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EXPERIENCE, DESIGN, A STUDENT POP-UP SHOP

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ABSTRACT
This paper presents the experiences of staff and second year BSc Design students at the Authors' Institution in developing a 'pop-up shop' event over three consecutive academic years. Students were given a short period of time (3-5 weeks) in which to design and manufacture a small gift item, which could be sold at the event. They worked in small groups to explore the systems, service, marketing, graphic, and experience design of the show, and then in teams to produce, market, and run the event. Individually, each student designed their product to the requirement to sell it for a demonstrable profit margin at the event, and the need to be able to batch manufacture it to order during the subsequent week. For many this was their first experience of working to an externally imposed deadline with the potential for real income generation from their design skills. Students developed a broad spectrum of design and entrepreneurial skills, deepening their understanding of the traditional role of a product designer while reflecting on the value of enterprise skills for their future careers in industry. This paper will contextualize the project within the Design syllabus at the authors' institution and the wider industrial environment, and concludes with some reflections on the value of the project for student learning, and suggestions for teachers of design in considering similar pedagogical approaches.

Keywords: Product Design, Innovation in Teaching, Enterprise Education, Experience Design

1 INTRODUCTION

1.1 Context

'Entrepreneurship education can both accentuate individual achievement, and provide opportunities for team work and the development of other 'soft' skills that are so valuable to business and society today' [1] The research 'Entrepreneurship in higher education, especially within non-business studies' carried out by the European Union in 2007 suggests that the provision for entrepreneurial activities in higher education is stronger within business oriented courses but is lacking in other disciplines, such as art, design and engineering, although viable innovations and business ideas often stem from those disciplines [2]. The objective of the project described in this paper was to integrate entrepreneurship into a design curriculum in a manner that enriches theoretical study with practical experience, by giving students the opportunity to test their design skills in a real marketplace and the academic to adopt the rare fusion of a collaborator/commander of the process [3].
The concept of pop–up retail emerged circa 2004 [4] as an immediate and cost effective way of selling goods and services within short-term shop environments. This formed the inspiration for a student project that would use the selling activity as the driver for a material based design project, using appropriate locations and available resources within the campus. Inclusion of enterprise within the curriculum is central to the policy of the authors' institution for developing entrepreneurial students.

1.2 Design of the Project

The 'pop-up shop project' was developed for a second year cohort of students on BSc Product Design and BSc Engineering Product Design courses. During their first two years, the students from both courses study several common modules that cover a broad and fairly typical spectrum of design skills including design methods, drawing, prototyping, CAD, graphics, and sustainability, with separate modules in Design Engineering, and Human Centered Design to differentiate between the two courses. Both courses have a long heritage of positioning making at the center of the design process, supported by a strong engineering and prototyping resource base that includes additive, formative, and subtractive technologies, and craft based methods. Enterprise skills are introduced implicitly during

the first year, and developed to a greater extent during the second year taught courses, but in the past the students had little opportunity to put these into practice; they were not formally assessed on these skills until the final year, which incorporates a specific module in 'Innovation and Enterprise', before they are expected to apply those skills to their Major Projects. The novelty of this project therefore lies in the exposure of students to real enterprise activity at this relatively early stage of their academic studies.

The objective of the project was to provide a practical entrepreneurial experience that would develop and enhance multi dimensional components of their thinking by embedding enterprise skills such as team working, collaboration, branding, promotion, sales, and marketing, and intellectual property protection, in addition to more traditional design elements of creativity, concept generation and selection, iteration, experience design, product development through prototyping and an insight into 'just in time' [5] and batch production methods.

The students' core discipline was the driver for the entrepreneurial activity; in this case, designed products are the key skill, so a range of good quality and innovative products were required to form the basis for the entrepreneurial activity. The teaching team believes that "Good design is good business"[6]; enterprise based upon a poorly conceived or developed product proposition is a wasted opportunity. Thus the theoretical drivers for the design of this student experience might best be described as "design led entrepreneurship".

1.3 The Project Brief

The project was developed over three consecutive years, and the brief was necessarily adapted year on year as the tutors learned from experience and endeavored to streamline and improve the learning experience. However, the core components remained the same, split between collaborative work on the design and production of the pop-up event itself, and the individual design work on the products that would be sold at it. These activities are described below as distinct phases for clarity, but in practice they occurred in a far more concurrent manner.

1.3.1 Phase 1: Event Design (group work)

The design and marketing of the event itself was a crucial component of the learning experience, and this was led with the branding. Working in groups of 5, students brainstormed the multi-faceted components of what it means to be a design student at this particular institution, and what they wanted to communicate to potential customers via their marketing strategies for the event. These ideas were developed for various media, and supported by further exploration into all aspects of the event, from product literature and plinth designs, to cash flow and order tracking systems, and uniform clothing to be worn on the night. One constraint on their designs at this stage was the venue, which was effectively predetermined by the spaces available for use within the University. The students were provided with building plans, enabling them to explore layouts in both 2D and 3D CAD, and through physical models.

By way of simulating of the intensive nature of real-world design projects, and of making professional pitches, the groups were given just one week to develop their proposals before pitching their concepts to the entire cohort. During the first two iterations, this consisted of a PowerPoint presentation supported by models, but for the third year, students were encouraged to use video as a medium, which offered an additional learning experience of communication through alternative media.

Following the presentations, the entire year group conducted a multi-voting concept selection exercise in order to democratically identify the most popular ideas to take forward. Given the holistic and multifaceted nature of the proposals, it was inevitable that each carried both merits and disadvantages, such that it would have been difficult to simply adopt one proposal in its entirety. Thus the voting was broken down into key conceptual themes – the brand, the marketing strategies, the show layout etc.

1.3.2 Phase 2: Product Design (individual work)

Students were given 3-5 weeks in which to design, develop, and prototype manufacture a small gift item to be sold at the event. The emphasis was not only on the creative design of a novel or engaging product, but on careful consideration of the manufacturing process such that their product could be efficiently costed and batch produced to order during the week following the event.

For the first year of the project, material usage was restricted to a small palette of A4 sized samples in order to promote material driven design coupled with a relatively simple costing system template that

could be used as the basis for determining retail price. The students were limited to planar card, acrylic, plywood, cork, or felt, to be laser or hand cut, and assembled into three-dimensional forms.
Following the successful implementation of this, the material palette and the tools available were expanded the following year, in the hope of encouraging a broader range of creative outputs. Students were permitted to use any of the manufacturing technologies available within the University Engineering and Design workshops.
Common modelling materials designated as standard stock are normally provided free of charge to the students. Whilst some of these are primarily prototyping materials that are less suitable for saleable products (MDF, modelling foam), others like plywood and acrylic were in high demand. Students had free access to stock materials for prototype iterations in the development stages of the design work, and for their "shop ready prototype" to display at the event; if further materials outside of this range were needed, those who made sales would be reimbursed pro-rata according to the sales that they made. This encouraged professional judgment in their material selection, but also consideration of the inherent risks associated with entrepreneurship.
Students were introduced to a broad gamut of the production processes available through the taught curriculum that ran concurrently with the project. In addition to 'standard' processes, they were encouraged to adapt or subvert technologies to achieve their desired result. This was led by examples from the academics' own research and practice.

1.3.3 Phase 3: Event Production (team work)

After the core branding and production concepts had been selected, the groups were broken down and reassigned as teams to implement the decisions that had been made. This remixing was designed to ensure that students learned to work with new members of the cohort who they might not previously have encountered. The teams fell into three overarching categories, with roles that overlapped but generally took precedence at different stages of the event planning. The Graphics Team started work immediately to refine the chosen brand, tying the disparate concepts that emerged from the selection process together into a coherent whole, and to translating it to the various promotional media that had been chosen. The Marketing Team would take over during the two or three weeks before the event, implementing the marketing strategies and ensuring that the promotional materials were distributed according to the proposed plans. Finally, the Event Team would take over on the day of the event itself, organising and hosting the customer experience, and tracking sales. Students elected to join these teams based on affinity to a particular skill set. They then elected team leaders, and managed their teams autonomously with very little guiding input from the tutors.

1.3.4 Phase 4: Batch Manufacture

As describe above, the event was scheduled for one week before the end of the term, so that students who sold items could have time to manufacture the products that they had sold to order during the subsequent week. This required them to consider very carefully their production times when making sales at the show, so that they could ensure that this was possible within the timeframe, and if necessary, limit the number of orders they took. They were required to complete this activity in their own time, outside of scheduled classes, although there was considerable academic oversight at this stage to ensure that all orders were fulfilled. In most cases, the customers were from within the institution, and the students took pleasure in personally delivering their products to their customers.

1.4 Assessment

The marking schemes were developed to allow both formative feedback at interim critique stages, and summative assessment at key milestones. The resultant grades were compiled from components of group work on the branding proposals, individual design work on their personal product, and individual contributions to the team production of the event. This staged assessment allowed the teaching team to gauge if any 'crisis meetings' were required with individuals or groups to ensure the deliverable was achieved.
The assessment criteria were designed to allow for recognition of exemplary work, for students that excelled in a particular role to gain the appropriate marks for the effort and evidence of good team work or individual project work. Crucially, it was recognized that this 'live' sales environment is still somewhat artificial, and thus there was no direct link between individual sales of products and grades. Successful sales represented a personal badge of honor for the student, but their grades for the

individual design work were based upon innovative thinking, the design processes they employed, appropriate use of prototyping, and a full and comprehensive costing of the product for timely small batch manufacture.

2 IMPLEMENTATION

2.1 Year 1: 'Pop-Up Shop'

Despite several alternative name proposals, the students elected to stick with the original title, choosing a brand that played on this in a Pop Art style. The event was held in one of the large teaching studios, on a Friday night one week before the end of the Christmas term in 2011. Students added gel panels to the fluorescent lighting boxes to give the room an unusual ambience and provide a visible way marker for the exterior of the University. Product literature was produced in the form of a plastic ID card for each student, printed by the students using a card printer borrowed from the LSBU security systems. The cards were suspended from the ceiling of the room on fishing wire, floating above the work on tables below. Students created T-shirt uniforms using iron-on cut vinyl. Products that sold included Christmas related puzzle games to assemble a Santa statue, decorative jewellery stands, mobile phone holders and cases, and 2½ dimensional Christmas cards incorporating laser cut 'gifts'.

Figure 1. The graphic and selected products from the 'Pop-Up Shop'

2.2 Year 2: 'The Design Practice'

In 2012, the students elected the name 'The Design Practice'. The event was held in the newly opened Student Centre building, a prominent location that offered the advantage of accommodating the larger student cohort from that year group, but also imposed stricter limitations on what could be done with the space. In addition to the Friday night event, the opportunity arose to open the shop again the following Monday morning in order to reach more passing traffic, which had a positive effect on sales. The implications of opening up the materials and process palette from the previous year were manifest in the range of products that the students produced. Products as wide ranging as bicycle mudguards designed from recycled plastic bottles, silicone moulded headphone tidies, candles made from wax cast into 3D printed moulds, and laser cut acrylic fruit bowls were sold.

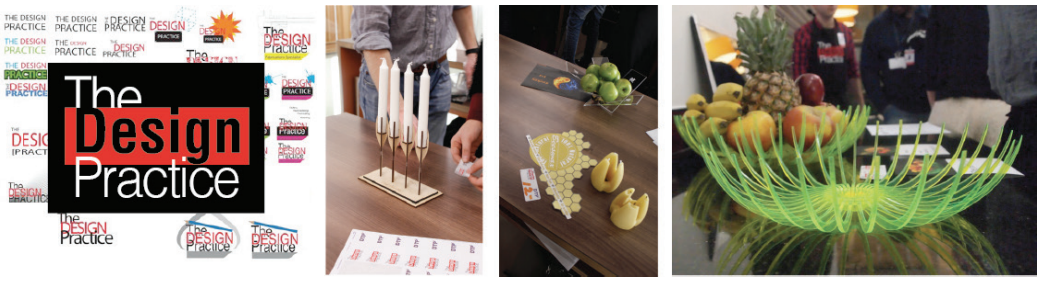

Figure 2. The graphic and selected products from 'The Design Practice'

2.3 Year 3: 'Designers Assemble'

2013 saw a further rebranding to 'Designers Assemble', with a powerful graphical theme based upon the concept of the superhero designer. This year group also proposed innovative marketing methods, with pop-up 3d invitations for University VIPs and guerilla tactics such as 'superhero mask' stickers on the mirrors in lifts. The venue for the private view remained the same as the previous year, but this time the Monday shop opening was held in a vacant street facing commercial unit in the University's

newly opened 'Clarence Centre for Enterprise and Innovation'. This enabled the students to pitch their products to the general public, and several sales were made to passing pedestrians. A student proposal for profits to be donated to charity was almost unanimously agreed upon by voting. Products that sold included a pink laser cut wine bottle holder in the shape of a pig, magnetic flower vases from test tubes and machined mahogany, and desk lighting.

Figure 3. The graphic and selected products from 'Designers Assemble', and the group outside the shop

3 DISCUSSION

3.1 Design and Implementation

During the first two iterations, all of the project work took place during the 5 weeks immediately preceding the event. This inevitably led to an intense and stressful final few days as everything was being manufactured, which required the tutors to keep the workshops open until late into the evenings. Although this 'ramp up' was probably to be expected, it was disconcerting to see some students queuing for the laser cutters with minutes left before the show opened. In 2013, the teaching and design work phase were advanced to the first 6 weeks of Semester 1, leaving a 6 week break before the actual event. This allowed the students more time to act on feedback from the assessment critique to refine and produce their products, but it also highlighted an issue in the students' attitude towards the assessment. Despite clear instruction that no additional marks would be awarded for the product design component after the submission date, many of the products were nowhere near being ready for sale at this point, and the grades were low accordingly. In previous years, the impending show had imposed an immovable and clear deadline – students knew that if the work was not ready, they would not be able to exhibit, an unavoidable penalty that they alone had the power to avert. When the design work was formally assessed 6 weeks before the show, the resulting effort at this point was reduced. This may be suggestive of a motivation that is less concerned by academic grades than by the satisfaction of presenting work that they are proud of to the public.

Two approaches to the multi-voting concept selection method were tested: an online survey tool for voting, and a live multi-voting session in the design studio. The latter gained far higher engagement and participation, as the students queued up to place their vote with ticks against categories on the whiteboard, amid cheers when popular concepts were voted for.

During the events, accurate tracking of sales and customers was vital to ensure that all takings were accounted for, and that all of those customers received their goods during the following week. This proved to be one of the most stressful factors for the academics, who would face the responsibility if the students failed to deliver. It was felt to be important for their learning experience that keeping track of sales was managed primarily by the students, but this was carefully overseen by the tutors. In 2013, the students used an iPad application for the sales tracking, which sent automated email receipts to both the customer and the academics. This successfully reduced the amount of manual paperwork that the previous events had incurred.

3.2 Profit and Loss

Although the primary driver for this project was the student experience of enterprise activity, rather than tangible commercial profit, a clear but small profit was made each year, when accounted against only those students who actually made sales. Inevitably not all of the students achieved this, but the design of the system limited these losses to the cost of the single prototype on display – no stock was

held beyond the display model, so no sales meant no further loss. These could therefore be written off against the prototyping budget available for the module, rather than against the gross sales. Total profits margins improved from around £70 in 2011 to a total of £350 in 2013 – a measure of the improved design of the project year on year.

4 CONCLUSION

The group elements of the project allowed students to elect themselves into distinct roles based on their personal aspirations and key skills, encouraging them to reflect on roles they may have carried out in their Saturday jobs in bars or shops, and transferring this knowledge to contribute positively to their design experience. Observations made at the events highlighted the novelty and richness of the learning experience for the students. Although they worked as a team towards the success of the holistic event, they were also, in effect, in individual competition with each other to make sales – a further simulation of the realities of real-world enterprise. The atmosphere amongst the social group at the events, although entirely good natured, was highly charged and excitable, and it was a rewarding experience for the academics to see the delight on students faces after they had just sold their first product; in most cases, this was the first experience they had ever had of using their design skills to generate real income.

At every event a feedback board was provided to receive comments from the public, which were overwhelmingly positive. The project has been well received internally within the University and was highly commended at the 'Vice Chancellors Enterprising Staff awards in 2013. It was also specifically commended by the inspectors from the Institution of Engineering Designers during the course re-accreditation in February 2014. The project has and continues to achieve its objectives of promoting unity within the cohort, strong teamwork based on collective goals and academic alignment for the next stage of study. The experience of developing and testing their work for real potential customers offered the students new insights into the role and importance of enterprise skills in their future careers, and there was evidence of this in the reflective reports that formed the final part of the submission after the event. The project has now been embedded firmly within the design curriculum for second year undergraduate level Product Design and Engineering Product Design students. The teaching team will continue to develop the project to reflect both feedback from the previous students, personal reflections on improving the process and the authors' research into rapid prototyping technologies and the maker movement.

Future development on this project might be to explore the implications of cross-disciplinary team working, by inviting students from the business school to participate in it. Also, profits might clearly be increased by keeping the shop open during working daytimes for a longer period, although this carries difficult resource implications to be resolved.

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