INTERNATIONAL CONFERENCE ON ENGINEERING AND PRODUCT DESIGN EDUCATION
6 & 7 SEPTEMBER 2012, ARTESIS UNIVERSITY COLLEGE, ANTWERP, BELGIUM

FINAL YEAR INDUCTION – RE-MOTIVATION AND RE-ENGAGEMENT

Tania HUMPHRIES-SMITH and Chris GLASSPOOL
Bournemouth University

ABSTRACT
This paper considers design education in practice and reports on a new experience undertaken at Bournemouth University with final year BA/BSc Product Design students. Increasingly, students returning to the final year of the programme have struggled in recent years to both develop credible final year project proposals and also re-engage with academic life and meet the expectations held of them at Honours level.
Therefore, the final year project team took the decision to implement a new strategy for the start of the final year in September 2011. The students returned to University a week early and undertook an intensive, week long, programme that was specifically designed to:
a) Engage them fully with a return to academic life and set expectations of final year
b) Expose them to a wide range of opportunities to seek meaningful problems that would benefit from a product based solution.
This paper expands upon the structure of the week and the activities that were undertaken by students and also provides feedback on the experience from the perspective of both academic staff and students. The paper concludes with a detailed evaluation of the experience and what has been learnt. However, the experience has been deemed to be a success by both staff and students and planning for a similar experience next year has already begun, along with a plan to roll out the principles to all design courses within the Framework.

Keywords: Induction, final year major project, engagement; motivation

1 INTRODUCTION

The BA/BSc Product Design course is one within a framework of design courses and has a mandatory 40 week placement between the second and final years of academic study. The final year of the course requires students to undertake an individual project to design and produce a working prototype of a product that solves a problem the student has identified. This project constitutes 80 out of 120 credits of the final year.
Over the past few years the project supervision team has noted that students have found it increasingly difficult to re-engage with the requirements of academic study and understand the expectations of them at the Honours level. They have also struggled to propose viable and engaging final year projects. Thus during academic year 2010/11 it was determined that a different approach to the development of final year project proposals was required and that students needed a more structured approach to returning from placement to their final year of study on their degree.
Thus, an activity was born with the aim – to improve the nature of product design final year projects and improve engagement with demands of the final year.

2 BEST PRACTICE

Among the various learning and teaching activities adopted or developed by university design courses is the 'project' approach. It allows students not only to gain a more in-depth understanding of theories through self and team exploration, but also to apply, affirm or rebuke the knowledge or theories they have learned in related subjects also taught within a design programme of study [1]. Design projects allow students to practice design skills while maintaining a design focus. This focus enables students to identify timescales and boundaries and also makes it possible for staff to make some judgement on how well the learning outcomes have been addressed and delivered. The project approach has proven to be a good way to help students understand and apply knowledge. Sui [1] also states that design

education needs to develop closely alongside social and industrial changes, 'We need to consider the needs that are changing and how they affect teaching and learning activities'. [1]. As Sui states; many design students are good at software engineering or computer graphics, they are able to utilise high-end software to produce excellent illustrations. However they are weak in such areas as identifying needs, taking the initiative and making decisions [1].

The final year project proposal has historically been produced by students returning from placement over the summer prior to commencing their final year. The process has commenced with a day visit to the Festival of Design & Innovation including a project briefing. Then, the process has been one of email consultation with academic staff providing feedback on draft proposals over the summer period, with students submitting an initial proposal in mid-September prior to returning in the first week of October. Those initial proposals were considered by the supervisory team and either provisionally approved, required modification or rejected. The formal assessment of the proposal is by a viva in the second week of term. It was noted by the final year project supervisory team that over a period of 3 years or so there is been less and less engagement over the summer and an increasing number of students had been getting increasingly later in managing to secure an approved project proposal after the viva. Additionally, the quality of those project proposals had been decreasing in terms of innovation and depth of understanding of the problem being articulated. Thus, it was determined that a different approach to students producing project proposals was required. The project supervisory team, on considering the issues, considered that many had a similarity in principle to those issues traditionally addressed by undergraduate induction programmes.

Much has been written about induction within an undergraduate context. Primarily this is within the context of first year induction and the issues related to the transition between school and university [2][3][4]. Much has also been written related to the induction of international students at both undergraduate and postgraduate level [5]. Considerably less well research is the issue related to returning to university after a period of work experience, typically that based upon the year long thick sandwich model prevalent within design and engineering undergraduate courses. Typically the issues an induction programme is designed to address are: promoting student engagement; socialization into higher education [2][3] and engendering an early professional approach to study and personal development [4]. Usually, a fundamental purpose of an induction programme is to increase retention during the transition between school and university [6]. While this is not the purpose of an induction programme between placement and final year of a degree programme, the other issues are very similar.

Thus it was determined that a type of induction programme was required. The programme should socialize students into study at the honours level and what that means in terms of a large design project. The programme should assist students in producing a better quality project proposal in terms of problem formulation; level of innovation and understanding of market. The programme that was formulated consisted of a week-long intensive programme of inspirational lectures, research exercises, feedback opportunities with academics on project ideas and a final hand-in of an draft proposal which were assessed by academic staff on the Friday with feedback being given to students the following Monday morning. The students then had a further week to revise or draft anew a proposal for formal submission at the end of the first week of term, prior to formal viva. The inspirational lectures were aimed at outlining various approaches to identify suitable projects, identifying methods for engaging in initial project research, identifying and analysing (by example) previous successful final year projects - including analysis and outlining expectations of the final year engagement. The research exercises were aimed at increasing the breadth of areas that student looked at in seeking problems that might have a product solution as well as placing the emphasis on finding a problem not looking for a 'new product'. Thus, the exercises required students to engage with a range of sources, which for most students were new to them, these included National Geographic; RSA Journal; BBC Radio 4 Four Thought programme and BBC Bottom Line programme. The students were then required to brainstorm to produce a list of potential areas to conduct further research to determine real world problems that might have a product solution.

3 STUDY METHODOLOGY

This study was seeking to evaluate the impact of the new Project Proposal week. Thus, what was required was a methodology that would collect rich, reflective and subjective data about the experience of the week and development of a proposal from a student point of view. Along with this

was a methodology that would compare the output, ie quality of proposals with previous years. Hence, a qualitative methodology was chosen with a qualitative questionnaire being selected for data collected from students and a criteria driven comparison for project proposals. Because of the large number of students enrolled at Level H, a questionnaire was also considered the most appropriate data collection method.

3.1 Student Questionnaire

5 open ended questions were developed to explore the students' experience of the Project Proposal Week. Four questions explored the content and delivery, question 5 asked for suggestions for improvement in future delivery/content of this activity.

The students were asked to respond to the following questions:

- How were the lectures helpful?
- How was the research exercise useful in aiding you to understand how to find a problem?
- Did your approach to finding a final year project proposal change during the week?
- What was the best thing about the week?
- What would you suggest we change in the future to improve the week?

A second questionnaire was used at the end of the first term of the final year, the questionnaire is a standard question deployed across all units within the school this course sits within and is in part quantitative. Never-the-less it provided further useful evidence and feedback on this initiative. It contains set questions listed below, judged on a Lickert scale of 1-10:

- I would recommend this unit to a fellow student
- Lecture content is excellent
- Lecture delivery is excellent
- Handouts/or myBU materials are excellent
- Seminars/laboratories are excellent
- The unit is highly relevant to my studies
- Feedback on my work has been prompt
- Feedback has helped me clarify things I did not understand

and also, more importantly for this study, qualitative response boxes for responses to the following questions:

- What are the best aspects of this unit?
- What are the worst aspects of this unit?
- What could be done to improve this unit?

3.2 Criteria Drive Comparison

The criteria are determined from what is being looked for in a project proposal and the associated process. These are:

- Problem formulation
- Level of innovation
- Understanding of market
- Number of projects approved at viva 0

4 FINDINGS

4.1 Student Questionnaire

Results were collected using a questionnaire, the student year group completed the questionnaire in an informal open studio environment two weeks after completing the Project Proposal Week.

The majority of the feedback was very positive, in many cases students indicated that before the Project Proposal Week engagement, their initial ideas were simply product ideas, in some cases ideas based on minor modifications to existing products and not ideas developed from an initial need or an identified problem. The comments suggested that the Project Proposal Week helped the students to see and appreciate the wider opportunities for product concepts and development. Sit down discussions with tutors were seen as very positive and useful, helping to focus concepts, 'broaden horizons' and to clarify expectations. 'Great motivation', 'focus' and 'support' were also common positive comments.

There was some indication that a minority of students felt pressurised, feedback comments suggested that this was partly due to a realisation of the expectations in the final year, and also as a result of the intensity of the Project Proposal Week delivery. Suggestions for improvement commonly included 'more time'

Some specific details from a summary of responses can be seen below;

- More time with supervisors was extremely useful
- The lectures helped to provoke a new method of thinking and focused thinking
- Lectures were inspirational and focus driven
- Give some lectures at project day in June
- The research exercise is useful, encouraged breadth, look at issues in a new way
- Straight back into pressurised work set the tone for final year, good to be timetabled full time
- It would be useful to give an advance warning of initial hand-in date
- Very tight in one week, perhaps extend to two weeks
- Need more detailed feedback on proposals
- Time to discuss with tutors and peers in groups really useful
- Research exercise should be earlier in week (it was on Tue)

The results of the second questionnaire taking at the end of the term are presented in Table 1.

Table 1. Results of End of Term Questionnaire

		Recommend Unit	Lecture Content	Lecture Delivery	Handouts myBU	Seminars Labs	Subject Relevant	Feedback Prompt	Feedback Helped
Average		8.40	7.57	7.65	6.58	7.56	9.33	8.40	7.37
Standard Deviation		1.35	1.50	1.43	1.71	1.82	1.08	1.48	2.44
Frequency	1	0	0	0	0	0	0	0	1
	2	0	0	0	0	0	0	0	2
	3	0	0	0	0	0	0	0	0
	4	1	2	1	4	2	0	0	4
	5	1	2	2	10	4	0	1	4
	6	1	4	4	8	7	2	5	4
	7	4	13	14	9	5	2	4	3
	8	16	12	10	4	11	2	13	8
	9	10	6	7	6	3	11	4	11
	10	10	5	5	2	9	26	15	9
	*	0	1	3	3	2	2	3	1

Qualitative feedback included "The first week back was great, showed us how much work had to be done and the level of speed we need to be working at." also " The week provided me with drive and focus." and "Lecture content was excellent and really useful." Students did indicate that there was a small level of panic among some of them in the first week, the feedback indicated that this was mainly due to a realisation of the urgency to find a suitable project proposal "I needed more time to think, I found it really hard to come up with a project in one week." The positive responses are further supported by anecdotal feedback which was gathered from academic staff involved in the delivery and project supervision at level H. The academic staff were asked to provide feedback based on comparisons between the results and observations from this activity, and observations from previous years, specifically on the project proposals and student engagement at this point in the year. Although the Project Proposal Week activity required some staff to undertake an increase in workload, feedback from academics was generally very positive.

Comments suggested that the resulting student project proposals seemed on the whole to be more considered, to have greater opportunity for development into viable products and the students were generally better prepared to meet the academic expectations of the year.

Less positive comments indicated that some students still lacked confidence in their ideas. Students were still very 'needy' and looked for reassurance from staff, resulting in an increased demand on time.
Some details from a summary of staff responses can be seen below;

- Proposals are generally much better considered
- Proposals from a wider range of areas and 'real' problems
- Improved engagement from final year students early on
- Students still very 'needy' in terms of lack of confidence and independence and time demanding of academics

4.2 Criteria Driven Comparison

In terms of problem formulation and level of innovation this is best seen by example. Typical projects in academic year 2010/11 were: toothbrush to help children brush properly; renewable light source for developing countries; bath safe alarm and waste compactor for wheelie bins. Although these products do meet the basic requirements for final year project content, the subject matter and context is by no means new. Some of the more innovative and well formulated proposals in academic year 2011/12 were: mosquito inhibiter disperser for standing water; light source tool for 'light painting' art; fertilizer aid for Africa; heavy load transportation interface for donkeys and a domestic free standing focal point.
Understanding of market - in academic year 2010/11, it was found that projects were often developed by a process of finding an initial product idea, followed by a search for potential market. This resulted in some instances of limited innovation, changes to proposals at an early stage and lack of project focus due in some instances to non-existent market potential. Many projects started with relatively uninspiring project briefs, and in some instances project development and outcomes were possibly limited by the students diminishing interest in their uninspiring project over the academic year.
Level of innovation - Innovation is one of the key expectations of a final year project at BU. Many of the projects proposed in academic year 2010/11 offered limited innovative potential and the projects contained little to demonstrate graduating design students' potential as innovative thinkers. Minor modifications or changes to existing technology/products was a common basis for project proposals. Few students identified ideas developed from an initial need or an identified problem.
In academic year 2011/12 the students were directed through this engagement to explore project ideas based on an initial need or an identified problem, due to this focused starting point the resulting project proposals are more innovative, have greater potential for development into viable products and are arguably more interesting.
A comparison can be made between academic year 2010/11, and academic year 2011/12, in terms of the number of approved projects at viva 0:
Academic year 2010/11 = 47/62 (76%)
Academic year 2011/12 = 53/71 (75%)
These figures indicated that the engagement did not necessarily improve the number of project approvals at this stage, but other evidence from the data analysis indicates that the projects are offering a better starting point for development with greater project potential.

5 CONCLUSIONS

This initiative was a first attempt at resolving what had become a growing problem. As such it can be described as successful. The feedback from students is generally positive and the initiative can be said to have succeeded in re-engaging students with their studies and enabling them to begin to understand the requirements of an honours level course in product design. The initiative was also successful in improving the problem formulation, and level of innovation of the project proposals. This is evidenced by an increase in the range of projects proposed and the nature of them as evidenced above. The actual percentage of project proposals approved at Viva 0 did not change, however, neither was there a significant improvement in the number of weeks it took to arrive at a full cohort of proposals approved. Thus, this might indicate that the initiative was more helpful for stronger rather than weaker students who perhaps succumbed to the 'panic' mode due to pressure of time.
The initiative was sufficiently successful to be rolled out across all courses in Design and to be rerun on the Product Design course to commence academic year 2012/13. As ever, there is always room for improvement. The feedback indicates that something has been lost by not providing an opportunity for

students to engage over the summer with feedback on initial ideas. Thus, the opportunity for students to engage with academic staff in discussion of potential proposals over the summer will be re-instated, although it must be recognized that it only benefits those who do engage and this inevitably tends to be stronger rather than weaker students. The feedback also suggests a need to move the first inspirational lecture to the Project Day in June at the Festival of Design & Innovation and move the research exercises to the Monday of the Project Proposal Week. This will be implemented for the next academic year.

There is still further work that could be done related to how to support weaker students in re-engaging with their studies, improving the problem formulation, and improving the level of innovation of the project proposals. Student engagement cannot be forced but requires the right student attitude. This attitude could possibly be improved through similar engagement initiatives at an earlier stage in the programme. In the academic year 2010/11(continuing in 2011/12), a new project was introduced to the Level I and Level C students, this project was developed to offer an open brief requiring initial research to find a humanistic need and then develop a product to meet that need. This project requires a different approach for the lower year students and has been developed to introduce the students to a similar experience to that found in the final year. If there is some benefit to engaging students in this type of approach to projects, the results of this initiative will not be evident at level H until academic year 2013/14.

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