RESEARCH PAPER

Metaphor and pedagogy in the design practicum

Cheri Logan

Abstract This paper discusses the ways in which the long-established tradition of the design 'practicum' continues to structure teaching and learning in undergraduate programmes. It draws on an in-depth empirical study of one degree course in graphic design and accompanying research in a small number of professional graphic design studios; this dual focus enables identification of shared practices and discourses across the two contexts. Examination of its distinctive modes of teaching and learning indicates the effectiveness of practicum pedagogy in promoting design understanding and the professional preparation of students. The study's insights into the design classroom are illuminated by situated theories of learning, particularly the idea that knowing equates to participation in the specialist knowledge community of graphic design. A key feature of the learning situation is identified as the practicum discourse shared by tutors and learners, which is characterized as metaphor-based rather than analytical and abstract. The strengths and limitations of this practice-oriented discourse are discussed in the light of the recognized difficulties in articulating art and design knowledge, and its consequent problematic status in the academy. The paper's focus on metaphorical discourse offers a different view of design pedagogy, and suggests a means of researching it that may also be relevant to other practice-oriented domains.

Keywords Practicum pedagogy · Metaphor · Graphic design · Learning discourse · Design knowledge

Introduction

This discussion considers insights into design teaching and learning that emerged during an inquiry into the nature of graphic design knowledge. Graphic design is

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an established subject within the long tradition of post-compulsory art and design education in Britain, and degree level study has gained wide acceptance as the preferred route into the profession. Therefore, it provides one instance of higher education's direct engagement in meeting the demands of the commercial world. However, the higher education context in which graphic design learning takes place also presents more educationally-referenced demands and affiliations; as a subject area it can therefore be seen to exist at a nexus between the 'commercial' world and the 'educational' one, with strong allegiances to both. These features offer fertile ground for empirical inquiry, with the potential to illuminate the ways in which negotiations between diverse value systems exert an impact upon teaching and learning in graphic design classrooms. Two aspects of the situation make this consideration likely to be of wider interest—the growing emphasis on practical and vocational aspects of higher education in Britain, and the scarcity of accounts of how design classrooms do their work in preparing students for professional destinations.

Approach to the research

Key research questions underpinning the study were:

What constitutes knowledge and expertise in graphic design?

How is this represented to students in the undergraduate curriculum?

The research was designed to allow in-depth investigation of one undergraduate graphic design course and was conducted between 2001 and 2004 in a specialist arts institute in the north of England[1]. In order to consider the professional dimensions of graphic design learning, an accompanying small-scale investigation was undertaken among designers working locally in the industry. With this dual focus on settings, a modified case study approach was adopted to secure detailed information about the activities and perceptions of respondents in both contexts, in line with the "exploratory" and "descriptive" (Marshall & Rossman, 1995, p. 41) research aims that characterize qualitative inquiry. This approach involved the researcher spending lengthy periods of time in the natural setting of the course and fewer but similarly intense periods of research in industrial graphic design settings.

The qualitative logic underlying the study indicated that interviewing people and observing them in everyday activities would be suitable means of data collection. Observation during field studies is seen as supporting the qualitative aim of studying respondents' interactions with their environments (Kvale, 1996a), while interviews are especially suited for studying the meanings of their "lived world" for participants and for securing descriptions of their experiences and self-understanding within it (op. cit., p. 105). Here it was regarded as important to elicit both what people had to say about graphic design understanding and to gain a purchase on the unarticulated meanings that might emerge in their daily knowledge operations. Semi-structured interviews and observations therefore became the main means of gathering qualitative data.

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[1] The research is reported fully in a doctoral thesis; see Logan, C. D. (2005), *The Representation of Knowledge and Expertise in the Undergraduate Graphic Design Curriculum*, unpublished Ed. D. thesis, Open University, UK.

Positive responses were made to requests for access to both kinds of setting. To some extent the course selected for investigation was a convenience sample as it was locally based and accessible, but steps were taken to ensure that it was reasonably representative of undergraduate graphic design programmes. These included examining its annual quality assurance reports, external examiner comments and inspection findings from the national funding body (HEFCE), which failed to identify any idiosyncratic or unusual features. All five tutors on the graphic design course were included in the study, and twelve named[2] student respondents from across the 3 years of the course. Some students participating in observed group sessions remained unidentified in reporting. Five local graphic design businesses also participated in the study, providing eight practitioner respondents. The businesses ranged from small, two-person concerns to large companies employing more than 30 designers and with an international clientele. There was attention to sampling from designers new to the profession, those at mid-career and long-term professionals. Attention was paid to gender issues in the overall sample, although there were unequal numbers of male and female respondents from industry; this imbalance reflected the gender ratio of local design businesses, where there were more men than women designers.

Totally 26 interviews and 26 observations were conducted, with audio cassette recordings taken of all interviews and of participant discourses generated during observed activities. Both interviews and observations yielded predominantly verbal data, and this evidence was analysed to reveal the discourses involved in teaching and learning and in professional practice. Verbatim comments from respondents are included in the findings section of this paper, reported in double inverted commas for short quotes and indented in a smaller font size for longer passages. Field notes and a research diary provided a means of data triangulation, as did respondent validation. The latter was important because the graphic design context posed particular challenges for interpretation; accordingly, all respondents were asked to comment on accuracy in the transcription of data provided by them and later invited to consider the interpretations made of it. A meeting was also held towards the end of the study that involved all tutor respondents; here they were asked whether the analytical method and findings seemed justifiable to them, and there was unanimous agreement that the method was useful and the findings accurate. All of this feedback from respondents was used to improve the reliability of the study.

However, inquiry into design domains is far from straightforward and early attempts at analysis indicated the scale of the problems involved. The development of an appropriate analytical means will be described as part of the narrative of the study's findings that is provided below, and was one of the major challenges encountered. It proved difficult to relate the empirical situation to theoretical accounts of design in the research literature, and therefore seemed inappropriate to develop an analytical framework based on existing models. Some features of the situation appeared to substantiate discussions in the literature about the impoverished knowledge base of art and design subject areas, and it is worth reviewing here current opinion about the status of design teaching, learning and knowledge.

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[2] They were 'named' in the sense of being identified in reporting as 'Student 1', 'Student 2' etc. but anonymized in line with ethical protocols established for the study.

The research background

Innovations in higher education have extended the range and diversity of degree-level provision in Britain, notably in practice-oriented and vocational areas. There has been a corresponding increase in domain-based (rather than single discipline) degrees such as graphic design, which are seen as being less concerned with what a graduating student will ''know'' than with how they can ''use'' their knowledge (Brennan & Little, 1996, p. 32). However, these innovations are still contested and the status of some knowledge areas, including many art and design fields, remains poorly established. This status issue is now a regular topic of discussion in the research literature, with a strong emphasis placed on the problematic nature of knowledge articulation in art and design (Kimbell, Saxton, & Miller, 2000; Trumbo, 1997) and on the resultant difficulties of conducting empirical research into art and design fields (Lloyd, Lawson, & Scott, 1996). Neither the long history of design education (Green, 1999) nor the more recent emphasis on ''usable'' knowledge in the academy (Young, 2000) have mitigated the characterization of art and design as having little to contribute in the way of accessible and communicable understanding about its procedures, practices and core knowledge. Although all areas of art and design are seen as similar in this respect (Brown, Gough, & Roddis, 2004; Prentice, 2000), the lack of an articulated knowledge base and absence of empirical (or for that matter theoretical) research insights are particularly striking in terms of graphic design itself. There are only a few studies that have a primary focus on graphic design (for example, Schenk, 1991), although others consider related issues (Coyne, Park, & Wiszniewski, 2002; Hill & Anning, 2001), and accounts of graphic design pedagogy are similarly scarce. This is not surprising when we consider that many art and design fields are regarded by their own practitioners, both education and industry-based, as largely inimical to formal, verbal expression. However, research into the wider design and technology curriculum has recognized the ''rich'' and ''unique'' learning opportunities it presents (McCormick, 1997) and the potential for empirical inquiry into these.

The research literature from other design fields provides some insights into graphic design teaching and learning. Notable among these is Schon's (1987) discussion of the design ''practicum'' in architecture, which he describes as ''the setting designed for the task of learning a practice.'' (op. cit., p.37). Schon emphasizes the uniqueness of practicum pedagogy, so it is unsurprising that the academic community has been less interested in this issue than in his better known ideas about reflective practice (Schon, 1983), which have been considered relevant to other fields. The practicum is described as presenting an ''alternative'' paradigm for teaching and learning that has developed in design classrooms, and Schon outlines its attendant advantages and disadvantages and describes the characteristic outcomes of the learning experience for students. This account sees the pedagogical setting as intimately related to the tenor of learning, with the student experience of ''habitation'' or ''immersion'' in the practicum characterized as the most significant factor in the development of design knowledge. It involves commitment of an ''...intensity and duration far beyond the normal requirements of a course.... Students do not so much attend ... as live in them.'' (op.cit. p. 311).

Crucial to this experience is the approach adopted by ''expert coaches'' (ibid.) in leading students through the practicum, seen as very different from formal

pedagogical operations in other domains. Indeed, Schon describes why designing "...is not teachable by classroom methods." (ibid., p. 157), envisaging the latter as involving the kind of knowledge transmission from teacher to learner that is rare in design.

Knowledge articulation is seen by Schon as at the forefront of the considerable difficulties presented to teachers and learners in design settings. Characteristic design pedagogies, in which the "tacit theories" (ibid., p. 321) of practitioners tend to be valued over formal theories and rationalized models of the design process, promote conditions likely to exacerbate this. Schon describes why reflective engagement with individual, contextualized problems is crucial in the development of design understanding, but acknowledges that practicum conditions hold the potential for knowledge to remain "sealed"—that is, tacit, implicit and inaccessible. Inherent in design pedagogy is the problem of this inaccessibility extending to design learners themselves as well as to the wider, non-design constituency. While Schon's focus is on the former—that is, on finding a means of enabling reciprocal reflection to occur between learners and teachers—other commentators on design articulation address the problems of communication beyond the boundaries of the domain, as I shall now outline.

The topic of design articulation is increasingly dealt with in the research literature, often by non-designers attempting to find ways to understand design knowledge and the pedagogies that promote it. There have been enlightening discussions of the "deictic"—that is, context-tied and highly referential—language used by designers (Mazijoglou, Scrivener, & Clark, 1996) and of the functional uses to which this is put in design classrooms (Fleming, 1998). Other commentators have considered how individual design domains develop their own means of communication. For example, Bucciarelli's accounts of engineering design (1994, 2002) show his growing emphasis on the knowledge-building functions of design language, while Medway's work on architecture (1994, 1996) recognizes the dynamic role of language in the creative origination of designs as well as its role in making new knowledge. Medway also describes architects' use of "metaphoric speech" to express a sense-based apprehension of form, seeing this as one way in which they progress ideas and turn "virtual" design objects into actuality (1996, p. 496). In the light of my own findings it is significant that their empirical inquiries into design situations have allowed Medway (op. cit.), Schon (1987) and Bucciarelli (1994) to recognize the powerful role of metaphor in progressing design activity.

Other than those cited there are few substantial accounts of design discourse as a pedagogical means, and graphic design learning is particularly badly served. However there is general recognition in the literature of the important role of classroom discourse in promoting learning, and the specialist field of metaphor research seems particularly likely to support empirical inquiry into design. This potential rests on the ability of metaphor-based analysis to offer systematic interpretation of informal and non-theoretical language, and to uncover its unique contribution in knowledge-building. Commentators from diverse disciplines have recognized this through their examinations of metaphor in educational discourses. For example, substantive insights have been contributed from linguistics and discourse theory, with commentators considering how metaphor supports learners' abilities in dealing with new knowledge. The inherent quality of metaphor that contributes to learning is its capability in "bridging" ideas, promoting understanding by allowing the unfamiliar to be seen in terms of the familiar (Cameron, 2003; Lakoff & Johnson, 1980; Way, 1991). The literature describes the prevalence and pedagogical potential of metaphorical discourse in teaching and learning situations, and has begun to consider how this can

be more deliberately exploited (Block, 1999; Cameron, 1999; Cortazzi & Jin, 1999). Methodological insights are also provided, confirming that the validity and reliability of metaphor-based research rests on the same systematic procedures and methods involved in other types of inquiry (Cameron, 1999; Gibbs, 1999; Low, 1999).

Another body of literature that considers discourse as a key component in learning is that which describes the situated perspective on knowledge. This stance equates knowing with active participation in cultural practices, seeing this as crucial to learners' appropriation of cultural resources in knowledge-building activity (Lave & Wenger, 1999). Major theorists in the field describe how ''communities of practice'' (Lave & Wenger, op. cit.; Wenger, 1998) act as active sites for learning, and a prominent feature of these is the discourse that participants share. Such discourse is seen as practice-oriented, whether it is the discourse *about* practice adopted in formal education or the discourse *in* practice used by practitioners. This shared discourse is a key condition for authentic learning of a practice (Lave & Wenger, op. cit), and is a major factor in establishing the mutual engagement and joint enterprise of participants. It also provides a means of delineating community membership and boundaries, a feature which became significant in investigating graphic design. In recognizing the ''situation-specific'' nature of knowledge (Hill & Smith, 2005, p. 24), situated theorists regard the environment in which learning occurs and the understandings fostered within it as inseparable and co-constitutive. Classroom discourse is therefore seen as inherently oriented towards the goals of the educational community and the learning outcomes that it supports unlikely to be related to the goals of other communities; this view is particularly significant if we number among such other communities those in which professional practice occurs and to which the classroom education may be aimed (Lave & Wenger, ibid.). The interplay between discourses that was observed in the study enabled a consideration of the community affiliations of respondents and hence of the learning orientations that were privileged in graphic design settings. Descriptions of the characteristic discourses prevailing in practice situations were also drawn on to inform the study's conclusions, especially Eraut's (1994) account of professional knowledge. Features of practice discourse, including its ''particularistic'' and context-tied nature (ibid., p. 56) and the reiteration of themes associated with professional rather than educational contexts (Eraut, 2000), were found to be prevalent in graphic design teaching and learning.

Findings and discussion

Three aspects of findings from the study will be reported on here:

- pedagogy, learning culture and metaphorical discourses of the design studio
- perspectives offered on graphic design teaching, learning and knowledge
- learning discourses in educational and professional contexts

Pedagogy, learning culture and metaphorical discourses of the design studio

In the course under investigation the alternative pedagogical tradition prevalent in design, that of the practicum, determined arrangements for teaching and learning. Students spent most of their time undertaking practical project work in studio-style

classrooms, of which there were two; one was for first-year use and the other was shared by second and third year students. These consisted of large rooms with few physical resources—chairs, tables, notice boards and a light-box for viewing slide transparencies. The studios were large enough to seat a whole year cohort at once, and students chose their work-space at large, shared tables where they arranged sketchpads and other materials. The atmosphere was relaxed, with students conversing casually as they worked, and the presence of low-volume background music of their choice added to the informality.

Little in the way of formal teaching, such as lectures or seminars, was evident. Instead tutors supported students by ''cruising'' the studios, responding to requests for assistance and sitting down to discuss individual work. These discussions were ''deictic'' in nature—that is, tied to context and highly referential (Fleming, 1998; Mazijoglou et al., 1996)—the topic being the student's particular design or ideas for designs. They usually resembled an informal chat, although slightly more formal ''one-to-ones'' were also organized to ensure that tutors saw all students on a regular basis; these took place in the course offices and seminar room that were partitioned off in one corner of the first year studio. More formal interactions in which tutors addressed students in year cohorts were reserved for briefing sessions at which assignments were introduced and for the critique sessions, used to discuss and assess student achievements; both these activities were undertaken in the studios.

On the course, tutors secured practicum conditions through their management of learning and interpretation of the curriculum in preferred ways. A significant feature was the manipulation of institutional rules about timetabling, and graphic design course tutors had made adjustments that gave their students extended periods of studio-based activity. This meant that most students spent a full 3 days a week based in studio, during which time tutorial support was available. These protectionist strategies had significant effect in privileging practicum learning as they effectively compressed other activities, such as design history and business studies, into a much reduced time-slot; the latter were also distinguished by being presented predominantly in lectures and seminars. Tutors therefore ensured that students ''lived in'' the practicum in the way described by Schon (1987), as well as securing their ongoing exposure to classroom talk and to the prevalent discourses that described and structured the learning experience.

The practicum conditions that shaped teaching and learning on the course allowed extensive opportunities for conducting classroom observation and recording its results. These transcripts and those of semi-structured interviews with students and lecturers provided plenty of data for the study; however, they also presented distinct difficulties for analysis. Most perplexing was the absence of articulations of design understanding in the formal, semi-formal or academic language usually encountered in higher education contexts. Here the discourse between tutors and students appeared casual and everyday, revealing little about design knowledge to an observer; for example, tutors would praise a design for being ''yummy'' or ''delivering a punch'' rather than provide an analytical account of its strengths. This impenetrability appeared to support descriptions in the literature of the problems involved in articulating design understanding, and for a while it looked as though the research might yield disappointing results. However, as work with the data continued I began to recognize patterns of use emerging from the apparently generalized and colloquial discourse evident in studio teaching and learning. These patterns centred around the rich metaphorical descriptions and imagistic language in which

respondents described their perceptions of design, and eventually I realized that productive discourses about graphic design knowledge *were* being undertaken. It was then possible to pinpoint the fact that such discussions were based around metaphorical descriptions rather than literal or conceptual ones, the abstract language associated with academic accounts of knowledge being notably absent.

Consulting the relevant literature enabled me to perceive that metaphor in practicum discourse had an important function—that of enabling teachers and learners to discuss difficult and demanding concepts in an accessible form (Cameron, 2003; Lakoff & Johnson, 1980). It also strengthened my conviction that tracking and understanding the metaphors in use in graphic design settings would prove productive. Viewed from this perspective, the data now yielded substantial insights into how graphic design understanding was perceived and how domain expertise was being promoted. Three distinct strands of metaphor-based discourse were evident in the data, which were designated as metaphor families because of the close relationships they exhibited. They included *spatial* metaphors, metaphors of the *physical body* and *senses* and metaphors of *order and control*. Having identified them I moved on to consider how they created meaning, and found that they were used systematically by respondents to refer to significant areas of graphic design domain knowledge[3]. They also provided a striking instance of the ways in which pedagogical discourse can discuss, constitute and structure the learning experience for participants. I will now provide some examples of how this happened.

Perspectives on graphic design teaching, learning and knowledge

Significant *spatial* metaphors used in the educational context included those relating to graphic design *insiders and outsiders*, and to the idea of learner *permeability* and the *knowledge flow*.

Insiders and outsiders

A preferred perspective on graphic design knowledge was introduced into studio discourse by tutors and quickly adopted by learners. In this discourse, ideas about graphic design understanding were repeatedly expressed in terms that equated it with a specialized *locus* or *place* for learning, inhabited by co-participants in the design enterprise. These perceptions were strongly referenced to the practicum conditions on the course, which appeared to provide respondents with the sense that they were entering into (as students) or inhabiting (as lecturers) a circle of people whose shared knowledge differentiated them from others. Respondents described design *insiders* as inhabiting shared, specialist spaces in the college that held the potential for pursuit of privileged knowledge. Key metaphors structuring this idea involved being ''in'' or ''coming into'' the studio environment, versus being ''out'' of it in spaces that disallowed practicum conditions, such as the computer centre, lecture theatres, and seminar classrooms. The perception of differences between graphic design knowledge and more generic skills and techniques was strongly indicated in the description of *where* they were learned, with the graphic design course base, its

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[3] Fuller discussion of the three knowledge areas will be undertaken in subsequent papers; for current reference see Logan, C. D. (2005, op. cit.).

studios and staff offices seen as the central locus of domain knowledge. This knowledge potential was contrasted with that of other college areas where non-design values and perceptions were seen to pertain. Tutors decried the necessity to ''go ... over there'' to computer suites and the fact that, once there ''You can't teach in any of them ... they aren't up to our spec.'' One tutor complained that his colleague disappeared into this alien world during first year inductions to computer-based typography, so that—''I don't see her for about a month''—while students talked about being ''stuck'' and ''talked at'' in lecture theatres, an experience contrasted unfavourably with the responsiveness of studio teaching.

The studio environment was seen as rich in terms of design teaching, learning and problem-solving knowledge. One student described his studio as ''A big room full of people, enthusiastic and experimenting ...'' with a discernible creative ''buzz'', while another used the idea of *location* to evaluate her fellow students' commitment and participation. This student commented on the differences she perceived between ''... who's around and who's not, who's interested and who's not ...'' and described those who are *in* vs. *out* as people with ''... a lot in common ....'' Tutors expressed similar views, and showed disapproval of poor student work in terms that equated being *in studio* with having access to, and having used, appropriate knowledge. For example, students' lack of visible studio *presence* framed the critical comments to which they and their work were subjected by tutors.

> Where have you been? ... You weren't here when I did the session on covers and trim? It's arranged the wrong way round ... very weak ....

> Very heavy-handed typographic treatment ... very clumsy. Are you working a lot at home? I haven't seen this at any stage ... You're ... ignoring your greatest resource ... come and let us teach you.

(Comments made by typography tutor[4] to two students consecutively displaying their work during second year critique).

There was a tolerant attitude to attendance on the course, and little in the way of formal instruction to have missed, so these criticisms were clearly aimed at students' self-exclusion and under-use of available human and technical resources rather than mere absence from classes. The comments indicated that the students in question had positioned themselves so peripherally to studio-based knowledge that they were *outside* the situation within which it circulated, and were extremely marginal participants. Lack of participation in the design activities of the practicum was seen as resulting in impoverished knowledge and poor designs. Theories of legitimate peripheral participation, discussed by Lave & Wenger (1999) in similar spatial metaphors, seem resonant here. Their account of learning describes how novices gain access to knowledge resources through their increasingly central positioning in the target community, a community represented here by the studio context with its attempted replication of the commercial design environment.

Consistent use of the metaphor of *insiders* and *outsiders* indicated that in the graphic design setting knowledge was seen as constructed in interactions between learner and context, drawing on specialist human and technological resources—that is, it was seen as distributed across the context and as involving

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[4] This respondent was a tutor with 20 years teaching experience, who also maintained her professional design work on a part-time basis.

participation. Learning was also associated with the development of *insider* characteristics, both in terms of a shared repertoire of activities and dispositional factors such as enthusiasm and willingness to experiment. Overall, it appeared that the situated view of learning as involving growing appreciation of what participants in communities of practice "enjoy, dislike, respect and admire" (Lave & Wenger, 1999, p. 95) provided the best theoretical match for the account of graphic design knowledge that emerged here.

Permeable people & the knowledge flow

Not only was membership of this inner circle seen to allow access to the design knowledge *in circulation* within it, but it was envisaged that understanding was supported by the *permeable* boundaries between learner and environment. The idea of *permeability* was in frequent use as an "ontological" metaphor (Lakoff & Johnson, 1980) that articulated respondents' perception of their relationship to design knowledge; as such, it was consistently used to describe the self as a filter or membrane which knowledge flowed *into* and *out of*. Metaphors of circularity were hence accompanied by another significant image—that of *fluidity* and the knowledge *flow*, often with the two elided in use.

Tutors made widespread use of these terms as they commented on the qualities expected in students. They shared a perception of the importance of "open-mindedness", explaining that the early stages of the course showed learners " ... how to be a sponge, how to soak up everything from the world." The value of this cognitive receptivity was stressed by one tutor in referring to the "fluid", "loose" and abstract design thinking that novices need to develop, and another envisaged the way in which designers' interactions with their context allowed them to act as a knowledge *conduit*. This tutor described the environment as providing "a pool of reference" from which the initial impetus for designs could emerge; as they established a means of externalizing their ideas, students were seen to produce in the design artefact a "channel" through which concepts could then flow back into wider circulation. This latter phase was described as "completing the circle" of communication that graphic design constitutes, suggesting that respondents' shared an implicit view of design knowledge as socially derived and oriented. There was evidence that tutors' use of metaphors of knowledge *flow* and their emphasis on qualities of *sponge*-like receptivity and *absorption* had structured the discourses of teaching and learning for students on the course. One student indicated the origin of her ideas in describing her learning—"Like [the tutor] said, you're never switched off, you're always looking at things and taking them in and remembering them - like a sponge".

Studio-based learning appeared to foster shared use of its characteristic discourses, with key phrases and ideas being repeated by student respondents in interview. For example, they expressed their commonly held belief that graphic design knowledge was *in circulation* in the learning environment, seeing themselves as one of the entities it *flowed through*. This conviction seemed to strengthen with progress on the course, and third year students characterized their learning experience as an *immersion* process rather than one in which formal instruction occurred. One commented that:

> No-one can actually teach you graphic design, it comes naturally ... you use these three years to prepare yourself for the industry rather than being taught graphic design ... [it's] not a thing you can research, there's influence from all kinds of areas. It comes naturally ... you take it in.

This student also differentiated between the *osmotic* process of assimilating domain knowledge and the "training" required for technological applications. Another described design knowledge—in the form of expert examples to which tutors directed students—as "... all around us. You become aware of it, take or steal it. It goes on the wall - you're immersing yourself in it." A third confirmed that "... going to college, [you are] basically soaking it up, and then you start to develop your own style." These descriptions of learners' experiences of the practicum accord with Schon's account (1987) of the implicit character of the pedagogy involved; he also notes the process of *immersion* undergone and the way in which this "background" learning leads students to gain "new habits of thought and action" unconsciously (ibid., p. 38). Their metaphorical accounts allowed students to make implicit comment on the process of learning, while they echoed the belief (also voiced by tutors) that design knowledge cannot be "taught" in a formal sense, but requires extended participation in studio-based activities as a condition for its development.

This view is distinct from any simple model of knowledge "acquisition" (Sfard, 1998), particularly in its reliance on *immersive* participation as a condition of learning. It was reinforced by a further aspect of pedagogical discourse that described design learning as *instinctive*, an idea privileged in much of the studio discussion observed. Although the data suggested that design understanding was not innate, but naturalized through the social processes of design learning and practice[5], recourse to this idea appeared to have a particular pedagogical function. Tutors' references to abilities as *instinctive*, *automatic* or *coming naturally* worked to reassure students in the face of the considerable demands made of them in tackling design work, and also downplayed the arduous learning that underpinned successful performance. Students' ongoing practicum immersion, enabling knowledge to be accrued gradually and apparently effortlessly, provided strong support for their belief in design *instinct* as *natural* or *innate*. Pedagogical discourses and practices thus worked together to constitute the knowledge repertoire involved in graphic design, and to confirm a shared view about the nature of graphic design knowing.

Learning discourses in educational and professional contexts

Strong similarity was found between the ways in which education-based and industry-based respondents described their perceptions of graphic design and the specialized knowledge required of designers. All professionals involved in the study had undertaken higher education courses which, from their descriptions, had much in common with the one being investigated, so they had "inhabited" the design practicum with its alternative paradigm for teaching and learning. The long history of design education in Britain may account for the remarkable consensus in views of domain knowledge observed among respondents from different generations, whose experience ranged from a few months on the course to over 50 years in practice.

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[5] See Ed. D thesis (op. cit.), Chapter 4, pp. 110–112

For example, professionals also described their perception of design *insiders* and *outsiders*, exhibiting a strong sense of the design community as the rightful *locus* of designers. However the metaphor of shared habitation of a physical space was replaced by their perception of communal affiliations across a wider terrain, with the professional community seen by its members as having both "local" and "far-flung" participants. A more inclusive view of membership was taken than was described in the educational context, reflecting the working partnerships prevalent in industry. Co-professionals such as photographers, illustrators and printers were thus seen as partners, hence *insiders*, in the design endeavour and recognized as important intra-communal sources of design knowledge. For example, printers were valued for exercising quality control over designs and for introducing junior designers to the complexities of production. Conversely, industry *outsiders* such as clients and non-designer managers were described by professionals as generally ignorant of and requiring "education" into design subtleties; the practitioner's role therefore involved acting as a link in the knowledge chain, enabling the circulation of design understanding to both co-worker *insiders* and client/manager *outsiders*.

For professionals, membership criteria included not only relevant shared knowledge but current employment status. One designer described attending a college reunion 18 years after graduation which enabled him to ascertain who was "in" or "out" of employment, hence the profession. A career narrative provided by another veteran described a period out of the industry as "two years out of my life", which was likened to being in exile—"... five years of intensive college work and then two years in the wilderness". The passports that practitioners envisaged as enabling entry into their professional community appeared to involve both the specialist knowledge that enables employment to be found and the drive to undertake and maintain one's professional practice. These comments underlined the importance of dispositional factors such as "enthusiasm for design" and "commitment", which were also mentioned by student and tutor respondents. The definitions of community *insiders* provided by practitioners clearly excluded students from membership, although there were indications that they would be accepted with the status of "junior" designers once they had gained employment—an acceptance provisional on a number of alterations to "student"-type behaviour. These included abandoning college-nurtured expectations about undertaking "highbrow" work and prioritizing the needs of clients (*outsiders* who are usually uninformed about design issues) rather than being tempted to "design for their peers" (*insiders* who understand the complexities and sophistication of designs). The employment criteria involved in practitioners' *insider* definitions also rendered ambiguous the position of college tutors; however, no specific mention was made of this aspect, and further research would be needed to ascertain how academics are viewed by the professional design community.

Working designers shared education-based respondents' belief in the *natural* and *intuitive* aspects of designing, seeing this "gut instinct" as crucial in enabling them to co-ordinate the wide range of activities involved in professional work. They described themselves as needing an expanded knowledge repertoire that went beyond design skills—for example, the ability to balance technical and cost constraints against aesthetic considerations, and to deal with and satisfy client expectations. The full demands of practice were therefore regarded as impossible to keep "consciously" in mind, with professionals describing their recourse to *instinct* and an *innate sense* of design to regulate their work. For third year undergraduates, early encounters with the professional environment reinforced belief in design *intuition*.

One student returning from work experience equated his developing *design instinct* with expertise:

> ... it's something that becomes like a sixth sense ... they [professionals] have found the easiest and quickest and most methodical ways of doing it ... they know completely what they're doing. It was just running smoothly—it was satisfying.

Workplace initiation was seen by third year students as enabling increased rapidity, ease and smoothness in their undertaking of tasks, an account that matches Eraut's (1994) description of the intuitive dimensions and implicit nature of routinized professional expertise. The sharing of discourses across graphic design education and the profession was a marked, if unexpected, feature emerging from the data. It indicated that similar views were held on knowledge and practice, and that the boundaries of the graphic design community were sufficiently flexible to accommodate design *insiders* from diverse settings.

Nonetheless, evidence emerged of the need for graphic design tutors to recognize and manage the diverse priorities held by education and the profession in their classroom practice. This involved a negotiation of their dual roles as designers and as academics, providing evidence of the conflict that situated theorists see as existing between the professional community of practice and that of those learning the practice in formal educational settings (Lave & Wenger, 1999, p. 97). All but one of the tutor respondents in the study had worked professionally in the graphic design industry (the exception was a fine artist, who had trained as an illustrator), and they regarded themselves as experienced practitioners. References to these experiences in both interviews and observed teaching were frequent, with their professional backgrounds acting as an important knowledge source.

For example, tutors described to students the "tricks of the trade" and professional secrets that practicing designers have at their disposal, emphasizing the "illusions" that are perpetrated to ensure the general public's acceptance of designs. This repertoire of techniques, emerging out of the industrial context and observed as a strong feature in the work of design professionals in the study, aims to conceal the constructed nature of the design artefact from its consumers. Although a key aspect of graphic design capability, it was a feature that was articulated in professionally rather than educationally referenced terms. Similarly, students' deficiencies in design competence were frequently described in terms of their professional rather than educational consequences. When one student's failure to understand page layout impaired her project work, the likely professional results were presented to her starkly—"You would lose your job immediately". A sense emerged of the alliance of tutors and practitioners in guarding the portals of the profession. For tutors the *initiation* of students was an ongoing focus, and they alerted them to the existence of other significant professional gatekeepers they would have to pass—for example by performing well in job interviews to "get a foot in the door" of the industry. These considerations clearly referred to the professional potential of students, rather than the educational consequences of failing the course.

However, tutors had another community affiliation as design academics, and sometimes demonstrated strong group solidarity in this role. This appeared to be triggered by the institutional pressures and pedagogic demands of their jobs, and was a feature noted by student respondents in the study. Students commented on their tutors' propensity to adopt a united academic front, a *barrier* particularly marked

during formal assessment procedures. In critique sessions, therefore, they were seen as becoming ''strangers'' who acted as a ''unit'' and ''didn't break ranks''; this exclusivity was contrasted with the less rigid divisions that students perceived between themselves and their teachers in practicum teaching sessions. The tensions involved in assessment procedures which attempt to provide both ''certification of students into a profession'' and ''certification of knowledge as a discipline'' are described by Kvale (1996b), and may underlie such behavioural and discursive shifts. Classroom observations supported student perceptions of this diversity. In both informal one-to-one tutorials and in the relaxed atmosphere that prevailed during the teaching of studio groups, tutors offered frequent invitations to students to consider themselves as co-habitees of the design community. Here they employed a discourse of inclusivity, referring to ''our'' procedures ''as designers'', the qualities that ''we'' have and the shared characteristics of tutors and students as ''visually aware people like us''. Despite acknowledged variations in levels of expertise, both tutors-as-designers and students-as-designers appeared to regard one another as mutually engaged participants in community practices; conversely, pedagogic practices adopted for assessment highlighted the asymmetries of power between novice and expert in their educational roles of tutor and student.

The tensions involved for tutors in negotiating the requirements of formal assessment systems and ensuring realistic preparation for students' working lives intensified as graduation approached. Assessment information required by college examination boards required reference to ''learning outcomes'', gaining of ''transferable skills'' and achievement of ''pass level'' grades; however, these terms were rarely observed in everyday use. Instead, as students neared the end of their course, tutors began to evaluate them in ways that privileged the norms of the professional design community rather than the educational one in which their tenure was now limited. Discussions focused on the student's potential for membership of the professional community, as the course leader and another tutor explained:

> ... it's quite scary, [when] we realize that a student is not a designer ... it's a [phrase] that we use—''They're not a designer''. And it tends to be used when a student comes towards the end of ... their third year .... To discover they're not a designer at that point ... it's a shock, and we feel that we've failed sometimes.

(Interview comment by graphic design course leader).

> ... it's like this thing where you identify in the third year, 'Well, you're just not a designer. You know, you haven't picked up on this.

(Interview comment by typography tutor).

This assessment of the student as a design *insider* (or otherwise) appeared in response to the conclusion of their membership of the learning community and indicated their likelihood of acceptance in the professional one.

Conclusion

The following key points emerged from the study:

- Although lacking recognition as a distinct pedagogy, the long-established tradition of practicum-based learning continues to be secured and exploited in design

education. In graphic design, specialist knowledge is promoted in practicum discourses that are metaphorical and allusive rather than abstract and analytical in nature. This studio talk bridges the gap between familiar and unfamiliar ideas, aiding the accessibility of new knowledge for participants; it also provides a means of bridging the visual and linguistic worlds. However, its specialist and context-referenced nature is likely to render it opaque to design outsiders, including the research community.

- The ''background'' learning enabled by practicum *immersion* (Schon, 1987) appears effective in promoting design understanding, particularly as it works to downplay difficulties and reassure students about their ability to synthesize complex skills. The implicit nature of practicum pedagogy thus promotes the idea of automatic or instinctive learning to students, reinforcing their perception of themselves as *natural* or *instinctively* competent designers by the conclusion of their course. This perception is one shared by working designers, who also utilize it to account for their abilities in synthesizing the complex considerations involved in design tasks.

- A key idea established during practicum experience is that of the specialist knowledge community of graphic design, membership of which differentiates participants from domain outsiders; in education, knowing is equated with participation in this community. Working designers reflect industry conditions in their inflections of this idea, but share similar discourses and views about domain understanding. These shared knowledge discourses appear likely to support graduates' transitions into employment.

- The dual affiliations of lecturers, to the academic community and to the industry that is the intended destination of their students, has the potential to complicate the pedagogic practices involved in graphic design learning. The need to negotiate between the values of the two communities can alter teacher/learner relationships and problematize criteria for evaluating student achievement. Resulting alterations in pedagogic tone can detract from students' active inclusion as participants in practicum learning.

In conclusion, the tradition of practicum pedagogy provides graphic designers with a sense of their shared specialist knowledge and community affiliations. It introduces a metaphorical discourse for discussing, promoting and evaluating design and privileges a view of participants as designers *by instinct* as well as by education and experience. These views and discourses are shared across education and practice contexts, indicating the effectiveness of practicum pedagogy in the professional preparation of undergraduates. However, this sharing appears to be dependent upon the practitioner experience of lecturers, who negotiate the dual demands of practice and academic contexts in their teaching. Tensions between the values of these two communities tend to surface under the pressure of evaluating student achievement, with the potential to disrupt classroom relationships. Acknowledging the contributions made to graphic design learning by both the professional and academic contexts may help us to find a more effective means of describing its specialist knowledge. These descriptions have the potential to aid students in their learning, to illuminate the relationships between education and work, and to allow the knowledge contributions of art and design areas to be more effectively assessed. A consideration of metaphors in the specialist discourse of the design practicum therefore offers a different view of its pedagogy, and provides a means of researching it.

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