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## **Rediscovering Apprenticeship Models in Design Education**

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### **Abstract**

Apprenticeship models of learning have generated renewed interest in learning and adult education literature during the last decade. This paper suggests that this model of learning might potentially open up learning spaces in the academy that traditionally might not have been available in this learning context. It proposes that a communities of practice model could be useful for developing both student and lecturer professional practice in the field of design. Two case studies are used to highlight some of the potential as well as some of the issues surrounding the implementation of this learning model.

The first case study, in which a shared learning experience came about serendipitously between a design academic and a group of design students will illustrate some of the learning opportunities afforded by this approach. The case study suggests that this model of learning, which involves students and lecturers sharing a workshop space to

produce models and prototypes, might contribute to enhanced questioning and discussion around design process and strategy between students and lecturers. As well as the benefits to students afforded by this learning model it provides academics with an opportunity to be actively involved in their own professional skill development which is thought to be an important part of practise-based design education. It is proposed that an apprenticeship model of learning could supplement other teaching and learning strategies, for example design studios, tutorials, lectures and workshops, rather than replace them.

The second case study illustrates issues surrounding implementation of a community of practice strategy into a final year design course in an Australian university. While it was thought by the subject co-ordinator that this learning strategy would enhance practice-based design learning, the case study highlights some of the dilemmas for lecturers associated with this type of teaching strategy and discusses the subsequent lack of uptake of this model by the academic staff. The difficulties associated with implementing communities of practice draws attention to a paradox associated with formalising the informal.

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## **Rediscovering Apprenticeship Models in Design Education**

### **Introduction**

The design studio has traditionally been the preferred model for teaching practical design skills within an educational context. In this teaching model the lecturer, as the design expert, instructs students in relation to their design project on issues such as product/material/technology research, problem definition, concept/idea generation, and design communication. There is, however, an increasing interest in the field of design education on an apprenticeship model of learning (Beate, 2005; Titley & Milton, 2006). This paper explores the potential as well as some of the issues connected with incorporating an apprenticeship model of learning in a university context.

The recent interest in apprenticeship models of learning can be linked to the contemporary appeal in the adult education literature of the concept of communities of practice (Fenwick, 2001; Hansman & Wilson, 2002; Wenger, 1998). This concept is connected with theories of situated learning (eg. Chaiklin & Lave, 1993; Lave & Wenger, 1991) where learning is understood as situated within a social, historical and cultural context rather than an individual activity that takes place inside a person's head. In other words, *what* is learned cannot be separated from the learning context.

The concept of communities of practice came out of a series of ethnographic studies on learning in various apprenticeship settings (Lave & Wenger, 1991). Lave and Wenger proposed that newcomers become part of a community of practice through the process of legitimate peripheral participation whereby the learner moves from

peripheral to full participation within their community. Thus, learning is understood as a shift from ‘apprentice’ to ‘master’.

In the following section we provide two case studies about communities of practice from two different Australian universities. In the first case study we explore some of the benefits offered by what could be described as a community of practice which came about serendipitously when a design lecturer and a group of design students worked together in a design workshop. The second case study describes some of the issues surrounding the implementation of a communities of practice model within a design studio module.

## **CASE 1**

The Bachelor of Industrial Design degree at the University of New South Wales (UNSW), Sydney, Australia, is a four year full-time undergraduate program of study. A core component of the Industrial Design program at UNSW is the Industrial Design Studio (ID Studio) series of subjects that students commence in first semester first year and continue until their fourth and final year.

The aim of the ID Studio subjects is to develop an understanding of the product design process. This is achieved through applying knowledge and skills to design problems that progressively become more complex as the student advances through the course. An expected submission for a typical ID Studio project would include a research component, a brief generated from the research, drawings of concepts and a final presentation including drawings and three dimensional model/s.

A majority of the work by students in this subject is carried out in the design studio. The design studio is a room that contrasts with traditional teaching or lecture rooms in that it is usually a large room where a variety of functions specific to Industrial Design are performed. Students work on drawings and sketch models, they may be required to pin their work up on boards for assessment and/or presentations and they may be required to work in groups with other students.

Another work space that compliments the design studio is the industrial design workshop. Students in ID Studio are often required to construct a representational three dimensional model of their final design. Industrial design workshops are generally equipped with an assortment of machinery and tools that permit the construction of presentation models and in some cases working prototypes. Use of the workshop by the students is mostly unstructured, used in similar fashion to other university services such as printing centres and libraries. As working in the workshop is not a structured part of the ID Studio classes, students use this facility outside of class time and therefore usually have no interaction with lecturers during the model making process.

During August to December 2004, a lecturer at UNSW was using the workshop facilities at the university to complete a project that involved the construction of a large dining table, four coat stands and four magazine racks. These objects had been selected to be exhibited at *Global Local* (January 4 - February 27, 2005) at Object Gallery, Sydney, Australia and then the *Import Export: Global Influences in Contemporary Design* (September 20 to December 4, 2005) exhibition at the Victoria

Albert Museum, London, England. This period coincided with the second semester of the UNSW teaching calendar and there was a cohort of mostly third and fourth year students using the industrial design workshop at the same time.

While the lecturer was using the workshop he had many fruitful discussions with these students, many of whom were curious about the design and manner of construction of his work. Some were very forthright with their comments, stating with amazement that the lecturer 'actually knew how to use the machines in the workshop' and 'how good it was to see staff making models and *doing* design alongside students'. The lecturer noticed that these conversations were very different to those in the ID Studio 3 class setting, where he taught many of these students.

The conversations between the students and the lecturer in the workshop progressed from brief comments to inquisitive probing to in-depth discussions. Consultations concerning their own designs became serious and profound, in contrast to the studio setting where students would seek advice but never really engage with the suggestion or be dismissive of any recommendation. The conversations and frankness demonstrated by the students seemed to be facilitated by the nature of the environment. The workshop is an informal space, dusty and noisy and no place for clean and pressed attire. Instead, old, dirty workshop clothing is necessary and everyone looks the same. Perhaps this contributed to lowering the inhibitions of the students?

The change in attitude was further noted by the lecturer when, in the first semester of 2005, he co-ordinated the ID Studio 4 subject. The students he had worked with in the workshop the previous year were now in the classroom as fourth year students. There was a noticeable improvement in engagement with the given assignments and attitude towards staff and fellow students.

The opportunity to share the workshop space and to discuss common issues in relation to their respective projects proved extremely productive for both the students and the teacher. While the design studio is a system that has evolved from the master and apprentice model (Green, 2005), this pedagogical model might be re-invigorated through the inclusion of a communities of practice approach. This, however, raises the question of how to incorporate the benefits afforded by this approach into course structures. One approach, as well as the challenges of implementing communities of practice, are discussed in the following case.

## **CASE 2**

The second case study describes the implementation of a community of practice strategy into a final year design course in an Australian university. While it was thought by the subject co-ordinator that this learning strategy would enhance practice-based design learning, the case study highlights some of the dilemmas for lecturers associated with this type of teaching strategy and discusses the subsequent lack of uptake of this model by academic staff.

The coursework stream of the final year Industrial Design course at the University of Western Sydney (UWS) is organised as a design studio. The course was established with the aim that academic supervisors would develop project briefs linked to their

design interest and expertise. A number of academics, especially those who have been teaching for many years, felt that they had been losing their professional design skills such as drawing and model making. The idea was to create a community of practice, where the lecturers would act in the role of the 'chief designers' with students taking the role of the 'junior designers'. In this environment, the lecturer and students would work together on the same design project in a master-apprentice relationship, enabling the lecturers to practice design within a university teaching setting. It would provide the students, the 'design apprentices' with an opportunity to observe the 'Master Designers' in action and to learn the 'tricks of the trade' while working in collaboration on the design project. It was hoped that both students and academics would benefit from this arrangement.

The academics involved in this subject initially took up the idea and developed two independent project briefs which reflected their personal interests. One was interested in sustainability issues and developed a design project titled 'Batteries Not Included'. This design project asked students to design human powered kitchen appliances and toys. The other lecturer's interest in furniture design was reflected in a design project titled 'Bent into Shape' which focused on the design of sheet metal office furniture.

However, when the course commenced, the academics did not take up the role of the 'Chief Designers' as envisaged. They continued to teach this course in the same way as other design studio classes, where the teacher instructs the students in relation to the student's project rather than demonstrating through their own practice. Thus, the master-apprenticeship relationship did not materialise as hoped.

The subject co-ordinator was interested in exploring why the lecturers failed to incorporate an apprenticeship model in the class. After discussion with lecturers working on the course it was established that student assessment was one of the key reasons they found it challenging to take-up this initiative. They were uncertain as to how to untangle their input from that of their students. This was connected with an underlying understanding, deeply entrenched in the academy, of learning as an individual activity.

## **Conclusion**

While the concept of communities of practice is an appealing idea, its take-up and implementation by academic staff may be more problematic than anticipated. We suggest that this may be connected with an underlying paradox presented by communities of practice, that of formalising the informal. For example, the first case study highlighted the way in which productive outcomes were related to the less structured setting of the workshop. If this were to be formalised, for example, by structuring compulsory workshop time into the design studio class where teachers and students work together in the shared space of the workshop, would it be as successful? The difficulties of structuring a communities of practice model into a course module were exemplified in the second case study. While there is literature on communities of practice which seeks to address this problem (Wenger, 1998; Wenger, McDermott, & Snyder, 2002), we suggest that this is a paradox that might be not so easily resolved.

The second case also draws attention to the challenges connected with translating a learning concept that has very different theoretical roots to the way learning tends to

be understood in the academy, that is, as individualised and cognitive. However, as the boundaries between work and learning continue to shift (Boud & Solomon, 2001), perhaps it is timely to re-think what counts as learning within the field of design education?

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