

Developments in Design Pedagogy

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Abstract : In our universities and colleges there is a long tradition of teaching design through design practice. For most students their end goal is to achieve a level of capability to function as designers in the professional world. Today it is vital that their education helps them construct a passport to enter this community of professional practice. The major funding initiative in England to support Centres of Excellence in Teaching and Learning gave much support for developments in pedagogy. Within it the notion of Communities of Practice was embraced enthusiastically. Two of its centres, in the University of the Arts in London and in Coventry University focussed on the pedagogy of design practice. Their legacy is a better understanding of how studio based design teaching can operate effectively to embrace the communities of professional design practice, and a designerly way of knowing. Such design groups have signature pedagogies containing those elements which are particularly characteristic of the disciplines. Overall entry to the professional world depends on mastering these capabilities

Key words: *Design Pedagogy, Communities of Practice, Design Practice, CETL.*

1. Introduction

Design is what designers do. It is an activity which designers engage in to produce designs. Within design there is a greater emphasis on being able to do it than on designers being a repository of specialist knowledge. This is acknowledged in design education where there is a dominance of design practice in which students engage in the process of tackling design exercises which mimic professional design practice. In our universities and colleges there is a long tradition of teaching design in this way. Students who wish to become proficient as designers devote their time to engaging with design project activity. This develops in intensity and detail and as students become more experienced they are able to tackle progressively more complex design problems. Typically the end goal is that of achieving a level of capability to function as designers in the professional world. That is, they wish to become part of the community of design practitioners. Today it is vital that their education helps them construct a 'passport' to enter this community. [9]

For many design students the portfolio is the physical manifestation of their passport to design practice. With this assemblage of work they demonstrate that they can tackle design problems to a standard which is

recognisably that of their professional community. Typically the work in the portfolio is primarily visual, and good representational work including drawing and modelling skills are very important. In this they show that they can think in a 'designerly' way, engaging in a 'solutioning' process. However it can be argued that demonstrating the ability to engage in creative synthesis is the most important ingredient in the mix which is required to achieve this passport to enter the community of practice.

2. Communities of Practice

The world of design practice is large with many separate groups designers specialising in different areas. Each of them could be considered as a separate professional group and could constitute a community of practice. Such a community is typically a group of professionally qualified people in the same discipline all of whom negotiate with and participate in a mutually understood discourse. This discourse is both explicit and, very often, tacit and the signs of membership are usually unmistakable.

It is possible to understand this shared discourse in terms of the Community of Practice Theory which was devised by Jean Lave and Etienne Wenger [3]. It has provided an innovative foundation for many researchers since as a social theory of learning which highlights the value of our 'lived experience of participation in the world' [15]. Learning takes place through a deepening process of participation in such a community of practice with identities are formed from participation.

Wenger characterises a community of practice as displaying a number of key elements. For example it will consist of a group of people who share a concern for something they do and who interact regularly to learn how to do it better. Such a group is not merely a community of interest, such as people who are interested in certain kinds of films or theatre. Rather members of a community of practice are practitioners, who develop a shared repertoire of resources, experiences, stories, tools, ways of addressing recurring problems in what amounts to shared practice. In pursuing their interest in their domain, members will engage in joint activities and discussions, help each other, sharing information to build relationships that enable them to learn from each other.

Wenger [15] identifies the key components of competent membership in a community of practice, including:

- **Mutuality of engagement:** the ability to engage with other members and respond in kind to their actions, and thus the ability to establish relationships on which this mutuality is the basis for an identity of participation.
- **Accountability to the enterprise:** the ability to understand the enterprise of a community of practice deeply enough to take some responsibility for it and contribute to its pursuit and to its on-going negotiation by the community.
- **Negotiability of the repertoire:** the ability to make use of the repertoire of the practice to engage in it. This requires enough participation (personal or vicarious) in the history of a practice to recognize it in the elements of its repertoire. Then it requires the ability- both the capability and the legitimacy- to make this history newly meaningful.

Learning within a community of practice is an experience of identity formation. It is not just an accumulation of skills and information, but also a process of becoming – in this case a certain kind of creative and critically minded design practitioner. It is through this “transformative practice”, as Wenger calls it, within a professional community of creative design practitioners that learning can become a source of motivation, meaningfulness and personal and social energy

3. Design Communities

There are many types of designer. We can include architects, industrial designers, design engineers, graphic designers, interaction designers, fashion designers, interior designers, craft designers, furniture designers, jewellery designers and many more. Each of them represents a significant group of professional practitioners and each one could be regarded as a community of practice. Some of the categories are sufficiently large that they subdivide into groups of more specialist designers. Thus for example graphic designers might distinguish between those concentrating on corporate identity, media graphics, or information design. Similarly industrial design contains the large sub-categories of product design, and automotive design, and smaller groups such as boat designers [9].

These professional groupings can be seen in the context of a refinement of a family of design activities each with its own history and traditions. Walker [10, 14] has developed a representation of the range of design specialisms which gives some sense of their historical development, and shows diagrammatically the interrelationships between design disciplines. It has its roots in traditional craft skills and methods such as drawing, modelling and simulation, to show how it has spread into more specialized activities. It ranges from graphics and fashion, which rely on artistic sensibilities to science-dependent activities such as engineering and electronics. Some designers may spread across more than one area, and others may be more narrowly active. This helps us to understand the diversity of design and understand its interrelationships and development [1, 10].

For key groups there are formal national bodies to which entry is by examination. Thus, for example, for architects there is the Royal Institute of British Architects in the UK, and the Society of American Architects and the American Institute of Architects in the USA. Each country has its own national equivalent for architecture. For a wide range of design professions in the UK there is the Chartered Society of Designers and in the USA there is the Industrial Designers Society of America. Some designers find the Institute of Engineering Designers more appropriate. Most such societies are national and tend to have national membership. The less formal groupings can be international in scope.

A powerful example is that of the community of practice of automotive designers [4]. There are car design studios in all of the major industrial countries of the world, and the designers who work in them typically share their passion for automobiles and each time a new vehicle concept is revealed by one studio it causes interest and excitement in others.[13]. For an international community to function it is important that there is communication between its members. For automotive designers this is supplemented by online resources such as the Car Design News (CDN) website. Created by three car designers from both the USA and the UK it contains news from a designer's perspective of developments in car design, with in-depth reviews and an extensive on-line gallery from

all of the major car shows. It also features student exhibitions and competitions, discussion forums, resources and job listings, a large on-line collection of car designer portfolios, (paid for) members editorial and a car design taxonomy. With over a million hits a year CDN is a highly effective device for facilitating the community of practice

Similarly university life provides a local community where progress is supported by the desire to become accepted within the greater community of creative design practitioners. It is through this “transformative practice” that a professional community of creative design practitioners evolves. Just being in a local community aids acceptance into the larger arena, learning can become a source of motivation and meaningfulness for personal or social energy - in effect an experience of identity formation. [13].

4. The Centres for Excellence in Teaching and Learning

Between 2005 and 2010 in England there was major funding for the development of teaching and learning in universities. The Centres for Excellence in Teaching and Learning (CETL) initiative represented the funding council’s largest single funding initiative in pedagogy. It had two aims: to reward excellent teaching practice, and to further invest in that practice so that CETLs funding could deliver substantial benefits to students, teachers and institutions. [2].

74 centres were funded across a range of universities, and within them a huge variety of types of pedagogic research and development was undertaken, across all discipline areas, much of it interdisciplinary and collaborative.

Communities of Practice figured quite noticeably within their range of activities, particularly in the area of professional development. A CoP was defined in that context as ‘a group of people coming together from different disciplines or within a discipline for a common interest – pedagogical or subject focused’. Sometimes these were formally organized within a discipline, and sometimes cross faculty. It would seem that this type of arrangement would only loosely accord with Lave and Wenger’s definition of a community of practice. However it can be seen as evidence of the widespread currency of the notion within the initiative.

Across the 74 centres some 17 touched on ‘creative arts and design’ and thus may have been working in areas directly relevant to design pedagogy. Of course the many generic approaches which the centres engaged with may also have covered areas relevant to it. The number of centres which had a direct location in design schools was much smaller, and two of them covered work which focused directly on the development of practice based education as a preparation for entry to the design profession. They were the Creative Learning in Practice (CLIP) CETL at the University of the Arts London, and the Centre of Excellence for Product and Automotive Design (CEPAD) CETL at Coventry University. CLIP had the specific aim to identify, evaluate and disseminate effective practice-based teaching and learning in the context of the creative industries. Similarly CEPAD was specifically orientated to facilitating the creation of portfolios which provided access to the community of international industrial design practice. Since 2010 staff who had been involved in those centres have carried on with developments in these areas.

5. Practice Based Teaching

Both CLIP and CEPAD operated in contexts where the pedagogy is predominantly studio based. Traditionally art and design teaching is predicated on learning through doing, usually through the simulation of a professional situation by the means of a project brief. Students are neophyte designers engaged in the journey towards entering the community of professional practice of design.

The approach which is typical of practiced based design teaching has a number of characteristics [7].. Students are from the outset practitioners, often with long periods on projects, usually calling for a number of technical skills and much activity is studio and workshop based. Assessment and feedback is usually through the ‘crit’ or ‘critique’ augmented by much peer learning. With less emphasis on formal knowledge there is acceptance of open-ended solutions, varieties of practice and tacit knowledge. Students are expected to become independent, self analytical, critical thinkers, in an environment which does not emphasize theory, but does embrace key skills. Usually a good proportion of the teaching staff are also practicing artists or designers.

6. Developments out of CLIP

Based in the University of the Arts London, CLIP (Centre for Learning In Practice) had access to a wide range of art and design disciplines across the federation of specialist colleges within the university. It was well located to investigate disciplinary difference [8]. The ‘Teaching Landscapes in Creative Arts Subjects’ was regarded as its first university-wide collaborative pedagogic research project. In addressing the differences between Fine Art, Graphic Design, Fashion Product Design and Design for Performance they were able to identify distinctive characteristics, and the spaces in which they occurred. Key conclusions in this study included the importance of social approaches to teaching and assessment, the centrality of ideas, physicality and learning by making and doing, and the prevalence of peer learning. This work has made it possible to identify the signature pedagogies which are common to such activities [5]. They develop in students the characteristic ways of thinking, being and acting in the discipline which is common to them.

In CLIP there was a particular focus on the development of the community of student practice as an approach to student learning support based within the course of study [6]. The key to accommodating students from a diverse background lay in more inclusive participation in learning activities where students are encouraged to undertake responsibilities with the tutors acting as facilitators or guides. Key to this is the engagement of ‘practitioner tutors’ who themselves have professional standing in their disciplines. By viewing learning activities as a community of practice, where these tutors who are more experienced in professional design practice can enable students to participate, they are more likely to develop an identity of belonging. Within this there is a more likely to be an associated sense of the meaning of activities within the community of practice in education. The learning development can be conceptualized as a shared engagement in activity, in which students and tutors, together with industry and practitioners where appropriate, undertake experienced-based learning activities from a position of joint exploration. This is different from the notion of the tutor as an expert who works in a didactic and controlling manner. Rather this is a shared studio-based enterprise directed towards achieving a developing community of practice, characterized by mutuality of engagement, accountability to the enterprise and negotiability of the repertoire, with the tutor as facilitator. Through engaging in a professional environment within their discipline with tutors as guides, there is a growing emphasis on transparency and induction into ways of working, ways of

thinking and being, within their discipline context. One beneficial and practical outcome of this approach was the creation of a CLIP website to put students and graduates in contact with professional practitioners (2).

7. Developments out of CEPAD

Coventry University's Centre of Excellence for Product and Automotive Design (CEPAD) is based in its School of Art and Design, and it has close links with the design profession, especially in the transport industry. Two approaches to design and engineering pedagogy have been developed at the university [12] They are the Design Approach which is being applied in the Industrial Design Department and Activity Led Learning which is being applied across several departments in the Faculty of Engineering and Computing. They have much in common, including the emphasis on communities of learners and the preparation for entry to professional practice through contact with real life projects. The Design Approach involves an emphasis on project based activity. At the core of being able to engage in designerly thinking, balancing creative and evaluative thinking is a dual processing match of linear and simultaneous processes as a conversation between these two modes of thought. For design students achieving this match involves confronting and travelling through a key capability threshold which has been labelled the 'toleration of design uncertainty'. Activity-Led Learning is an approach to education based on providing stimulating activity that engages and enthuses students and creates challenge, relevance, integration, professional awareness and variety. An activity is a project, problem, scenario, case-study, enquiry, research question (or similar) in a class-room, in a laboratory, at work, or in any other educational context. Activities will often cross subject boundaries, as activities within professional practice do. Many of them involve design project work, particularly those for the faculty's Architectural Design programme. In this area there are significant similarities to the Design Approach.

In each approach there is an intention to ensure the active and effective involvement of industry and relevant professionals in the education process. The mechanisms and arrangements for doing this are very similar, involving as they do such things as industry engagement in practical activity and project work. Whereas in the Design Approach this is explicitly perceived as relating to the notion of preparing students for entry to the community of professional practice, in the Activity Led Learning approach there is a similar but implicit notion. Indeed it is regarded as both fundamental and self-evident, and as such not remarkable. What is more explicitly stated in ALL is that a community of learners should be developed as an overt intention to facilitate an appropriate pedagogic dynamic. This is not an identified ambition of the Design Approach but is an assumed intention, recognized as a desirable characteristic of a studio culture.

The specifically design related research in CEPAD has enabled an essential threshold concept to be identified and explicitly surfaced within the curriculum. A pedagogic framework has been developed in order to support student designers on their journey to assuming the identity of professional designers. The ability to work with the toleration of design uncertainty is a quality exhibited by established designers, and is part of what is shared within the community of practice.[11]. Producing a portfolio as a passport to enter that community depends on much more than possessing the craft skills to present work well. That work must demonstrate that the design graduate

has become accomplished in the creative and designerly abilities which enable designers to make their special contribution.

One other positive outcome of the creation of the CEPAD centre of excellence in Coventry was the affirmation of the value of design education research within the institution. This was achieved by bringing other research strands into the centre, and locating them alongside the pedagogy work as activities of similar value. This has also served to provide a basis for its continued existence beyond the initial funding period (2).

8. Conclusions

The initiative to support a major investment in research and development for teaching and learning in English Universities between 2005 and 2010 included 2 centres where the pedagogy of design practice was a primary focus. It also served to embrace and utilise the idea of a community of practice, as providing the arena for effective teaching and learning. This had particular resonance for the pedagogy of design practice with its natural emphasis on utilising members of the relevant professional communities within the teaching and learning arrangements. It also gave a focus to realising the explicit ambition of students of achieving the means to enter such communities of professional practice. These can be seen to require particular arrangements for studio teaching with partnership working. For some the crucial ability is to travel through an uncertainty threshold to achieve the transformative learning which is a key component in a community of practice. The legacy of these initiatives is not only the implementation of curriculum arrangements which embody these developments but also continuing research into the pedagogy of design practice.

One consequence was that a number of the staff who had worked in the centres formed the core of the Design Research Society's Special Interest Group in Design Pedagogy which was formed in 2009. It has now been able to collaborate with the CUMULUS organization and others to bring into existence two research conferences in design pedagogy. Following the success of the first joint symposium for researchers into design education in Paris in May 2011, a second joint conference was held in Oslo from 14-17 May 2013. Its title was 'Design Learning for Tomorrow: Design Education from Kindergarten to PhD', and it was hosted by the School of Arts, Design and Architecture of Oslo and Akershus University College of Applied Sciences. With some 266 delegates, and a very high standard of papers the conference was a tremendous success. In these arenas the developments stemming from the CETLs have had wider international exposure and have contributed to the growing strength of design education research as a strand within design research overall.

9. References and Citations

- [1] Cooper, R. and Press, M. (1995), *The Design Agenda: A Guide to Successful Design Management*, John Wiley and Sons, Chichester
- [2] HEFCE (2011) *Summative evaluation of the CETL programme: Final report by SQW to HEFCE and DEL* HEFCE, Gloucester.

- [3] Lave, J. and Wenger, E. (1991) *Situated Learning Legitimate Peripheral Participation*. Cambridge University Press, Cambridge
- [4] Osmond, J (2012) *Passports to a Community of Practice*.in Tovey,M ., *Design for Transport: A User Centred Approach to Vehicle Design and Travel* in the Design for Social Responsibility Series, Gower, Farnham.
- [5] Shreeve, A.(2011) *The way we were? Signature pedagogies under threat* in proceedings of Researching Design Education, the 1st International Symposium for Design Education Researchers. CUMULUS/DRS(Design Pedagogy SIG)., Paris
- [6] Shreeve, A. (2007) *Learning development and study support – an embedded approach through communities of practice* in Art, Design and Communication in Higher Education Vol.6 Number 1, Intellect Ltd, London
- [7] Shreeve, A., Wareing, S. and Drew, L. (2008) *Key Aspects of Teaching and Learning in the Visual Arts*, in A Handbook of Learning in Higher Education (3rd ed) editors Fry,H., Ketteridge, S. and Marshall, S., Kogan Page, London
- [8] Sims, E (2008), *Teaching Landscapes in Creative Arts Subjects. Report on the CLIP CETL funded UAL Research Project*, Retrieved on September 29, 2010 from: <http://www.arts.ac.uk/docs/Landscapes-final-report.pdf>
- [9] Tovey,M. (2012) *The Passport to Practice* chapter in *Design and Designing: A Critical Introduction* Editors Garner,S. And Evans,C.published by Berg, London
- [10] Tovey,M (2012)., *Design for Transport: A User Centred Approach to Vehicle Design and Travel* in the Design for Social Responsibility Series, Gower, Farnham
- [11] Tovey, M., Bull, K., and Osmond, J. (2010) '*Developing a Pedagogic Framework for Product and Automotive Design*.in Proceedings of *Design and Complexity*, 'The Design Research Society Biennial Conference'. Montreal, Canada. Available from <http://www.drs2010.umontreal>
- [12] Tovey, M., and Davies,J.. (2011) *The Design Approach and Activity Led Learning* in Kovacevic,A. Ion,W. McMahon,C. Buck,L. Hogarth,P. *Design Education for creativity and business innovation* Proceedings of EPDE 2011 City University London
- [13] Tovey, M., and Owen, J.K. (2006) *Entering the Community of Practice of Automotive Design*. In Horvath, I., and Duhovnik, J. (eds.) *Proceedings of TMCE 2006 Tools and Methods of Competitive Engineering International Symposium*, 'TMCE 2006'. Held in Ljubljana, Slovenia, published Delft University Press, Delft
- [14] Walker, D. et al. (1989), *Managing Design: Overview Issues*, P791, Open University Press, Milton Keynes
- [15] Wenger, E. (2007) *Communities of Practice Learning, Meaning and Identity*. Cambridge University Press. Cambridge