

Design Education with Real life projects

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DESIGN EDUCATION WITH REAL LIFE PROJECTS: LEXON® / FBE CORPORATE GIFT EXPERIENCE

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Abstract

This paper presents the results of practice oriented design projects carried out by the Industrial Design Program at the University of New South Wales (UNSW), Faculty of the Built Environment (FBE). With such projects, third year students not only experienced aspects of product development by association with an industry partner but also participated in the process and business of bringing products to market. Such an approach was undertaken with 3 particular university course projects with the desire to develop the student designs with viable commercial possibilities. The commercial partner gave the students a greater understanding of the product design process in a commercial setting, as well as providing many other benefits for the industry partner and the Industrial Design program. The positive and negative aspects of this educational model will be discussed with examples in this paper.

Introduction

Credibility and relevance with industry, public and both prospective and current students is a central concern for many involved in delivering product design education. Curriculum developers of product design programs respond to this desire in a number of ways. Often projects are designed to mirror what may exist in the commercial world, despite the relaxation of the many constraints typically encountered with real commercial projects. Another way to capture this need, which is highly encouraged by Universities, is to develop relationships with industry, through collaborative projects and initiatives. This motive has often been pursued at UNSW, on both a formal and informal basis and has led to many exciting and successful outcomes with mutual benefits for all participants. UNSW students, UNSW and industry partners gain expertise that feeds back into their respective activities. (Figure 1)

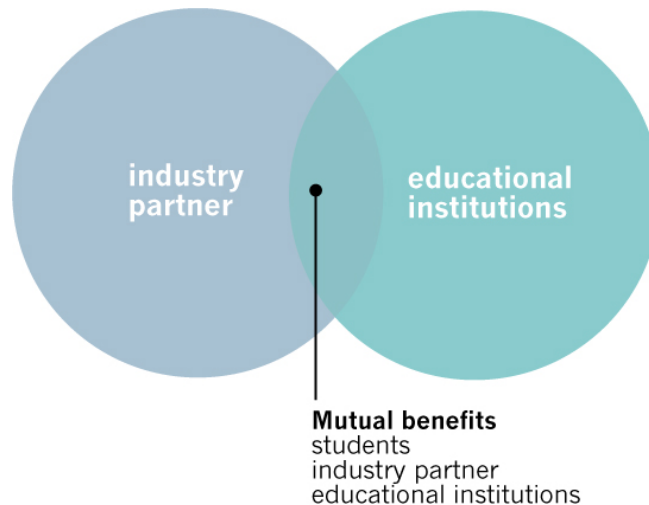


Figure 1. Mutual benefits from collaborative projects

During 2000, third year industrial design students at UNSW (Industrial Design Studio 3) embarked upon developing a series of collaborative 'real life' projects with an industry partner, culminating in the potential commercialisation of the students' design projects. The projects evolved out of previous collaborations which ranged from; conceptual outcomes for functional wearable designs for MHWay to designing a ceiling surface mounted down light for JSB lighting (Australian distributors for Modular lighting). The industry partner, students and UNSW industrial design program, all gained positive and beneficial outcomes from the projects. Industry partners, such as JSB, used examples of student work at national and international sales conventions, offered work placement positions for students, and offered financial support for the final year students.



Figure 2. General view from the IDES3221 Studio 3

Industrial Design Studio 3 (IDES3221) is the core subject in year 3 of the Industrial Design degree program. (Figure 2) The subject allows students to build on the work carried out in previous stages of the course, and to gain further experience in applying Industrial Design process and research methodologies to a range of problems. The topics covered, aim to give students a greater understanding of the practice of Industrial Design and to increase their understanding and knowledge of the technical aspects of

the profession. Each project emphasises technical resolution and commercial considerations of product development. One particular industry partner, King Enterprises, offered UNSW students the opportunity to further develop product possibilities through a number of joint initiatives. So far, three projects have been initiated with King Enterprises and will be discussed in more detail in this paper.

King Enterprises is the Australian distributor for LEXON® products as well as marketing their own parallel range of products. Their customers include retail gift shops, department stores and organisations requiring corporate gifts. Their main product line is the range of LEXON® products, well known for their distinctive styling. Based in France with a global reach, LEXON® have long regarded their pool of contributing designers as central to the success of their products, not only to the design process but also to the marketing of the product. Products are labelled attributing the designer to the product. They produce a range of products that fall into categories, such as: homewares, electronic goods and other personal items. More specifically, these are items such as calculators, stopwatches, radios and more recently computer accessories including a mouse for a PC and an award winning retractable extension cord for laptop/online connection. Clever use of colour, material, texture and finish make LEXON® products distinctive. Affordability is also another important feature they strive for.

Recently, King Enterprises initiated their own 'in-house' product development program, rather than solely marketing imported finished product. Early commercial successes with this initiative have enabled them to invest and formalise an emerging arm of their operations. A new range is to be marketed under their eo2 branding to which UNSW design students will contribute, as being representatives of 'Young Australian Design'.

Project 1. LEXON® gift product

UNSW Industrial Design Program approached King Enterprises to become involved with a student project. They agreed to contribute by assisting with the briefing at the outset and to view and critique final designs upon completion of the project. The project ran over 6 weeks from initial briefing to final presentation. Students were required to design a solution based upon a selection of OEM electro-technical assemblies, which included a miniature digital camera, radio and calculator. UNSW staff developed the design brief (Park, 2001) with little initial contribution from King Enterprises. This was mainly due to maintain a tight adherence to the course curriculum and to synchronise with other subject requirements. King Enterprise's main contribution was to introduce the LEXON®'s range of products, philosophy and strategies so for the students to gain a clear understanding of how to design for their market.

Students were required to consider the following criteria:

- **Production Requirements**
Ease of moulding, assembly and careful consideration of housing the supplied OEM components. Detailed resolution of all parts
- **Marketing Requirements**
Identifiable as a LEXON® product and appeal to their market segment. Aesthetic appeal consistent to products in its class

- The final presentation was to include an accurate appearance model and a general assembly drawing, so to allow a production team to accurately assess and fully understand the designs features, functions and anticipated production costs.

The results of the project were most encouraging, for both the representatives from King Enterprises and for the Industrial Design program staff. Many students skilfully managed to meet the technical and commercial restrictions, while fully realising their creative potential and aesthetic possibilities for their designs.

Collaborative projects offer many benefits to the faculty and industrial design program. Not only do they develop trust and confidence between the industry partner and the university, but also offer long term opportunities such as: funding support for exhibitions, scholarships, site visits, special lectures and more formalised strategic collaborative projects. UNSW staff observed that having an industry involvement increased student commitment with the project. For students, the kudos of association with an internationally recognised firm, designing and marketing products that appeal to their particular demographic was a strong motivational factor. Also, the external partner encouraged students to invest more into the project than they normally would for an entirely internal scripted project. Examples of the students' work were made available to King Enterprises for promotional purposes. From previous collaborative projects with other industry partners, the resultant student work has been used at an international level for promotional purposes bringing both the firm and University prestige. The industry partner gave the project a sense of commercial reality and purpose that is often hard to capture with internally generated projects. This first initial project was important in establishing trust as well as establishing a design process that all stakeholders (UNSW teaching staff, UNSW students and King Enterprises) were comfortable with. The trust established between UNSW and King Enterprises offered the opportunity for further design collaborations to take place.

Project 2. Corporate gift object

The following semester, Industrial Design Studio 3 students were given a project (Demirbilek, 2001) requiring them to design a corporate gift to promote the Faculty of the Built Environment (FBE), UNSW. The FBE includes a range of program disciplines under the banner of the 'built environment', including: Architecture, Industrial Design, Interior Architecture, Landscape Architecture, Architectural Computing, Building Construction Management, Town Planning and as of 2002 Human Geography. The corporate gift object had to capture the essence of each of the faculties diverse programs, as well as express with subtlety to the recipient of the gift, the value of their relationship with the faculty.

The brief stated that the corporate gift object was to address the following requirements:

- Distinctive, identifiable and an appealing representation of the FBE – UNSW corporate image.
- Aesthetic appeal valorising the position and strength of FBE – UNSW.
- All products should incorporate the FBE logo, to be used in a suitable manner.

It also stipulated that design for low volume manufacturing should be considered. A tentative production volume was set at 1000 units. Low volume strategies to be consider included:

- Use of stock components (fasteners, extrusions, etc)
- low volume production methods (vacuum forming, laser cutting and other CNC machining processes)
- Clever use of colour, finishes, graphic applications, printing
- Detailed resolution of all parts
- Low cost (production costs under 20 AU\$), including labour, material, transport, and packaging.



Figure 3. Presentation of selected projects to the Dean of FBE.

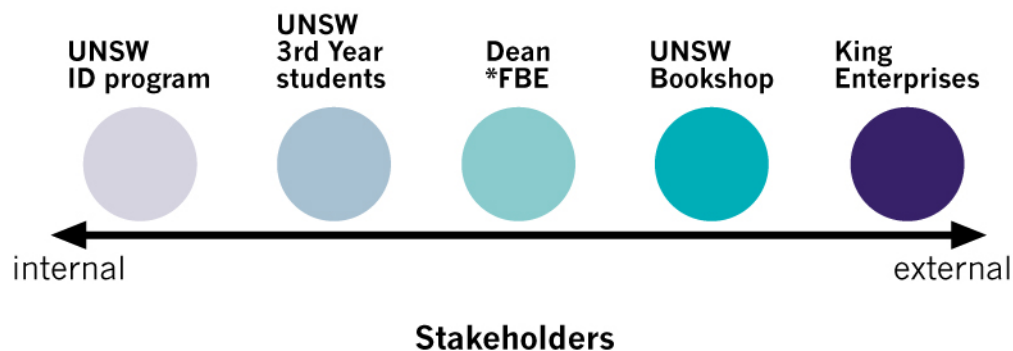
The Dean of the FBE, Prof. Tong Wu was invited to be the client. He had made it known to Industrial Design program staff his desire for a student designed faculty gift. Previously, he had awarded a purchased gift to graduating students. After viewing preliminary concepts (Figure 3) he expressed a commitment to produce a selection of the successful designs. He envisaged that on graduation day, each graduating student would receive a gift, designed by one of the Faculty's own students. Considering the faculty's expertise in design, specifically industrial design, his expectation was most appropriate.

For their final assessment task, students developed their designs, presenting their work as appearance models or in some cases as fully functioning prototypes. With so many exciting designs with real commercial possibility a short list was made of the six best designs that met the brief. King Enterprises were again approached to assist with commercialisation possibilities. As well, representatives from UNSW bookshop were invited to contribute, as they had earlier expressed interest in the project. The UNSW bookshop is responsible for sourcing and marketing UNSW corporate gifts. With nearly 33,000 students enrolled in 10 Faculties comprising of 75 Schools and 78 Research Centres this represents a significant potential niche market.



Figure 4. Six selected products.

Models of the six selected products (Figure 4) were then formally presented by the students to the Dean of the FBE, manager of King Enterprises and representatives from the UNSW bookshop, representing a spectrum from internal to external interests. (Figure 5.) Response again was favourable from all parties with strong interest from the UNSW bookshop buyers and the Dean, who wished to see the products commercially available.



* FBE =Faculty of the Built Environment

Figure 5

Many challenges presented the students, not least the formidable task on how to proceed? Students were encouraged to take direct control of the project and explore new business opportunities. Assured sales (to UNSW and FBE) with possible seed funding from the faculty, would enable design finalisation and production planning to commence. Students needed to consider business structures, design rationalisation and project management. As well they needed to negotiate a compromise position with each of the project stakeholders, namely: the Dean of the FBE, UNSW bookshop, King Enterprises and also agreement among themselves on how to best arrive at a desired outcome. It was evident at numerous stages throughout the process that each of the stakeholders had a quite varied level of understanding and experience of product development processes.

Another challenge that students needed to address was weather or not to modify their designs in light of marketing, production and costing issues. Many of the designs presented required more comprehensive documentation to achieve a more accurate cost breakdown and to allow for a more meaningful analysis. Some of the students failed to fully understand this requirement and subsequently some of the designs stalled. With considerable time and energy invested into their designs, many of the students were reluctant to consider modifications. Despite what seemed to be a slow and protracted affair, it emerged that King Enterprises, realising the potential to be gained working with talented young designers proposed a further collaborative project, based upon their plans to develop a new product line. As well, King Enterprises offered students the opportunity to submit a folio to show to potential manufacturers in on their next buying trip.

The process of fitting the market to the product and not the product to the market, presented challenges for both King Enterprises and the UNSW gift buyers. The team members identified specific products and price points, which would meet their respective needs:

- Small compact metal desk clock with 'roman numeral' face, retail cost less than (AU\$55.00).
- Compact manicure set, retail cost less than (AU\$50.00).
- Money clip, retail cost less than (AU\$30.00).
- Photo frame, retail cost less than (AU\$40.00).
- Letter opener, retail cost less than (AU\$25.00).
- Money clip, retail cost less than (AU\$30.00).
- Pen holder, retail cost less than (AU\$40.00).
- Coasters, retail cost less than (AU\$40.00).
- Personal vase, retail cost less than (AU\$45.00)
- Business card holder, retail cost less than (AU\$30.00)

Project 3. FBE - eo2 – UNSW Bookshop Design competition

Earlier this year (2002), a third collaborative project was set up with King Enterprises. The industrial design lecturer and manager of King Enterprises devised the project as a competition open to all FBE students. The project has also been given as the main design brief for third year industrial design students (Demirbilek, 2002). It is proposed that the competition run each year, with a jury judging the competition and awarding prizes. Cash, student internship with King Enterprises, royalties and one off payments are currently being investigated as prizes. It is envisioned that the designs will be produced in China and marketed internationally from Australia, under the eo2 brand name.

The project again centres upon gift products but this time students are required to investigate the notion of giving and not to limit their thinking to "gift products" in a traditional sense. The design brief states:

Design a very special gift. This has to be a commercially viable gift product designed with quantity production methods in mind. All entries for this competition should connect to the concept of "gift giving" as a spirited considered gesture. Participant FBE students are expected to explore the potential of gift design and the act of gift giving. "It is great to give - and to receive - a special gift

that plays a role and has a place in our everyday life, an meaningful designed original gift that the recipient will use with pleasure”.

King Enterprises stated that the eo2 range consider one of four themes: 1. Every day practical; 2. Energy battery operated or electrical item; 3. Eco/ hand made or with natural materials friendly to the environment, or with recycled materials; 4. Edition / X factor, something special and unique about it. The “Wow!” factor. A beautiful object that does not necessarily need to fit any of the other 3 categories.

The entries can address one or more of the above mentioned themes. (Demirbilek, 2002) This project will be judged latter this year.

Conclusion

The ‘live’ projects with King Enterprises have given students an important experience in the commercialisation of their design work. The industry partner gave each project a sense of commercial reality and relevance that is often hard to capture with internal generated projects.

The advantages of the collaborative projects:

Being involved with a real client on a potentially real project enhanced students’ enthusiasm. The association with an internationally recognised firm is a strong motivational factor.

From previous collaborative projects with other industry partners, student’s work has been used at an international level bringing both the industry partners and University prestige.

Learning opportunities have been widened beyond the confines of the studio environment and program-generated brief.

University resources not normally associated with teaching were mobilised and involved in the projects.

The success with the projects offered the opportunity for further design collaboration to take place.

Deadlines are realistic rather than course related ones.

Students’ confidence has been enhanced by the good reception of their projects by industry partners.

Students’ visual and verbal presentation skills were improved noticeably with the impact of the collaboration.

All stakeholders gain invaluable expertise that feeds back into their respective activities.

The disadvantages of collaborative projects:

Students realising the inevitable compromise to their concept designs in bringing them to market, and not knowing when to defend or relinquish aspects of their designs.

Students’ inexperience of dealing with other stakeholders often leads to lack of confidence in design ideas.

Time and resource intensive. The lecturer assumes the role as intermediary despite intentions for all stakeholders to share responsibilities. No program budget is allocated for such initiatives.

Some students have worried about intellectual property rights and royalties. Legal issues are still a delicate concern in such projects.

Long process. Students are impatient to see results. They want to see their products in production and on the market.

To sum up, students gained skills and knowledge in business, time, financial and design management, as well as developed people and entrepreneurial skills. They stuck with the process despite the many challenges. The UNSW Industrial Design program gained opportunities for further collaborative projects, guest lecturing and possible project funding. At the very centre of such collaborative projects lies trust and understanding which only develops over time.

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