STUDENT COLLABORATIVE PROJECTS SUPPORTED BY MORE THAN ONE COMPANY

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ABSTRACT
This paper is based on project work by product design students working in response to a collaborative project(s) supported by companies who market different products and services to a common market sector. It will outline how students working with companies can move beyond a traditional design brief typically generating proposals for a product within an individual company's portfolio, to a more research based activity. In the instance of the example students were set the task of exploring 'issues and needs' within an office domain and ultimately presented design proposals for the future of the office. The collaborative partners were Herman Miller and Xerox. Both of these companies work within this business sector but neither had direct control over the project. They informed students of their own products and perceptions about the future but were not aware of the other collaborators input. There are many advantages to this approach. Primarily it was intended to challenge students to gain an understanding of a market sector and explore ways of researching, analysing and synthesising data culminating in design proposals. A second key innovation is the cross-fertilisation of ideas between companies who do not normally communicate. It also created a non-commercial forum where the collaborators could exchange ideas through the students. The ideas generated were new to both parties as they contained influences from several inputs including the students own research methodologies.

1 CONTEXT

Collaborative projects with external partners have considerable benefits to all parties concerned, particularly the participating student cohort. Traditionally Universities have relied on the benevolence of companies supporting the learning curve of students prior to facing the 'real world' of employment. In these instances companies have set design briefs which echo a commercial situation related to their existing product range. Benefits to the student include professional feedback on design ideas, experience of working in a professional context and a level of technical and market sector information beyond most University generated briefs. The University gains the esteem of working with external partners; for the companies they meet commercial and academic liaison agendas while becoming familiar with the skill base and aspirations of the current cohort of students. The latter is useful to them when recruiting graduate employees. However few Universities have managed to get beyond this structure to explore how students can develop design as a research tool as well as a mechanism for product development.

The projects outlined below were structured to progress previous collaborative projects between University of Hertfordshire (UH) Product Design students and two external commercial partners. The aim was to go beyond the traditional object or product requirement brief(s) to integrating design as a research tool. The objective was to utilise

and expand the student's design expertise to include a pro-active tool for change rather than just a responder to pre-determined objectives. The secondary objective was to create a forum around issues not products in which commercial organisations could discuss ideas of mutual interest without compromising business objectives.

2 OBJECTIVES

The objectives of these projects was to move beyond the types of relationships outlined above which the Product Design Programme at the UH had with Xerox (X) and Herman Miller (HM). In previous years both companies had set design briefs to Year 2 students independent of each other. Both companies sell products and systems within the office context, X with document handling systems and HM furniture systems. The University wanted to create and utilise a synergy between the two companies without directly compromising their business interests. By detaching the design brief from a 'product outcome' related to a specific company it would give students the freedom to explore future possibilities away from commercial drivers thus taking design into the realms of a research activity. This approach creates a climate for innovation as well as incremental change. Analysis of the commercial opportunities would be considered when the projects were presented to the partners for scrutiny and comment. It was felt that a project based on the 'working office environment' outlined by the University with inputs from the collaborators would place the control of the project with the students.

Another objective was to gain the active involvement of companies in design debates centred on issues relevant to their spheres of commerce. Serendipity, 'just seeing what would happen' was also acknowledged when constructing the project with the hope that a synergy would develop between the two companies. Finally an attempt was made to give the project(s) the freedom to generate its own pathway, lead by the student's research and intuition. It was hoped that product design would move beyond the technical skill of doing towards research and ultimately discovering drivers of and justification for change.

3 PROCESS

The key innovation to the collaborations is that no defined brief was given to the students. Instead of a traditional briefing students had three initial sessions. Firstly the University outlined the nature of the project, that of exploring future possibilities within the working environment. Secondly each company briefed the students independently, on their understanding of the future of the office. It was left to individual companies how they briefed the students and also what information was shared with them. Each company was aware of the involvement of the other company and consequently decided what information to reveal in briefing sessions, thus ensuring no conflict of interest or compromising of confidential company information.

In the event both companies took the opportunity to give a context of their own involvement within the 'office' while raising issues which they felt would be important in the future. Topics highlighted included the psychological and emotional effects of work, transient nature of change, the environment, as well as more traditional contexts such as emerging technologies. This gave students the freedom to ask questions beyond normal product interface issues. An example of this was the notion that a photocopier is not just a machine for copying documents but also a meeting point for gossip. Both companies suggested considering the office from the users perspective, apart from work. They also emphasised that a commercial reality demanded the need for productivity within the workplace.

From these briefing sessions, students working in teams were charged with further research, before reporting back on their findings and outlining issues where a design intervention could have a positive influence in shaping the future. For this emphasis was placed on first hand research and empathic research methods utilised.

Broaden your horizons by shifting your research focus from the product itself to the experiences and activities that surround It [1]

Effectively the student teams were charged with generating their own briefs and presenting these to the collaborators. These briefs had to be supported by evidence of needs and an outline of the key issues to be addressed. Observed events helped build a true picture of what the workplace actually was. No stipulation was given to the teams on whether the design brief's objectives should be product, environment, system or service based, again freeing product design to provide imaginative solutions rather than utilize traditional skill bases. The initial report back presentations to the companies took place independently to allow companies freedom to express their observations independent of the other collaborator. At this stage each company could suggest adjusting the brief to make it relevant to their own business; both companies declined, allowing students to keep with future scenarios. The final stage of the project was for students, either in their teams or individually to develop a design response to the issues outlined in the research presentations. This later stage echoed many development pathways common within both industry and education.
Finally the outcomes from the development stage were presented as design propositions to both companies in a combined session. This created a forum for discussion based on the propositions presented. Initial feedback was based around these propositions for the future office. In most cases these acted as a catalyst for more general discussions about 'office futures' with all parties, students, University, X & HM engaging in the debate.

4 VALUE

It is not the intention of this paper to detail the design outcomes from the collaborations. The purpose is to explore the value in the approach. That is an understanding of processes undertaken from initially balancing information to presenting design propositions. As no commercial stipulations were placed on the students the objectives were about building future scenarios (product, service or system) based on informed judgments. It is argued here that this process itself can be considered as research.
This builds on the understanding of design method expressed by Brian Lawson

Knowing that design consists of analysis, synthesis and evaluation linked in an iterative cycle will no more enable you to design than knowing the movements of breaststroke will prevent you from sinking in a swimming pool. You will just have to put it all together for yourself. [2]

In the model below product design is no longer a skill set responding to specification driven briefs but a process of discovery, development and realisation. By demanding that designers are not reliant on pre-conceived notions and that they have to develop research methods to validate design objectives within a brief, it places design firmly as a driver for change within a knowledge based economy. By not just presenting findings of research but putting forward propositions for new scenarios, design has become a

unique research tool in that it steps beyond the traditional remit of data gathering and analysis or design realization.

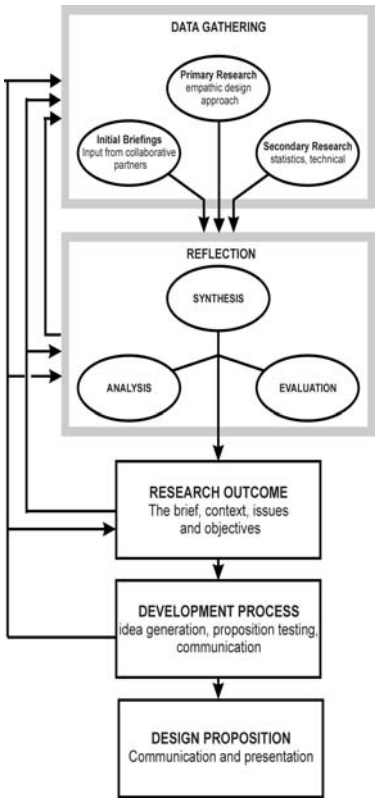

Figure 1 Design as a Research Process

The value of design as an investigative tools is emphasized by the response of the companies who both felt that the value of the project lay in the research investigations as much as the design outcomes.

The result was a blend that placed innovation above styling. There were several concepts for the office environment that hit the "hot spots". Not necessarily for the detail but respecting people and the nature and setting new priorities
Butt, P. e-mail to lindley, J (18/06/04)

The following quotation further strengthens the original objective of creating a forum for discussion beyond immediate commercial implications.

I hope that I can continue to contribute to the development of your students and that Xerox and Herman Miller can stay connected through the University of Hertfordshire
Butt, P. e-mail to lindley, J (18/06/04)

A spin off benefit is that the collaboration(s) resulted in student placements with both companies over the summer recess. One student is now employed by a collaborator.

5 REFLECTION

The initial project was conducted during the Academic Year 2003 – 4. Since that initial trial the value of collaborations and indeed the relationship between the UH and the two participating companies has evolved. A similar format was used the following Academic Year (2004-5), with equal success and involvement by all parties.

The collaborations have been extremely useful in providing an eclectic and engaging perspective on potential product scenarios
Wynn, L. e-mail to Lindley, J. (18/06/04).

The personnel from the companies benefited from understanding the presented projects from another perspective (the other company) as well as their own. This allowed a reflection on issues and exploration of future possibilities in a non commercial framework. The dialogue which the projects stimulated between all parties allowed for a clearer understanding of what 'the future of the office' meant and ultimately how it might shape the strategic thinking which was core to both companies. As the forum for discussion was non-commercial discussions were relaxed and wide ranging.
The following year the University did not involve Xerox with student projects due to complications with Intellectual Property. They still remain a close professional partner actively supporting the student learning experience in other ways. Projects with Herman Miller were run during the Academic Year 2005–6 and at the time of writing commencing with projects for the Academic Year 2006-7. The key difference with these last two projects over briefs prior to the collaborative project is the fluidity and breadth with which Herman Miller feel comfortable with, actively setting students challenges away from the immediate commercial constraints of the company.
On a broader platform it allowed students to explore the value of design beyond the skill base of product development:

- Design as a think tank activity for defining project briefs.
- The notion of system or service design responses.
- Design as a strategic tool or driver for change.
- The value of multiple sources and approaches in initial information gathering.
- Empowering designers to take a leading role in team ventures between professionals with differing backgrounds and perspectives.

This falls in line with current reappraisals of the value and application of product design in a geographical region in which manufacturing is shrinking. Informing this approach has been the work of IDEO and particularly the explanation of their approach by Tom Kelly in his book 'The ten faces of innovation'. In this he outlines a model for design research which analyses the design team by what skills individuals possess. Two key persona which he recognises as vital to gaining new insights through research are the 'collaborator' and the 'Cross Pollinator'.

Collaborators stir up the pot. They bring people together to get things done. They're proactive cross-trainers, willing and able to leap organizational boundaries to coax us out of our silos to work together in multidisciplinary efforts. [3]

Cross-pollinators can create something new and better through the unexpected juxtaposition of seemingly unrelated ideas or concepts [4]

The implication here is that to gain real innovation you should not just be reliant on multiple sources of information but actively invite participants from differing backgrounds into the research development teams.

6 FUTURE

Ultimately the value of using students and companies in this way is in the voyage as much as the outcome. It is the understanding of the process which can be repeated and utilised elsewhere that is important.

The work of IDEO indicated above, can be implemented at a student level to gain even greater innovation within research and development. The model of collaborations outlined should have application in several situations where a pooling of resources through the design process will benefits for all stakeholders. Design can be both the catalyst and mechanism for understanding and promoting change. This is particularly true of circumstances where financial profit is not the primary driver

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[4] Kelly, T., *The ten faces of Innovation*, p 67(Profile Books Ltd, London, 2006)

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