. This suggests that group they did find the group feedback to be beneficial even when it was supplied to another sub-group for a core task. Tutors in the staff focus group felt that the generic format of feedback enabled them to provide feedback that could be applied by all of the students and as one tutor described, the idea of *'passing the responsibility to the learner at some stage'* was welcomed. 5 out of 8 students in the student focus group said that the found the tutorials to be helpful and praised tutor support. One of these found the generic feedback helpful and felt that they could effectively use the feedback provided to the selected sub-group on particular core tasks, even if it was not provided directly to them. Results from the student questionnaire also showed that the students considered tutor written and spoken feedback as well as peer feedback to be useful but felt that they required more feedback than was provided.

Plans for next year to help students to close the loop between current and desired performance include a more repeated cycle of learning and reinforcement by gearing tutorials more towards the core tasks that have to be submitted the following week. Magnus explained,

> *So for next year already in our planning, we've got a system whereby the core tasks will be due not on the Wednesday but on the Friday immediately after the conclusion of that particular learning milestone so they've got one week to get their act together. Although they'll have had the specification miles before, they've got one week to come to the conclusion of that particular lecture series. In order to get the thing finalised and*

up it will close that Friday and they will get the feedback the Friday after. The tutorial will be the week before the submission date so that there will be a sequence within the pattern whereby the block of lectures that's coming to an end, on the second last meeting of that block of lectures there will be a support tutorial and I want to gear that much more closely towards supporting and completing that core task so that they will feel better prepared and they will also have a little more time to complete that course and then the following week they'll get their feedback.

Principle 5: Encourages positive motivational beliefs and self esteem

Self-regulation

Using the e-portfolio system allowed students to take personal responsibility for monitoring their own learning, as the system offered the facility for students, at a time and place of their own choosing, to compare feedback comments received in response to their own and other's work and to re-write or edit their individual response as part of the process of synthesising the group response. Thus the process of developing self-regulation was enhanced. Students not only had to manage and take responsibility for their own submissions but were also accountable to other group members. In the traditional format, there appeared to be a wide variability in students' readiness for autonomous learning but as illustrated by the lecturer and tutor remarks in the previous section, informal staff perceptions of the students on the present course were that they were significantly more autonomous in their approach to learning. It was felt that the increase in autonomy had a beneficial effect on self-esteem and motivation. As Magnus described,

Compared with previous iterations of this course I would say that the evidence is that they are more motivated. They have been more committed. They've certainly shown evidence of being a lot more of a level of doing the work throughout the course than they ever did before.

Mary illustrated the increased willingness of the students in this cohort to take responsibility for their own learning by the following example,

One of the things that happened was there was a slight technical difficulty last week but the 2 groups concerned, completely off their own backs, I apologised to them. I said I think it's my fault and the people at Pebblepad sorted it for me but in the meantime the students themselves, these two sub-groups had sorted the problem as well, they had overcome the problem that I had created and shared and supported each other so when I went to settle it and said there has been a difficulty, they said it's alright we sorted it. They had the initiative to sort the difficulty themselves.

Tutors in the staff focus group felt that the core tasks carried more status than in previous years, are taken more seriously and that performance was easier to monitor. One tutor thought that providing e-learning opportunities was in line with the familiar activities of modern students.

Course ownership

Students could use PebblePad to keep records of their progress as a student and attach work files of various formats as evidence. The custom built skills rating tool allows students to rate their progress under the University of Strathclyde 'key skills' and link this to evidence. Personal development towards these key skills or other personal goals can be recorded in the

same way as reflective log items. The development of their own e-portfolio gives students an element of ownership over the course, as Mary highlighted,

> *One of the whole points of e-portfolio systems is that the contents are supposed to be the property of the people producing them and you know in the future it is envisaged that people's e-portfolios will travel with them wherever they go.*

The division of public and private space provided by the PebbplePad platform adds to the sense of ownership for students because students have an opportunity to share ideas and summit pieces of work to be peer assessed by their subgroup members only, with no access rights for any other students or staff. The idea was that students would have increased control over their working environment. They would have the opportunity then to self and peer asses without fear of appearing foolish while they formulated their ideas.

Electronic peer feedback operated on different levels as Magus described,

> *They have their own individual space that they may choose to be completely private, they then also have with that system a space that they can share with their peers and their small groups and they have assigned small groups. Then at the next level, they can choose, well they have to actually, they can choose when to share what the group response to the task has been with tutors but tutors do not have access to any of the stages before that and actually after the tutors have offered feedback, we don't have any access to the final stage either.*

Student perspective on public/private space

Discussions from the student focus group suggested that whilst some staff had emphasised their belief in the need of students to have a private space in PebblePad, none of the participating students reported using the software for this purpose, and all were open to teachers having access to all areas of their PebblePad environment. Staff in the tutor focus group generally felt quite uneasy about the idea of monitoring the student's work and thought that this conflicted with their role as being an assistant to the autonomous learner rather than leading the process. However responses from the LLSQ somewhat reinforced the student focus group's view – 76% disagreed that they had written anything on PebblePad that they would not want others to see (*Figure 5A*). However, when it came to making all the work on PebblePad available for teacher feedback, 43% disagreed that this should be the case while only 37% agreed (*Figure 5B*).

Figure 5A : Student LLSQ responses to how they felt about allowing others access to see the contents of their private space on PebblePad

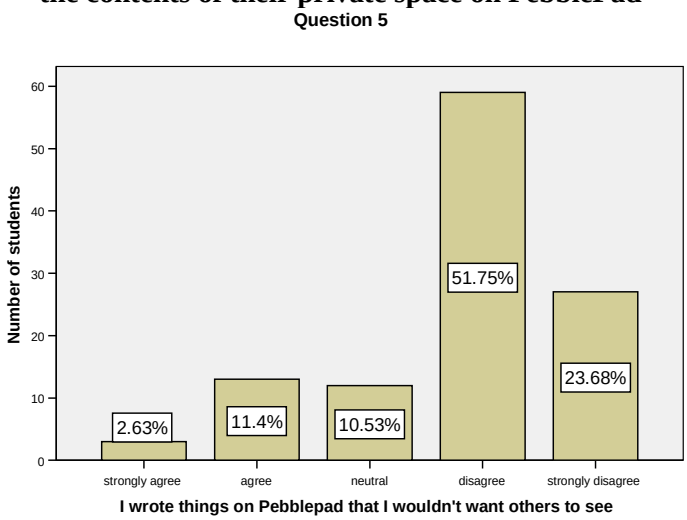
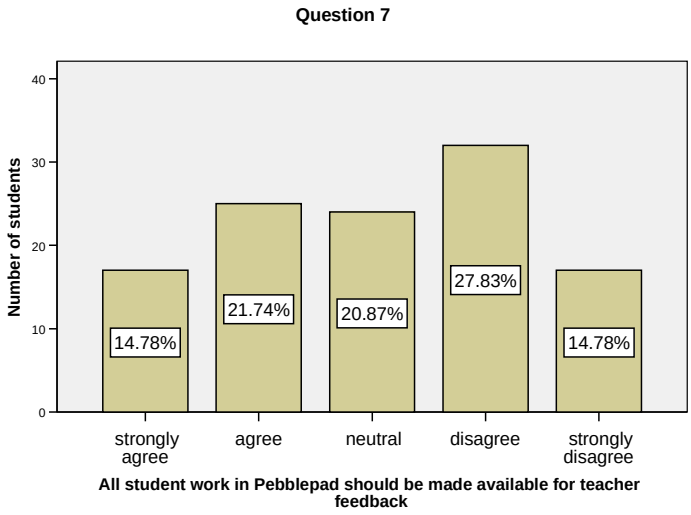


Figure 5B : Student LLSQ responses to how they felt about allowing full access to their work for tutors to provide feedback on.



This slightly paradoxical result may suggest that while students would prefer to have transparency in their individual contributions to assessed group work, they may value the private space for non-assessed peer feedback.

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

In the module, use of the e-portfolio system to produce a group response was one possible iteration of this process, one in which all students were expected to participate. The core task was visited on at least three occasions with feedback used to scaffold learning each time. Feedback between each stage was used to improve the quality of the submission on the next and tutorial discussions allowed feedback to become part of the teaching and learning process.

There was a feeling among the staff that the students did have a good understanding of the feedback that was provided to them and that the changes had facilitated more of an opportunity for this than had previously been available. Mary describes the rationale,

> *Our hope is and our intention was that in that third stage they do look at the feedback and understand it and then look at their own work and within that, if they got feedback that they didn't understand I would hope that they would then say to one of their peers or say to the tutor I don't understand that, I don't know what you want here and again I can only speak for myself but in tutorials I did ask them, were there any difficulties with that, did you understand what I meant?*

Course coordinators also attempted to tie the tasks to the summative end of year assessment in order to provide more of a synthesis between course components in a bid to close the gap between current and desired performance. The following extract illustrates Magnus' intentions.

> *What we also wanted to do was something about the final summative assessment, a 50 questions multiple choice series plus an article analysis based on different kinds of*

articles from the relevant literature. When we started to look at this, we started to think about how we could find some to way to make the formative assessment process contribute more explicitly to the summative assessment product.

In the first staff student liaison meeting quite unsolicited comments were made about the use of PebblePad technology, in this module being more helpful to them because a) it was embedded in the teaching and assessment methodology and b) the worthwhileness of it was very effective, in other words, the student saw a pay-off, a very definite pay-off, which comes in core task 5 because in core task 5, the tweak we gave it was this, core task 5 is exactly the same as the other core tasks in the sense that they get given it out weeks before it's due. They have the opportunity to share with each other to do their own personal work on it and to construct if they like some kind of agreement in their small working groups about what the group thinks about it but then we stop them short and, we do not ask them to submit a combined submission on behalf of their small working group.

What we do instead is we say to them quite simply that this last core task also comes up in the exam and when the exam happens, half of your exam will be personally as individuals will now have the opportunity to do exactly the same thing as that exam. You will have had the benefit of being able to share this with your colleagues and have had any peer feedback on it before. At the same time you will also have the opportunity because you are doing it under exam conditions to slant that to suit your own personal take on it so if at the end of it, your group had decided well this was our general position on it but you didn't actually personally agree 100% with that, then you will have the opportunity now to write to your hearts content on your own individual take on that. That if you like gives the individual level at the summative level because they will have at that point have the opportunity to put their personal take on it.

Student/Tutor perspective on opportunities to close the gap between current and desired performance

AFEQ responses suggested that students felt that the majority of students (64%) felt that there were opportunities to repeat tasks (*Figure 6A*) but 46% felt that these opportunities were provided by their own efforts while 38% felt that these were provided by staff (*Figure 6B*).

Figure 6A: Student AFEQ responses to opportunities to repeat similar tasks

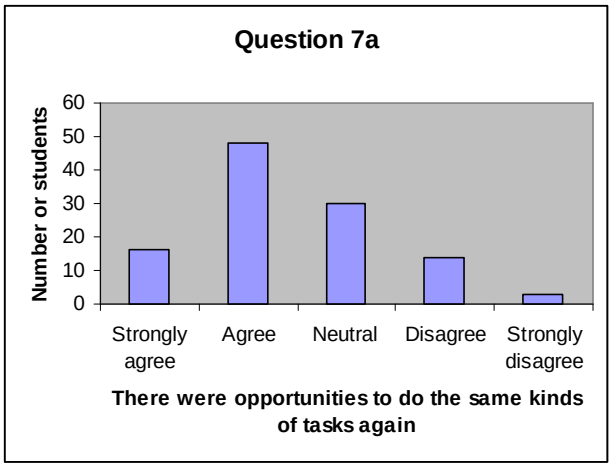
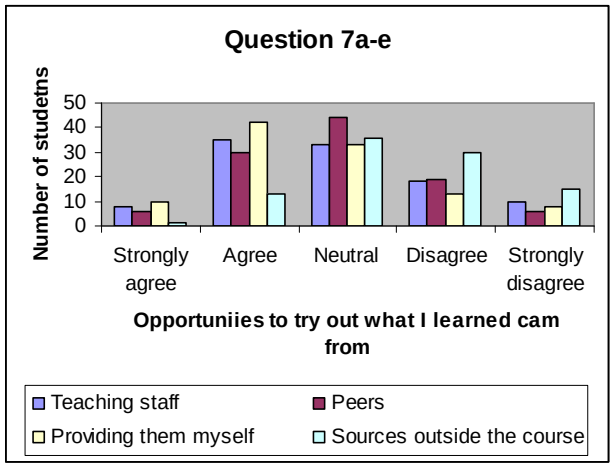


Figure 6B: Student AFEQ responses to source of opportunities to build skills



Tutors regarded the technology assisted tasks as being effective in achieving more consistency between tasks and being better aligned with the final exam.

There was a mixed response on the LLSQ about ell the formative assessment tasks prepared the students for their final summative assessment with 34% responding positively and 28% responding negatively (*Figure 6C). Th*is was largely because some students seemed to be concerned about the lack of individual assessment opportunities during the course to prepare them to be assessed in this way in the final exam. 45% of the respondents indicated that they felt that they would have benefited from more individually assessed tasks (*Figure 6D).*

Figure 6 C: Student LLSQ responses to well students felt that the core tasks prepared them for the end of term exam.

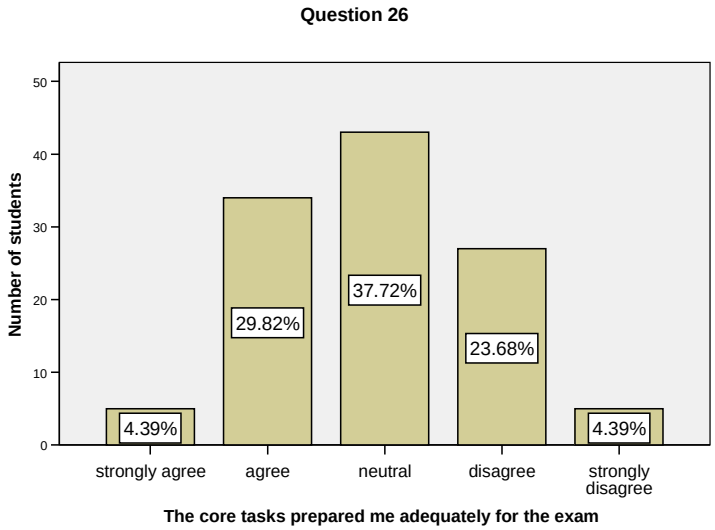
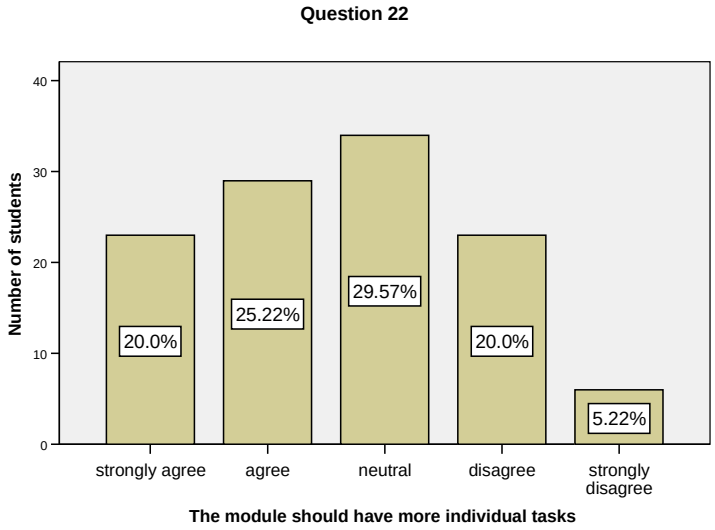


Figure 6D : Student LLSQ responses to whether there should be more individually assessed tasks .



However although some students (whilst not a majority) felt that they would have felt more prepared for the exam had they received practice of individual assessment and feedback on this, the potential in future iterations of the course redesign to minimise these concerns by having students grade each others' individual submissions and/or dispensing with the private space on PebblePad in favour of a staff monitored system have already been discussed by the module leaders.

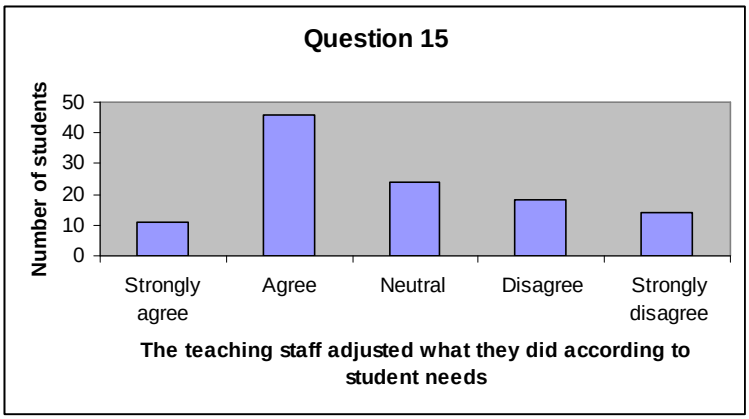
Principle 7: Provides information that can be used to help and shape the teaching

The setting of frequent assessment tasks allowed teachers to gather data about student progress. The decision of the project team to establish five learning milestones, and related core tasks, undertaken at regular intervals during the module, allowed staff to monitor student progress more closely than the former system of examining one individual portfolio per student, with no standardised evaluation system, at the end of semester one.

Student perspective on staff action on feedback

AFEQ responses suggested that 50% of the students believed that teachers did amend their teaching according to student needs compared to 28% who did not (*Figure 7A*).

Figure 17A: Student AFEQ responses about their perceptions of how staff adjusted their activities according to student needs



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

Formative assessment was designed around the series of 5 Core Tasks spread throughout the year. Because each of these tasks were tied to a series of lectures in independent blocks, students had the opportunity to apportion their study of each of the material from each of these lectures blocks in intervals throughout the year.

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

Each of the core tasks was clearly associated with its equivalent 'Learning Milestone' and was designed to allow an incremental increase in the demands placed on students as the year progresses. The unifying theme is to help students develop critical skills in considering different theoretical perspectives on learners and learning presented in the lecture programme. The flexibility of the on-line system enabled a greater ease of access for the students to allocate evenly distributed study time to the tasks because they could access the material and contribute to it from anywhere within or outwith the campus.

Student/Tutor perspective on distribution of time on task

There was a suggestion in the tutor focus group that student time on task increased and was more evenly distributed throughout the year by the tasks being tackled as soon as they went up. This may have been as a result of the greater ease of access to the learning materials and activities within a more flexible system than was previously available.

Although the results were somewhat variable, AFEQ responses suggest that a slight majority of students (59%) believed that they did regularly study outside of class time and more students agreed that they had spread their work evenly across the course (44%) than those who did not (29%) (*Figure 8A*). Results from the LLSQ indicated that almost half (49%) of students agreed that PebblePad helped them to work from different locations (*Figure 8B*). This ideally provided the students with an increased opportunity to manage their workload in a more flexible way than in the previous course format and in turn this may have provided them with a greater opportunity to distribute their workload and effort in an efficient manner.

Figure 8A : Student AFEQ responses to whether the tasks helped them to distribute their study time evenly throughout the course

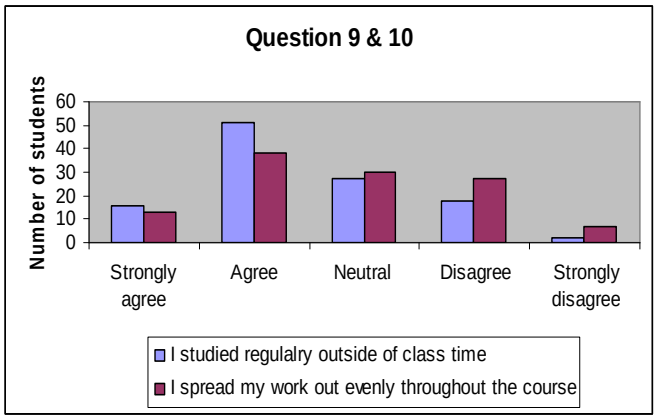
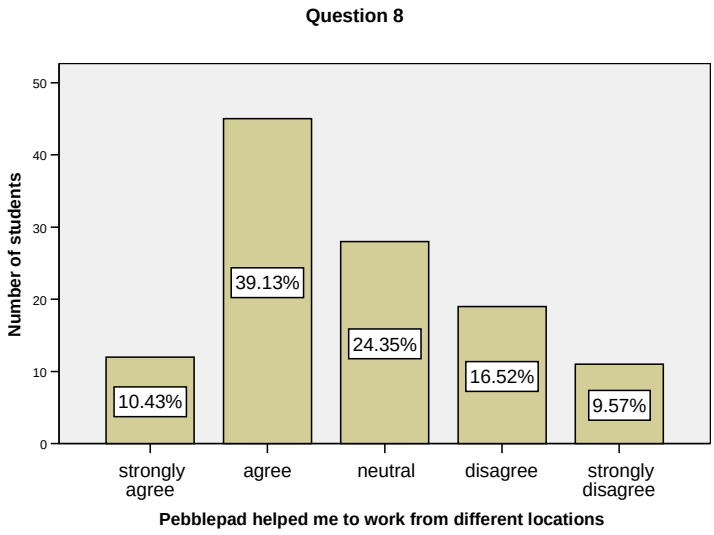


Figure 8B : Student LLSQ responses to whether PebblePad helped them to work more flexibly in in different locations



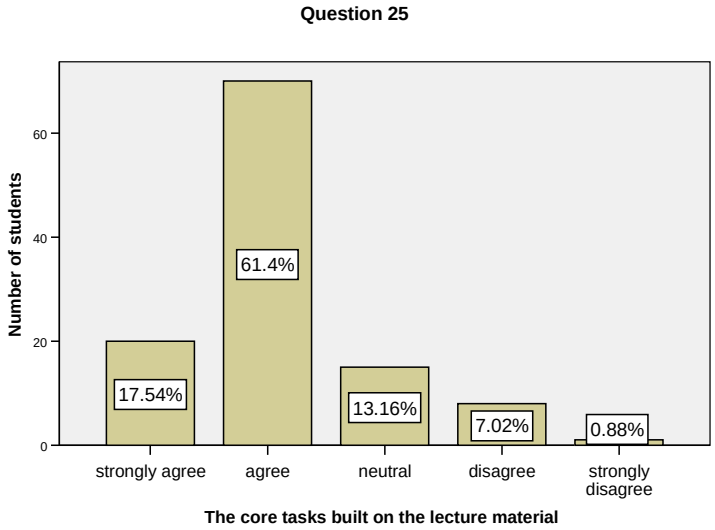
Condition 3: Tackling the assessed task engages students in productive learning activity of an appropriate kind

Each of the core tasks were matched to the appropriate lecture block content and the tasks were staged with incremental progression of difficulty. This scaffolding enabled each learning activity and assessment to be matched with students' ability.

Student Perspective on matching task to learning materials and appropriate study

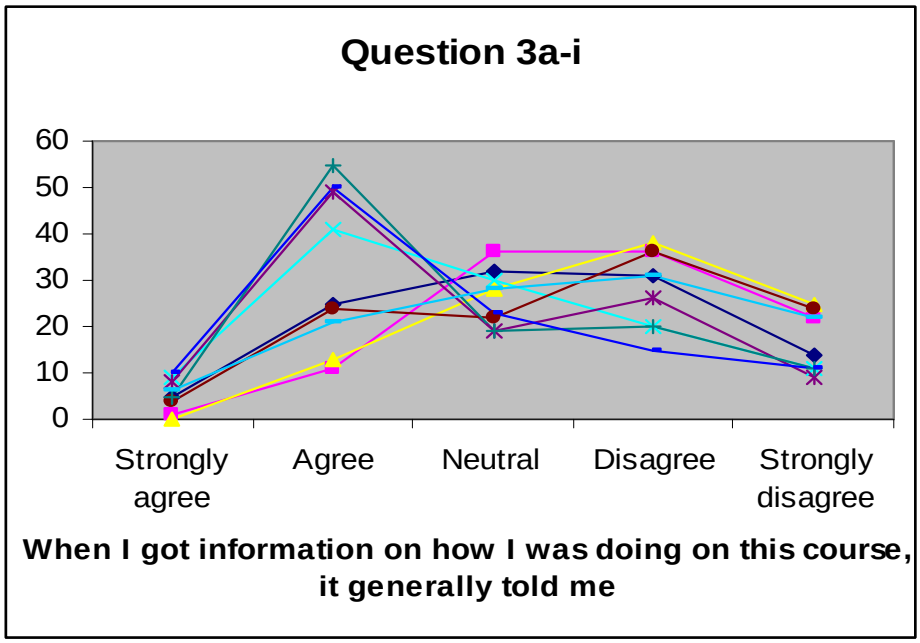
LLSQ responses suggest that the students generally agreed (79%) with course leaders that the assessed tasks were engaging them in learning activities that were compatible with the course content lecture material (*Figure 9A*). Only 7.9% of respondents disagreed.

Figure 9A: Student LLSQ responses to whether core tasks were built on the lecture material



Results from the AFEQ revealed that the majority of respondents felt that feedback primarily provided them with information about the accuracy of their answer, how much effort they needed to put into tasks, where their strengths and weaknesses lay and what changes of techniques they would have to employ in order to improve their performance in subsequent tasks (Figure 9B).

Figure 9B: Student AFEQ responses to where they got information on their performance from



Condition 4: Assessment communicates clear and high expectations

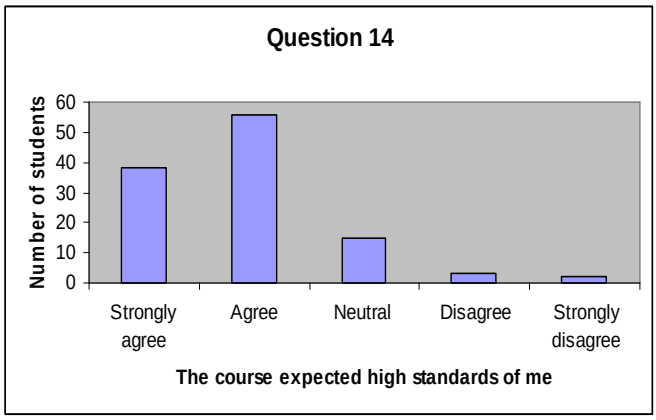
There were clear expectations placed on the students in this year's cohort that they would have to assume a substantial level of responsibility for their own learning. This was conveyed by the structure of the core task submissions for which students had to be accountable to their peers for submitting their individual posts. In addition, the process required a high degree of responsibility for time management. As Magnus highlighted,

> *We told them quite clearly what we expected, we gave them the facilities to be able to do it and they did it.*

Student perspective of standards expected of them

Results from the AFEQ revealed that 82% of the respondents felt that the course did expect high standards of the students compared to just 5% who disagreed (Figure 10A)

Figure 10A: AFEQ responses to students' perceptions of expected standards



Formal evaluation outcomes

In the final summative exam a multiple choice array identical to that used in the previous year was used with the agreement of the external examiner. Analysis showed higher scores for 2006-7 and an independent samples t-test was carried out on the results. Improvement was statistically significant implying that the new course design had a positive impact on student attainment. ($t=2.383$, $df=328$, $p=.018$).

Scores from part two of the exam (critical analysis of a seen text) were also collated and analysed. Despite the text chosen being more difficult than the one used in 2005-6, the arithmetical mean score for 2006-7 was 70.2% compared with 59.8% for 2005-6. This contradicts student concerns about lack of preparation for the final exam.

Staff time on task

Potential efficiency gains

The efficiency gains that have made in terms of staff time could be capitalised on and extended next year, as Magnus explained,

> *This year we ended up with something like 8 staffed seminar slots but I believe if we were doing it next year, we could get it down to 6, one associated with each core task plus the one that is necessary to do it. As long as we're organised to do it then I think that's possible to do. So I've identified from it if you like a further efficiency gain of another 2 fairly significant 2 hour slots for 8 members of staff so you are looking at, you've saved you've saved 32 staff hours straight away just by doing that and that's how it could work next year.*

Magnus elaborated on this point by emphasising that any staff time on task this year would be offset against potential efficiencies in subsequent years. He summarised his view of potential efficiencies in the following way,

> *With the whole innovation I would say that your efficiencies specifically are*
> *The disposal of an ineffective, time-consuming, tedious task that used to take place mid-way through the year and that's a huge saving of staff and student time and anxiety.*
>
> *The restructuring of the course along the lines of the identifies learning milestones and the core tasks has allowed us and we didn't take full advantage of it this year but we will next year, allowed us to redesign the whole structure of the staff tutorial support to align the staff tutorial sessions to the core tasks so that next year I'm confident that we do in and we only actually plan for 5 tutorials associated with the 5 core tasks plus one staffed tutorial at the beginning associated with the ground rules the establishment have, the whole kind of framework for it. Now that's a huge saving. That means I'll have 6 staffed seminars instead of one every two weeks.*
>
> > *The third major efficiency that we gain in all of this is the one in terms of the students and that should be given quite significant importance especially in terms of what we have done in terms of trying to achieve a synthesis of the formative process of using assessment for learning throughout the year. The synthesis of that in the form of the summative product in the form of the exam, which we have also totally subverted and replaced half of it with what in effect is core tasks 5 and exactly the same methodology that they have been using throughout the process actually becomes core task 5. So we hope that that is efficiency in terms of the students.*

Tutor Perspective on Efficiencies

Tutors agreed that there were clear efficiencies in terms of providing feedback to one sub-group on a given core task rather than to individual students. However these efficiencies were somewhat reduced by the time wasted on technical issues. It was felt that with more familiarity this aspect and faster keyboard skills, any inefficiency could be reduced and the full potential could be realized.

Limitations

Module leaders had concerns about some of the technical aspects of the PebblePad platform, particularly in light of the withdrawal of technical support but were optimistic that these issues would have been eradicated in the more recent version. There had also been some

initial problems regarding staff members who due to physical impairment were unable to utilise the technology but this had been rectified fairly early on in the course by making use of the administrative staff services to overcome any problems.

Student/tutor perspective on technical issues with PebblePad

Tutors in the staff focus group indicated that that their technical proficiency in using the PebblePad software had deteriorated between each of the tasks because the gap was too long between practice opportunities. They indicated that they felt that they could have benefited from a longer initial training session with more tasks to complete and more practice. The course coordinators had raised concerns that prior ICT skills, or a lack thereof, may have had an impact on how students experienced the PebblePad software. Only 6% of students agreed that they found it difficult to learn new software (*Figure 11A*). Just more than half of students agreed that there was sufficient guidance and help using PebblePad, and only 14% disagreed that there had been sufficient guidance (*Figure 11B*). In terms of usability, only 3% of students disagreed that it was easy to find their way around PebblePad, with 77% agreeing (*Figure 11C*).

Figure 11A : Student questionnaire responses to the question of how difficult they found learning the new software

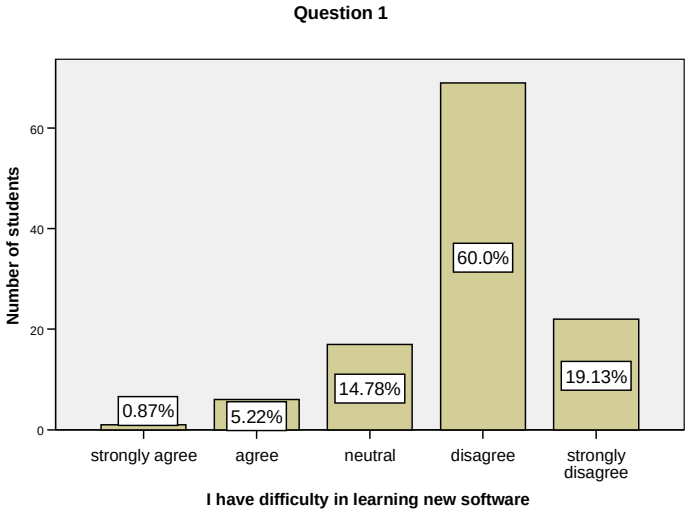


Figure 11B : Student questionnaire responses to the provision of sufficient guidance for PebblePad use

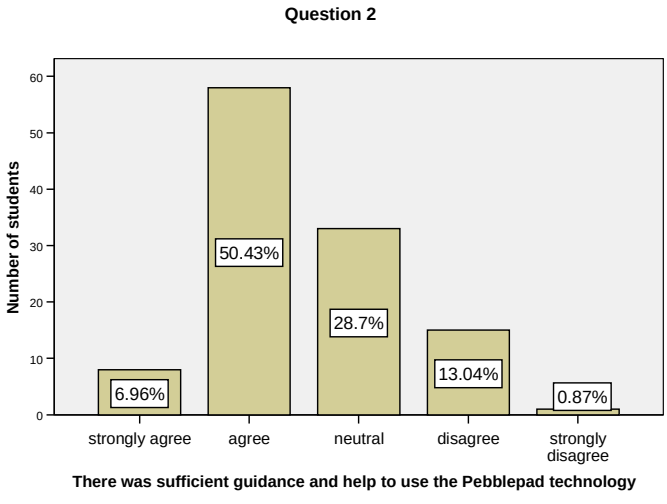
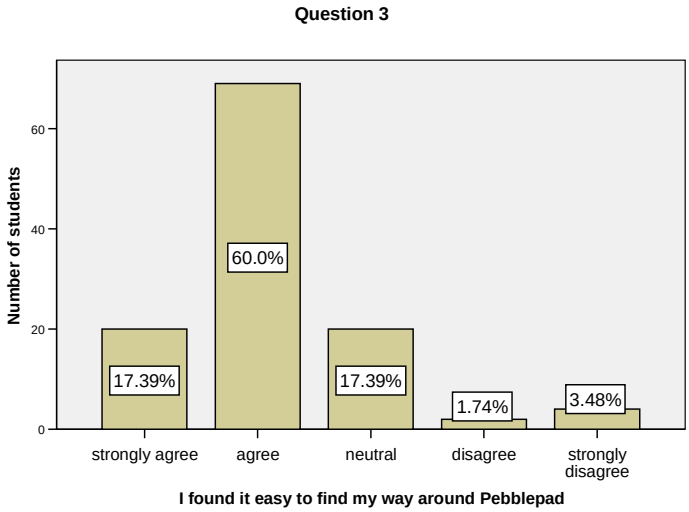


Figure 11C : Student questionnaire responses to the level of ease with they found their way round PebblePad



Open ended questionnaire items demonstrated that a number of students found lecture notes and slides being put up on WebCT before the class very helpful. This both allowed students to prepare for lectures, and was seen as helpful for revision. For example,

> *The lectures etc. being available on WebCT was a great advantage and allowed prior preparation.*

Sustainability

The intervention appeared to be sustainable with regard to staffing issues. Magnus explained how the interventions might survive potential staff changes by creating a clear written account of the redesign.

> *The way we do it is to make sure that we write up very clear record of what we've done and write up very carefully the recommendations that we would make to improve things next year.*

Again there was some concern that about the sustainability in terms of the withdrawal of ongoing technical support but it was suggested that an internal member of staff could take the responsibility to be trained to a proficient level in the use of the PebblePad software.

Institutional support

There was some suggestion form course leaders that the university may be prepared to provide an in-house system to support the PebblePad platform but the belief was that this was still at the negotiation stage.

Future progress and strategic development

Course development ideas have included matching the core tasks more closely to tutorials in order to achieve a greater consistency across tutor groups in criteria provision and feedback. Discussions have included the possibility of trialling a more public system for group submissions, which would make it easier for tutors to monitor individual submissions.

To maximise efficiency, plans have been formulated to reduce staffed seminar slots from 8 to 6, saving a further 32 hours of staff time.

Suggestions from the tutor focus group included the idea that it may be useful to build formal opportunities for peer formative feedback into the course. This could be group to group feedback. One tutor noted that this may be useful to increase the quality of the feedback. Although tutors believed that there was a facility to offer this on the PebblePad system, they agreed that students had not been encouraged to use it or to do any more than simply read other group's feedback.

The idea of peer assessment is consistent with ideas discussed with the course leaders in response to the problem of social loafing. One idea that may be trialled if the private space on the PebblePad platform is to be retained is to have the students grade one another in terms of effort and contribution to group tasks. This would force students to be more accountable to group members and may help to encourage some students to take more responsibility for their own learning and for their duty to their peers.

Dissemination

Magnus Ross and Mary Welsh have both been involved in extensive dissemination activities to promote awareness about the ED111 course redesign.

They have presented the mid-point initiative at a scholarly community within the department and intend to present it once again after its conclusion at a teaching and learning quality improvement group. They have also had discussions with other departments within the university including the Psychology department who have implemented an intervention with some similar aspects as well as interest from the Engineering department. More widely, they had recently presented a paper at conference in Brazil. They have also had a paper accepted for ESCALATE (Higher Educations Academy's education forum) in May 2007. In addition, They have delivered papers on different aspects of the course redesign at the International Conference of Computer Aided Blending in Brazil where the conference paper has been published as part of peer-reviewed conference proceedings and a slightly adapted version has been accepted for publication in the International Journal of Emerging Technologies for Education; a paper on a different aspect of the project was presented at the HE Academy's 3rd ESCALATE Conference in Lancaster; another paper was presented at the REAP International Online Conference in Glasgow; another was presented at the Inaugural Conference of the Joint Teacher's Education and Teachers' Work Research Group held in Glasgow in June 2007 in Glasgow; still more papers will be presented at ECER, in Ghent in September and at the SERA Conference in Perth, in November. An article has been submitted for peer review to the journal Teaching in Higher Education. It has only been possible to carry out such an intensive programmes of dissemination due to funding and guidance received from the REAP Project and, of course, due to the hard work of all students and staff involved.

On summing up the experience Magnus stated that,

> *My target was to improve the 1st year learning experience and I think we've achieved something there. The second target was one of efficiency and I think we've achieved something in there too and thirdly dissemination and I think we are in the process of achieving something in that.*

Conclusion

The course redesign for session (2006-7) included a self and peer assessment methodology supported by tutor mediation to provide formative assessment associated with identified 'learning milestones' throughout the year. The redesigned activities utilised collaborative techniques and principles of social constructivism to increase student engagement with tasks and content; facilitate greater and timelier feedback; improve pacing and time on task; and remove an end of module marking burden from staff.

Anecdotal evidence from staff interviews and focus group indicate that students in this year's cohort were considerable more autonomous and confident in their approach to learning than in the traditional format and were more likely to seek tutor formative feedback. They also appeared to be more reflective on their learning due to active peer engagement and debate. Group cohesion appeared to be increased through standardisation of seminar groups over different modules and increased electronic and physical peer contact via PebblePad software facility. Both tutor and peer dialogue appeared to increase learning and students appeared to be more motivated and committed than in previous course iterations and take tasks more seriously. Social cohesion was also considered to have improved. The technology appeared to enhance the alignment between assessments and students' time on task appeared to be increased and more evenly distributed. Staff acted on student feedback when possible by following up in tutorials or seeking lecturer advice but felt they and the students would have benefited from the opportunity to compare tutor feedback across groups.

Qualitative and quantitative evidence from the student focus group and questionnaires found that group work and written/spoken peer/tutor feedback rewarding, even in the case of indirect feedback to a chosen sub-group but they requested more individual feedback and increased staff monitoring in core tasks in light of some instances of social loafing. When groups operated well students found the process to be very supportive and beneficial. They welcome the opportunity to work autonomously but requested more robust scaffolding during the process, particularly win making links between course components. They considered the new system to offer them more flexibility in their learning but felt that there needed to be more consistency between tutorial groups in terms of provision of criteria and feedback. There was a clear preference for increased verbal feedback from tutors to supplement the written group feedback. Students were more concerned about transparency of effort than privacy in PebblePad although there were some indications that the private facility may be useful for non-assessed entries. Students on the whole agreed that assessed tasks were engaging them in learning activities that were compatible with the course content lecture material.

Formal exam grade outcomes also indicated increased learning gains. Final exam scores for the multiple choice component were significantly higher than in the previous year and mean scores for the written past of the exam for 2006-7 were 10.4% higher than for 2005-6. In terms of efficiency, tutors agreed with course leaders that there were clear benefits in providing feedback to one sub-group on a given core task rather than to individual students, but that the potential for further benefits could be fully realized once technical issues had been fully addressed. Strategic development plans include increased matching of core tasks to tutorials to achieve a greater consistency across tutor groups, decreased seminar slots to reduce staff time on task, the introduction of formal peer assessment and a revision of the current software platform.