Researching Electronic Learning Contracts in Art and Design Masters Courses

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ABSTRACT

This paper describes the conflation of specific areas of research involved in the development of an electronic (web-based) contract environment that aims to facilitate work-based learning in art and design masters courses. In particular, areas of research that have been developed over a number of years at Birmingham Institute of Art and Design through linking pedagogical review with the development and testing of technologies which 'carry' and network curricula. Within this project, research into aspects of work-based and distance learning, the contracted learning within masters courses in art and design, and the development, testing and evaluation of the student experience has been included.

Keywords
learning contract, work-based learning, distance learning, e-learning

CONTEXT IN WHICH THE PROJECT WAS INITIATED

Birmingham Institute of Art and Design (BIAD) at the University of Central England, has during the last 6 years pioneered development of learning contracts for masters courses. This initially provided collaborative learning environments in association with small firms in a Knowledge Transfer Partnership (previously Teaching Company Scheme) framework. Research into the associated work-based learning process shows an unusual conflation of work-based learning, distance learning and supported self-directed learning. The operation of such contracts has provided unusual insights into interactions between university, student and employer (see: Anderson, G., Boud, D. and Sampson, J. 1994; Jerrard, Staley and Mackenzie, 1999). The general field of work-based learning and of contracts is currently very active (see: National Centre for Work-Based Learning Partnerships and UAce Work Based Learning Network).

The inclusion of network-based electronic contracts have created personal learning domains which facilitate the development of individual learning strategies and the mapping of personal learning ambitions onto work agendas (see Jerrard, Luczkowski, Jefsioutine, Newbury, 2002). BIAD now offers negotiated work-based learning contracts most of it's postgraduate courses. Only a small percentage of those students are now Knowledge Transfer Partnerships (formally TCS).

Aspects of the project have generated a number of research questions concerning:

1. The opportunity to experientially research a complex learning domain

2. The need to research and develop new ways to study in art and design

3. The emergent pedagogical issues relating to widening participation

4. The relationships between work and learning in new combinations

5. The changing student experience in the electronic domain.

A review of other contract schemes across higher education was undertaken as part of the design and development process. Broadly speaking, the contract brings together partners who are stakeholders in the outcomes of the learning. Employer involvement may vary, in some instances a workplace mentor is required and could be involved to the extent of representing the candidate in 'negotiations with the candidates employers or the University where necessary'. There are established work-based learning masters programmes at a number of universities throughout Britain, some have far more emphasis on the involvement with the employer, whilst others give more autonomy to the student, who is very much placed at the centre of their learning.

The pathway for this type learning falls into four main categories ranging from optional modules to wholly work-based learning. The four categories are:

- an optional vocational module embedded within a programme of study,

- a negotiated programme of study that could be work related,

- a programme of study that is created from a selection of modules on offer within the University, including work-based modules,

- wholly work-based programmes involving a partnership between employer, employee/student and university.

The framework for work based learning may vary between institutions but consistent throughout is the accreditation of learning. The number of credits that can be gained through this process vary from institution to institution but can, in respect of some institutions contribute to 100% of the overall award. Universities that are fully supportive of work-based learning have central units employing personnel who deal with the processes of negotiation and AP(E)L, together with the tracking of the progress of the individual student. The contract within art and design environments, however, is relatively new and so particular care was take to consider both existing art and design practice as well as the use of contracts in other disciplines.

THE DEVELOPMENT OF AN ELECTRONIC LEARNING CONTRACT (ELC).

Work based students can be isolated, apart from an initial lecture programme, contact with other students is often minimal and meetings with tutors can be difficult to arrange, particularly if the workplace is a distance away, or even in another country. It was planned to develop an electronic form of the contract delivered over the network to enable joint viewing at a distance and provide a flexible forum for synchronous and asynchronous communication. It was conceived of as a learning space through which contract negotiations could develop equally at university, home and in the workplace.

A formal design process was used which set out to transform the contracted learning process into a more distance-based process without losing key experiences of the existing approach. Consequently, potential problems faced by developers were avoided in that the e-contract was partly incremental in design and based on existing good practice. A research position was taken where improvements the learning process would result from the investigation. This, at the outset, provided an implicit design brief that centres on learning experiences and not on database technology. Thus, the starting point for the design was at the level of the student experience. The technology followed rather than led the design.

There were seven steps in the design process:

1) Establish the aims and objectives of learning contracts generally

2) Clarify the aims and objectives of the electronic version

3) Map out the form and structure of the existing contract

4) Analyse the process of completing a contract from the point of view of each party involved

5) Use scenarios to explore potential use of the electronic version

6) Draw up a design specification

7) Iteratively prototype and test

The design followed a user-centred approach based on Gould and Lewis's (1985) key elements of early and frequent involvement of users, iterative design, empirical testing and an integrated multidisciplinary team. Detailed interviews with students and staff enabled the elicitation of the range of contexts in which the existing contract was viewed and the range of environments in which the electronic form would be used. A 'scenario' process was developed, as described by Bødker (2000) as scenarios offer "specific settings and situations as a basis a basis for communication between users, designers and usability people".

A blank contract and a number of completed contracts were critically considered. Completed contracts were examined to identify the degree of variation and customisation in contract completion. Structure and layout were analysed for their more dynamic potential, although it was recognised that the contract also represented a static plan of work at the outset. Knowles (1975) proposed four sections of a contract proposal: a specification of the learning objectives, the identification of resources and strategies for reaching the objectives; a statement of what will be produced for assessment; and how it will be assessed. Anderson *et al* (1994) add that start and completion dates are specified and that the contract is jointly signed by student and supervisor, with renegotiation required for any changes.

Levels of complexity became apparent, as the contract and the process behind it were unpicked. A great deal of tacit knowledge was uncovered. Interviews with previous, paper-based contracted students revealed areas of

initial uncertainty about the process. This had been resolved though communication with tutors and other work-based students and with reference to example contracts. In order to maintain students' independence when using the e-contract, it was important to provide equivalent support within the virtual environment. An extensive guidance section was developed on the process of negotiating a contract, including example contracts and frequently asked questions.

The interface was developed to match the students' unique academic and work-based mental models of the domain. Using existing terminology such as 'goals', 'milestones' and 'learning outcomes' ensured that the e-contract experience was not technological, was user/subject based and closely complied with university regulations. Some ambiguous use of terminology had to be resolved in order to develop a compromise between the workplace and the university and to meet the requirements of the design of the database, where fundamentally different types of information would have to be stored in different fields. A friendly and adaptable interface was planned. Many Art and Design students are not highly computer literate and learning to use the interface should not be an added concern. Prototypes were tested with students and initial focus-based meetings were held in which students identified areas of difficulty and features they would like to see added. A fully functioning version was launched in 2002 and was recently evaluated in terms of the students' experience.

CONTRACTED LEARNING, CASE EXAMPLES

The ELC has been used by many of BIAD's postgraduate students; it is now validated for use across a range of postgraduate courses in the faculty. The following examples are taken from case studies of students studying Design Management through the ELC at BIAD.

1) One student, who is a professional jeweller living and working in Germany, applied specific learning outcomes to the application of her planned role as an agent for other practitioners. The physical outcome of this work was a detailed sample portfolio of other practitioners work. The learning contract process was as follows:

Taught modules: Project management, research methods, design policy studies, presentation methods

Central activity: A series of organisational meetings and exhibition planning

Selected planned learning outcome: Organisational skills specifically applied to the jewellery sector

Work-based learning observed and recorded: Selected processes for recording the results of interdisciplinary commercial meetings

The overall reflected learning experience: Gaining a deeper understanding of the design process and associated general management skills.

2) Another student who, as a designer ran a small web design company employing other designers and administrators linked the application of design and management theory to the process of retaining experiential knowledge of clients. The physical outcome of this work was the initiation of a client archive with specific content. The learning contract process was as follows:

Taught modules: Design knowledge and theory, research methods.

Central activity: Development of client questionnaires.

Selected planned learning outcome: Knowledge retention within the design office.

Work-based learning observed and recorded: How to develop a specific and self directed investigative process.

The overall reflected learning experience: Gaining an improved understanding of projects from other perceptions.

TECHNICAL AND PEDAGOGICAL ISSUES RAISED BY THE PROJECT

The contract for learning was always planned to carry and network the curriculum. Therefore, the individual learner had greater responsibility for the negotiation and integration of their knowledge. Such reflective practice described by Schön (1995) as "…a conversation with the materials of a situation", fits well with the known preoccupations of the artist and the designer. Similarly, the nature of art and design learning is often seen as linked to the aspirations of individuals through *their* practice.

Within the UK higher education system, where the imperatives of scale may increasingly promote broad curriculum delivery via e-learning it is important to grow user-based solutions which by themselves promote healthy empiricism. This is particularly appropriate within art and design environments where traditional student centred practical activity as part of a learning process is embedded to the benefit of this HE sector. The

use of managed learning environments as natural partners for practice based learning and teaching is likely in the future. However, the operation of the electronic contracts and the associated research has provided particular insights in to the nature of complexity of learning at a distance.

Learning within the workplace is complimentary to the way more formal elements are received. Such curriculum design is not simple, as it is suggested "…that the language of the creative arts is necessarily metaphoric, multilayered, and qualitative, and that the rendering of multimodal projects requires access to a range of meaning-making resources" (Doloughan, 2002). The increasing availability of the web in a variety of settings, including the art and design studio, will inevitably provide deep challenges. However, the electronic learning contract has been able to avoid a replication of learning and provide an enlarged curriculum area and learning domain. The network may be seen as an enabling agent for exterior curricula.

Industry, particularly, via Knowledge Transfer Partnerships, has developed stakeholder-in-learning principles between students, universities and employers. Thus industries and other organisations are able to demonstrate benefits from learning contracts by acknowledging, rather more, their occupancy of new knowledge fields. Universities, similarly, are able to demonstrate a widening participation and collaborative capacity. The student and the collaborating industry/organisation may therefore receive and demonstrate different benefits from the same environment. If this is to occur fully the aspects of communication are central. It is popularly assumed that distant learning experiences reduce teacher-student dialogue, the e-contract tended to increase the dialogue although not face-to-face. Furthermore, students perceived this contact as being personalised and focused; they took a proactive role in instigating communication.

REVIEW OF THE STUDENT EXPERIENCE
The use of the work-based electronic learning contract has been reviewed in terms of the student experience. Students were asked to reflect on aspects of the process, listed below.

How is using the ELC different from traditional ways of studying in terms of Learning?
Even though the development of the contract is negotiated within a range of compliances, the contracts appear to be owned by the student. Further it appears that a new learning domain, which incorporates work, is present in all students' view of their learning experience. Thus it may be concluded that such conflations of work, the self and the university are particularly student centred. The opportunity to apply theory at the workplace was highlighted, "…you can apply theory to real life situations which I find more valuable. It is much easier to learn and remember theoretical concepts when you have something to apply it to practically." (S3).

The contract appears to engender an independent learning approach, "ELC enables me to plan out my own route through the course – this means that I set my own learning objectives, and that I need to ask proactively for help with things"(S5); "I found it very useful to set my own learning objectives for the ELC Even when my initial element choices were no longer appropriate, it was an easy task to re-negotiate the elements to relevant learning experiences. This would be unheard of in a traditional learning environment." (S4).

How is using the ELC different from traditional ways of studying in terms of Teaching?
It may be assumed that a necessary reduction in the face-to-face contact between teaching staff and students would narrow the experience of teaching. On the contrary the emphasis on learning instruction as part of teaching appears to stimulate the student to widen and deepen the taught experience. A "subject", as described by one student, has been found to be larger than the equivalent delivered through traditional teaching, "…elements that have been negotiated by the student give a degree of freedom to explore an agreed subject area in a way that would never be covered by a teacher" (S4). One student described the teaching as "more individually focused"(S3). However, teaching in this context was also viewed, to a certain extent as "abstract" as it involved a greater amount of common facilitation for learning. As these students are all postgraduate it may be that this degree of freedom would be expressed as lack of guidance at undergraduate level.

How is using the ELC different from traditional ways of studying in terms of General Attendance?
Limited opportunity for exchange and discussion between students was considered important by all those linked to the contract: "…there are fewer opportunities to get to know and talk with other students and staff and to use fully utilise the resources at the University." (S6); "I missed having more contact with other students and being able to discuss my work more" (S5). One student remarked that "Without this interpersonal element self-motivation gains even more importance" (S1). Clearly increased motivation may be seen as one result of self-directed learning. However, the concept of location shifts with the electronic contract, which is seen as a more comprehensive domain and should perhaps accommodate the building of student networks. The collective

security that comes with regular group timetabled attendance may be taken for granted. As this became apparent the contract was developed to always include part attendance where experiences were exchanged between students. Thus, the contract provided a personal place and location, for the student. This was augmented by a form of specific (integrated) mailbox, it is envisaged this facility will increase in importance and required sophistication.

What are the advantages of work-based learning using the ELC?

Students see the integration of work and learning as both convenient and valuable "The self organised time frame can be matched into the personal schedule" (S1). Furthermore, it appears that the contract enabled a more relevant interpretation of the taught elements whether or not they were perceived, on their own, to hold relevance: "The work-based learning provides the opportunity of integrating elements of occupation to increase professional ownership and bridge gaps directly" (S1); "…it is a lot easier to learn whilst being able to apply the knowledge. It helps in remembering topics for future use and you know that the course content will be directly relevant to a working environment." (S3); "This provides first hand knowledge, priceless experience and develops skills that could never be taught in a lecture" (S4). By this process, taught elements may be increasingly generalist within work-based learning domains. Designating the 'workplace as a classroom' is perhaps too simplistic and indeed may only be possible by additionally associating the student with new tools of independent learning, such as reflective diaries/directed project work. The focus on skills within this learning environment is partly student derived but is one of the most challenging and difficult parts of (more discrete) course design.

What are the disadvantages of work-based learning using the ELC?

The disadvantages, identified by students, mostly related to the new integrated work-based domain for learning. "It is quite hard to assess the level of learning. How do you assign a value to a learning experience? It can be very difficult to judge if one learning element is more valuable than another element. It can be very hard to align the academic needs and the industrial needs" (S4). "I felt that a mini course on producing a contract would have been helpful – how to plan objectives and build these around work, and work commitments" (S5). The level and context of individual elements appears to cause concern, this may be solved in a variety of ways. Plainly the context of studies has always been a classroom-facilitated aspect; to rely on description may not be sufficient within a remote environment. A tacit understanding of the holistic nature of all elements and their interrelationships should be part of contract negotiation. However, it has been noted that in changing workplace environments, as was necessary for one student, a stated learning objective has particular currency and 'anchor-like' qualities when all else may be in flux.

Doyle (2003) points out that learners may not know what they need to know and therefore may be ill equipped to plan an appropriate course of study. Indeed, one of the students (studying Design Management) picked up on this, "The contract is negotiated in an early stage of involvement with/ understanding of DM. When gradually completed, the understanding about DM grows. But the content once fixed still forms the structure of studies" (S1). This was not an issue for other students who felt free to renegotiate their contract "Re-negotiating my contract proved to be a stress free and quite logical experience" (S4).

The particular pressures associated with both time and support at work are added to the student day: "Work based learning seems to become difficult at times when there is pressure to complete conflicting deadlines" (S6). Employers are seen as facilitators or potential barriers but essentially as new 'stakeholders' within the contract: "...if your employer doesn't fully understand the concept of the ELC and won't allow time out to attend seminars when required it would be a problem for the student" (S3).

What were your learning aims & strategies when Learning at work?

The realisation that working and learning may not only coincide, but may also overlap is, as stated by the students, new. This appears to orientate the work-based student as a strategic learner and strategic worker, "The work process was more reflected and gradually more strategic" (S1). Students are aware of dual benefits (to the student and to the employers), "By tying the ELC into work projects, the student develops academically and professionally" (S4). "By using work as a 'case study' I am able to apply new knowledge in the organisation. This provides knowledge to the company that they would not otherwise receive" (S3). Interestingly, separating academic objectives from potentially competing employment objectives has not always been a problem. Students appear to become good at 'unlike' phenomenological association but also expert at emphasising different facets of the same project for differing audiences, for example in their use of the term "case study".

What were your learning aims & strategies when Learning through work?

This is viewed by students as being mainly possible by the application of 'teaching' to the workplace. This is perhaps not surprising as one of the expectations of contract negotiation is the development of directed

reflections on the working experience. "There is a lot of opportunity to work with different people at work and with new clients. I feel that each new individual or group I work with they all have their own ways with approaching problems. More specifically with how people communicate their new ideas through both talking and sketching" (S6). This, added to the dual academic and profession motivation expressed by students, suggests that the location for complex learning can only centre on the individual learner. Interestingly one student viewed their own learning (through work) as an instigator for others, "Learning through work projects helps me to understand how to apply topics/ theories and also helps colleagues to develop their knowledge. For example I am conducting brand values seminars at work, which is part of my ELC. This is a new area for the company and the colleagues involved in the process are learning themselves" (S3).

What were the useful aspects of the electronic interface?

Issues of access from home, work and university locations appeared to be a distinct advantage. The user-centred, well-tested software was detected as being so, "The interface is easy to navigate with excellent help and guidance. I like the fact that I can access and edit details on the site in fewer than 3 to 4 clicks of the mouse. Everything on screen clearly laid out" (S6). However, at an early conceptual stage problems were encountered: "Initially I found the ELC slightly confusing. However, once I had started using it, it found it very intuitive. I think my problem was in understanding and constructing the ELC itself rather than the interface. I found the help files to be very useful" (S4). The interplay of support staff with the contract was more important than was first envisaged, "After some helpful introduction by [the programmer] the work with it was o.k. Actually I would prefer a lecture of introduction. Oneself discovering all essence and intention within the FAQ area was a bit uninviting" (S1).

What were the difficult aspects of the electronic interface?

The aspect of privacy, surprisingly, was referred to, "To my understanding this area [message board] is also open for other examiners and I prefer privacy for the tutoring communication" (S1). This reflects a lack of clarity over roles and access privileges. In fact, the message area is only available to the student and their tutor. Despite the fact that the software design complied with university and data protection regulations, concern about privacy may relate to a general view that little web based information can never be entirely secure and the potential opportunity to evidence a personal failure is there within the contract. Another student picked up the confusion over roles, "There was some confusion about the academic roles and who was responsible for what. But this problem relates to ELC administration rather than the interface" (S4). Each student has an academic supervisor, supervising tutors, an industrial supervisor and an external examiner; only the academic supervisor has access to the contract. It is interesting to note that the design team experienced the same confusion and perhaps the lack of clarity is replicated in the interface.

Other Observations

This, for some students, appears to be a first experience of learning at a distance, "This system, the way of admittance and its´ facilities of distant learning opened up a new horizon for me" (S1). From these students' descriptions one is made aware that the contract represents one of the ways in which distance may be usefully added to learning, "I have found it to be a very flexible and convenient way of study" (S4). Issues of learner domain, learner motivation and teaching appear to be enhanced by the technology involved.

CONCLUSION

Within this project, research into aspects of work-based and distance learning, contracted learning within masters courses in art and design, and the development, testing and evaluation of the student experience has been included. This, within a context of traditional practice, suggests that: "…the field of art and design, like any other area of study, presents a spectrum of research possibilities" and "…there is wider acknowledgement of a relatively small, but increasing, number of research projects in art and design to which professional practice is central." (Prentice, 2000).

Previous reflection on early trials of the ELC noted "The fact that students can produce a self-determined programme of study using the contract as a personalised curriculum carrier greatly assists in the whole learning process, particularly as it is a learning experience in itself"(Jerrard et al, 2002). This has been borne out by the student experiences described.

A design process focused on the student experience appears to have paid off. All students were able to operate the contract at a distance and found it intuitive and easy to use. Student comments reinforce the importance of extensive online guidance on the process of negotiating a contract.

The 'networking' of such learning processes may be seen as liberating but it is also important to promote the responsibility of the individual, as Slayton (2002) states "…a literal displacement of the individual into an environment of associative relationships establishes a form of authorship in which there is no singularity of ownership, origination or directorial oversight".

The learning contract appears to be owned by students and facilitates the development of independent and self-directed learning. The re-construction of the contract as a virtual environment serves to bring the learning domain into the work place or home. Issues of student isolation need to be addressed. Although the content of learning will necessarily be different, students may benefit from sharing knowledge and experience of the contracted process. Brookfield (1984) identifies the importance of learning networks, "the social setting for a great deal of self-directed learning has been ignored…the importance of learning networks and informal learning exchanges has been forgotten." (Cited in Doyle, 2003). Following student requests a student-to-student message board was set up but has not been used so far. This will be the subject of further investigations.

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