

Experience design: practising what we preach when negotiating technological and educational interdisciplinarity

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Abstract

This paper examines the possibilities and necessity of interdisciplinarity in a new area such as interactive multimedia, and what can be gained when it borrows guiding principles from an older, more established discipline such as education. It explores the parallels between my objectives as an educator, those I set for my students, and those that we have as industry professionals.

For example, 'experience design' is a recent term that has emerged in web design, and refers to a holistic approach to creating digital media products, taking into consideration the emotions, atmosphere and first impression evoked in the user. In the field of education, the notion of experience design is hardly new. As a lecturer in interactive multimedia, my role is to design meaningful learning experiences for my students.

It is this traversing of technological and educational disciplines which not only I, but my students, have to manage. As students, they are exploring information technology both in their educational capacities as learners as well as in their professional capacities as designers. It is through their experiences of being users of an educational system that instils in students empathy with users of technology, as it allows them an alternative perspective, one that is not just from a designer's viewpoint. In other words, it is through student-centred learning that they understand the principles and processes of user-centred design. In addition to an acknowledgement of the end users, it also transforms the ways in which they perceive them: users can also be seen as learners. The learning lense re-orientes their perception of technological audiences, so that their professional activity is examined in educational terms. When juxtaposed in this way, it becomes evident that the flipside of experience design is experiential learning, that is, understanding that a designer's role involves enabling users to learn from their experiences.

Introduction

The aim of this paper is to critically reflect on the status of the 'discipline' of web and interactive media design. The uncertainty surrounding its identity as a discipline comes from the diversity of fields encompassed in this creative industry and from which practitioners originate prior to working in this area. In short, it is regarded as an infant discipline which is constituted by others such as cognitive psychology, marketing, management, visual design, information science, anthropology, human-computer interaction and technology studies; but is not dominated by any one of them. Indeed, it is perhaps this interdisciplinarity which inhibits its development as a discipline in its own right: the difficulties in laying claim to a hybrid technology include the numerous media histories associated with it and the inevitable challenges to disciplinary boundaries. Therefore, ontologies of digital media have not evolved out of a particular discipline, nor has it been exposed to sufficient interdisciplinary scrutiny.

Given the lack of a literary or theoretical canon in web and multimedia design, part of the process of growing the discipline involves borrowing from those with a richer history and tradition. Although it may be somewhat self-referential, educational principles offer much to the establishment of the discipline as to the professional practice of web design. To this end, the paper examines the similarities in the educational activities of lecturers and students of interactive multimedia, and the professional activities of multimedia industry practitioners. It explores the parallels between my objectives as an educator, those I set for my students, and those that we have as industry professionals. It attempts to illustrate the benefits of interdisciplinarity, and what can be gained when a comparably new area such as interactive multimedia, borrows guiding principles from a more mature discipline such as education.

For example, 'experience design' is a recent term that has emerged in web design, and refers to a holistic approach to creating digital media products, taking into consideration the emotions, atmosphere and first impression evoked in the user. In the field of education, the notion of experience design is hardly new. As a lecturer in interactive multimedia, my role is to design meaningful learning experiences for my students.

It is this traversing of technological and educational disciplines which not only I, but my students, have to manage. As people working in the area of interactive multimedia, they are trying to survive in an industry that is in the midst of a downturn, and so must exploit the transferability of their skills in order to move horizontally, if necessary, into other industries. It is through postgraduate study in the area of interactive multimedia that they are seeking to do this. As students, they are reflecting on the industry in which they work and attempting to translate and expand this knowledge into formal learning outcomes. That is, they are exploring information technology both in their educational capacities as learners as well as in their professional capacities as designers.

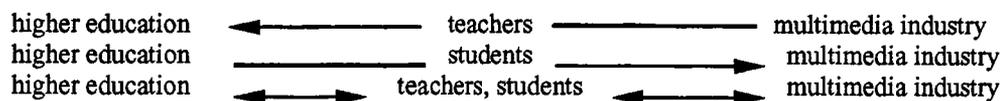
This paper argues that it is through their experiences of being users of an educational system that instils in students empathy with users of technology, as it allows them an additional and alternative perspective, one that is not just from a designer's viewpoint but from that of the end user. In other words, it is through student-centred learning that they understand the principles and processes of user-centred design. In addition to an acknowledgement of the end users, it also transforms the ways in which they perceive them: users can also be seen as learners. The learning lense (Brookfield 1995) re-orientes their perception of technological audiences, so that their professional activity is examined in educational terms. For example, a visitor to a web site is identified, instead, as a learner, with the objectives of the web site considered as learning aims. When examined in this way, it becomes evident that the flipside of experience design is experiential learning, that is, understanding that a designer's role involves enabling users to learn from their experiences, just as the same process is being facilitated for them as students by teachers.

While the notion of lifelong learning stresses the importance of facilitating learning outside of formal educational environments, there are also benefits to borrowing those institutionalised principles of teaching and learning and applying them within industry. The rich traditions of education have so much to offer to multimedia practitioners, but they have yet to be mined. Best practice emerges through a dialogic process, which involves more than asking what industry requires of the university sector, but what industry can learn from higher education as well. Where interactive multimedia is concerned, the university is the catalyst for this interdisciplinary dialogue, as it provides a space where industry practitioners can critically analyse their professional practice, away from its daily pressures. This is particularly crucial to the multimedia industry given its notoriety for 'churning and burning' its members, exploiting the willingness of the young and childless to work extraordinarily long hours.

It is also the learning processes they acquire whilst being students that will remain most relevant throughout their professional lives. Here I am referring to the 'soft' and transferable skills that emerge from academic practice – the ability to critically analyse, reflect, communicate, meet deadlines and give attention to detail – rather than the 'hard' technology-related skills. In this sense, it is lifelong learning but where the university retains a role as a 'sacred space' for reflection and cultivation of interdisciplinary connections.

It all starts with the personal...

In order to unpack the title of this paper, I would like to begin by talking about my personal journey of moving between higher education and the multimedia industry. Having been involved in the development of undergraduate and postgraduate degrees in multimedia studies at the University of East London, I returned to Australia in 1999 to catch the tail end of the dot.com boom, landing a job as a producer/project manager at a multimedia production agency. Having no experience in the industry up to that point, the managing director could evidently see the parallels between what I did as an educator (facilitate, organise, coordinate) and what I was to do as an industry practitioner. In hindsight, the situation was probably unusual in terms of my movement from higher education into industry, given that a predominant view of teaching for a creative industry such as multimedia is to bring practitioners and their real-world experiences into the classroom. However, I was swimming with the industry's tide, which at that time, was pulling in people with no experience, to its ultimate detriment, when the resulting tidal wave took most of them under. It is in this context of movement between the multimedia industry and higher education that I refer to the traversing of technological and educational disciplines.



Technological and educational interdisciplinarity

From my own personal experience, such transitions between the realms of the technological and educational are not necessarily easy to make, nor am I arguing that they should be. On the contrary, the objective of teaching for the creative industries should not be to prepare our students for a seamless immersion into industry, or to simply equip them with the skills that industry requires but rather to instigate change and promote self-reflection both in the students themselves and their professional environments. The volatility of the dot.com industry as seen in the short period between its boom and bust indicates, at a macro level, the need to critically reflect and regroup before moving forward:

This looking back over the shoulder is critical because most technological industries have almost nonexistent attention spans and proclaim it worthless to look ahead more than six months. This short-sightedness is one of the reasons the industry is so hit-and-miss, having soaring successes as well as spectacular failures – and many more failures than successes. (Shedroff 2001: 22)

This capacity for critique seems most productive when the technological and educational fields are straddled, uncomfortably juxtaposed and negotiated simultaneously, that is, when learning in a formal educational context and engaging in professional practice at the same time.

From a teaching point of view, this means more than taking what I learnt in and about the multimedia industry and transferring it to my students. Rather it is when the two arenas clash that the opportunity for experimentation, critique and fusion becomes apparent. That is, it has only been through my hybridised identity as a teacher and multimedia practitioner that I have been made aware of the comparative youth of the multimedia industry and the absence of a disciplinary tradition. As a teacher, I have a rich and established knowledge base from which to draw in the form of a large body of research into effective teaching strategies and the way students learn, as well as an organisational infrastructure which supports and develops my teaching practice. In my experience in the multimedia industry, the availability of such resources cannot be assumed, even if they do exist. While there is some literature about best practice in multimedia, there is limited opportunity for a structured approach to professional development even within a relatively large agency.

From a learning perspective, the imbalance between the technological and the educational is manifest in numerous ways. Firstly, as mentioned above, the level of commitment the multimedia industry demands from its members is such that students' loyalties are divided between their studies and their jobs, so the time available to explore these interdisciplinary connections is heavily constrained as well as framed by their work. Secondly, justifying one's skills, knowledge and practices in multimedia from within an educational framework and often outside of one's zone of comfort is confronting for students who are being asked to put under the microscope that which they have taken for granted as industry-standard processes of models of best practice.

Therefore, I want to argue that having a separate space for learning about multimedia, outside of the industry, within a university environment, is necessary in order for students to be able to reflect on the industry in which they work. This is contrary to notions of lifelong learning which define it as part and parcel of our everyday activities, as a 'new form of labour' (Eden et al 1996):

By integrating working and learning, people learn within the context of their work on real-world problems. Learning does not take place in a separate phase and in a separate place, but is integrated into the work process. (Fischer 2000)

For students working within the multimedia industry there may be learning in the job. But this is constrained by the pace and pressure under which they work, and is inevitably limited if the opportunity for critical reflection, which Fischer also acknowledges as a vital component of lifelong learning, is rare. This is why universities have an important role in being 'sacred spaces' where multimedia practitioners can critically analyse their professional and organisational practices away from the daily grind. They also expose students to processes, namely academic ones, that are not purely confined to multimedia or the industry, thereby engaging them in an

interdisciplinary dialogue between technology and education, how 'doing' multimedia relates to learning about it.

This dialogic process can be difficult, as interdisciplinary connections do not always easily fit. The language of the industry does not necessarily translate well into the academy, and so on. But apart from those discursive differences, to be outward-looking, to go beyond one's own disciplinary boundaries to seek affiliation is key to a new area such as multimedia developing its own research and knowledge bases. Kozel (1998) agrees that interactive multimedia developers can and should learn from more established industries and disciplines such as education. Furthermore, Boud and Miller (1996: 5) suggest that the traversing of disciplines or 'the crossing of boundaries' is essential in the process of learning from experience. Reflecting on the multimedia industry in an educational context exemplifies this interdisciplinary fusion, as does acknowledging the particular disciplinary frameworks one brings to their multimedia practice.

After all, new disciplines traditionally emerge from more established ones, for example, semiotics, the study of the science of signs and systems of signification, originally came from linguistics, but is now more commonly a vital component of film studies. The convergent nature of interactive multimedia has meant that it has, at a practical level, combined technologies which were previously separated, such as photography, film, radio, television, video, print, computers and telephony (Barker and Tucker 1990). However, it has not brought with it the theoretical terrain associated with each of these technologies: film theory and practice, for example, has refined its conventions on how the use of light and sound can create atmosphere, drama and suspension of disbelief which could, in turn, be applied in interactive multimedia (Kozel 1998). Indeed, research by Karat et al (2002: 369–72) shows a desire on the part of users for the web to be more like other types of media which can be consumed communally. The scramble for multimedia to find its own niche has meant that it has isolated itself from other disciplines, distancing the traditional in order to be able to assume the mantle of 'new media'. The disciplines involved in designing multimedia user experiences (Norman 1998) – anthropology, sociology, psychology, engineering, architecture, industrial design, technical communication – have been applied disparately without much consideration or consolidation of the theoretical contexts and histories of each.

Experience design: what we do, what they do

The notion of 'experience design' in relation to interactive multimedia exemplifies these ahistorical, decontextualised tendencies of the discipline. It is a recent buzzword of web designers, and refers to a holistic approach to creating digital media products, taking into consideration the emotions, atmosphere and first impression evoked in the user. It has spawned job titles such as 'experience designer' and 'user experience architect'. Yet the literature in this area makes little reference to extant theories and ideas from the fields of design (whether this be visual design, product design, interior design), architecture, marketing, psychology or, indeed, education, but does acknowledge the contribution of other disciplines:

Simultaneously having no history (since it is a discipline only recently defined), and the longest history (since it is the culmination of many ancient disciplines), Experience Design has become newly recognized and named. (Shedroff 2001: 2)

Shedroff's key text on the subject, *Experience Design*, is a beautiful coffee table book, which contains a commentary on a selection of web sites, why the author liked them, and how online experiences should seek to create the emotional impact of significant, personal offline or real-world experiences. While Shedroff writes as an industry practitioner with extensive experience in web design, his perspective is arguably one of the most theorised, although the ideas are evidently not subject to the rigours of academic research. My intention here is not to provide a critique of Shedroff's book, but rather to illustrate the current status of knowledge dissemination in the field: the industry is preaching its own practice. This, in turn, is being fed back into the education of prospective multimedia industry practitioners. Is this a precedent for the future teaching and learning of multimedia, or is it merely indicative of a discipline in its infancy?

Shedroff argues that meaningful experiences are critical emotional and memorable events. Indeed, the book reflects on some of his own key life experiences. Yet there is no reference to the concept of experiential learning, or the wealth of educational research that has been done in this area. His premise is that creating a profound online experience is important in helping the user transform the information you provide into personal knowledge (see model below). The user then associates the online product with the positive impact it made, and is therefore more likely to recall and return to the experience.

data → information → knowledge → wisdom (Shedroff 2001: 35)

However, Shedroff never quite makes the theoretical connection between his model of data transformation and learning. The process that should ideally be facilitated in experience design is not acknowledged as an educational one.

Are we not engaged in this process as educators when we attempt to design learning experiences for our students? Constructivist approaches to learning aim to involve the student in actively making meaning, similar to the goal of designing interactive media which engages the user emotionally and personally (Kozel 1998; Metros and Hedberg 2002: 191–92). From an educational as well as an experiential perspective, emotions have a important role (Boud and Miller 1996: 10; Shedroff 2001: 24).

When we seek to inspire deep learning, as opposed to surface learning, we are encouraging the development of knowledge that is integrated into students' personal interpretive frameworks, rather than just the acquisition of information. That is, deep learning, which is constituted by the active selecting, shaping, assembling, filtering and selection of information (Atkins 1994), would imply students' learning to be located at the upper end of Shedroff's linear model. In contrast, the mere retention of information can also be regarded as learning (Vogt et al 2001; Kozel 1998) albeit superficial. Therefore, the activities of teaching and learning correspond to those of experience design such that teachers could, in fact, be called experience designers or perhaps 'learner experience architects'. Boud and Miller (1996: 7) argue for teachers to be renamed 'animators' because of their role in 'enlivening, activating and putting in motion' learning experiences for students.

The concept of 'animation' in Boud and Miller's educational sense of the term and the more commonplace reference to computer or 3D animation, both imply a sense of entertainment, despite one being educational, the other technological. These parallels between educational and technological realms are also reflected in offline and online domains. For example, Shedroff (2001: 136) says that online experiences should mimic and extend the best of our offline experiences, so that the technology is transparent: how such experiences make us feel will ultimately determine future behaviour, not what medium was used. Similarly, experiential learning is based on the notion that everyone learns from their past experiences:

Every day, we are confronted with problems and challenges which we address by drawing on our experience and by using this experience to find ways of learning what to do in new circumstances...there is no simple demarcation between experience and learning – making sense is always a learning process. (Boud and Miller 1996: 3,8)

This means that learning can and probably will occur anywhere, and is more than likely to be informal than located within a formal educational environment. Every experience is a potential learning opportunity. Therefore, all online experiences are possible learning experiences, with experience design effectively being about designing forms of experiential learning.

Users are learners

If learning is taken to be an inherent part of an experience, especially in an online context, then it makes sense to conceptualise users as learners. People who consume information technology (IT) are defined largely as users rather than consumers or audiences. It is perhaps this limited vocabulary for representing users of IT which has contributed to the lack of an interdisciplinary discourse between interactive multimedia and education (which constructs its user groups as students, learners or pupils), or other media (which conceives of its users as readers, spectators, viewers, listeners or players).

Although users of digital media products are not learners in the formal sense of the word as they are not necessarily affiliated to an educational institution, the purposes for which digital media are used suggest learning. Whether this is doing a Google search, looking for a map and directions on a touchscreen information kiosk, or making new acquaintances in a chatroom, the processes of discovery that these entail imply learning however superficial or even incidental they may be. While these activities may reside on the lower end of Shedroff's scale, where information may never be translated into knowledge, they can be interpreted as forms of learning nonetheless. Indeed, many of these digital experiences relate to other key learning theories aside from experiential learning: situated learning occurs within an authentic context and culture, such as the Internet,

where there is engagement with experts and communities of practice; likewise, social development theory proposes that social interaction is fundamental to learning (Schank and Cleary 1995).

Shedroff (2001: 110) does not go so far as to advocate a rethinking of users as learners, but argues that 'learnability' should be one of the qualities of a positive online experience, that is, web designers should strive to produce sites which allow the user to learn the purpose of and how to use the product easily and efficiently. This notion of 'learnability' is familiar to students as they participate in learning experiences that have been designed for them, and likewise must ascertain how the system of education operates as well as how to navigate their way through it.

In other words, if users can be considered learners, then learners can also be perceived as users. Being on the 'receiving end' of a particular kind of experience design where they are identified as the end-user, students begin to empathise with the users for whom they, in turn, will be designing for in the future. Their straddling of educational and technological domains gives them a dual perspective, that of user and designer. As students, they want their learning experience to meet their personal needs: that is, they want their learning to be student-centred. This can be translated into their work as multimedia professionals in terms of an understanding of the importance being user-centred.

Student-centred learning = user-centred design?

The concept of user-centredness is not new to design. Researching and addressing the requirements of a target audience is standard to other disciplines such as architecture, product design and marketing. User-centred design is defined by Soloway and Pryor (1996) as facilitating 'doing', by simplifying and reducing the time needed for a user task. However, in web design, this idea of the user experience has had to compete with the technology and its attractions. The 'utopian moment' (Dovey 1996: 109) of the Internet has lured multimedia designers to be lead by the technology, rather than be dictated by the needs of the people using it. The principles of user-centred design serve as an antidote to this technocentrism and the inclination to demonstrate technical skill or sophistication in web design.

The struggle between technological and social determinism has also been fought within education, especially in the areas of e-learning, flexible learning, distance learning, and computer-assisted learning, where teachers are facilitating learning through technology within the constraints of the technology. This is underpinned by a strong body of research on student-centred learning, which emphasises the different ways that people learn, the need to and value of tailoring education to the expectations of its users, as well as making it more accessible to a wider range of users (Campbell 1999). Strategies for student-centredness usually include allowing learning to occur at a time, pace and location determined by the student (Evans and Fan 2002), in the same way that user-centred design requires multimedia designers to build flexibility and adaptivity into their digital media products.

The parallels between the theories and practices of user-centred design and student-centred learning are many, as seen in Soloway and Pryor's (1996) proposal for user-centred design to be renamed learning-centred design. They argue that the design aims are essentially the same in terms of reducing the user's cognitive load, as well as the time and effort spent on tasks, but with a less utilitarian approach than user-centred design by facilitating learning in the process of doing.

Nevertheless, the connections made between user-centred design and student-centred learning are still few and far between. This may be because the disciplinary divisions have not necessitated it. User-centred design has emerged from the contemporary computer science of human-computer interaction, which is concerned, amongst other things, with issues of usability, while student-centred learning is evidently part of a rich tradition of educational research. Both have firm research foundations but given the comparatively shorter history of computer science, the literature on student-centred learning has benefited from far more empirical investigation.

Nonetheless, both disciplines are linked through the application of design, specifically the design of experiences. Yet the experience designers, user experience architects, interaction designers or information architects working in the multimedia industry are less likely to be graduates of art and design schools who have undergone traditional design education, than products of IT courses. Fischer (1998) argues that the title of 'designer' should broadly encompass people who are actively involved in the design of lives, communities and societies. Furthermore, educational institutions should have a role in cultivating such people, but what are the implications

of the increasing interdisciplinarity of design exemplified in multimedia development for traditional faculty structures and disciplinary domains?

The notion of designers emerging from faculties of IT, combined with the similarities in my work as a teacher and as a multimedia practitioner, raises the question of what it means to be a 'creative' or to work in a 'creative industry'.

Teachers as designers: practising what we preach

If the user–designer relationship in experience design is mimicked by the student–teacher one in education to the extent that users can be classified as learners, then it follows that teachers take on the role of designers. To this end, there is much that can be borrowed from educational pedagogy that can be applied in multimedia best practice as well as in students' lifelong learning beyond the duration of their courses. That is, the principles we preach as educators can also be useful in 'real-world' digital media development processes.

For example, one of the key skills we attempt to instil in students as part of academic practice is the ability to reflect on their experiences and learning. Schank and Cleary (1995) propose that learning can only occur when our knowledge structures are amended through comparison with and reflection on our experiences. Similarly, as a teacher, I have to critically reflect on the learning experiences I design for my students, including what works, what doesn't, what can be done differently and what could be improved. This reflective practice is directly relevant to experience design, where the ideal process should be iterative, incorporating cycles of review and revision.

Critics play an important role in making designers aware of breakdown situations. (Fischer 2000)

In an educational environment, it is students who fulfil the roles of critics, who make us aware of how the learning experiences we design for them can be improved.

Conclusion

It is when we simultaneously practise what we preach as educators, as well as industry practitioners, that a productive interdisciplinary exchange can take place. Applying theories and ideas from educational practice to digital media design processes, and vice versa, can be a remedy to the seemingly ahistorical context of an infant discipline such as interactive multimedia.

However, it is not just up to us to make the connections, to engage in the interdisciplinary dialogue which generates an academic identity for a new discipline. Students have a critical role in bringing different disciplinary perspectives to the learning environment and giving feedback on whether the design of their educational experience is open and flexible enough to accommodate such multiple viewpoints.

In relation to teaching and learning of interactive multimedia, the praxis of experience design is fundamentally interdisciplinary, because it requires students to reflect as practitioners on the industry and its processes, as well as users of experiences that have been designed for them. This traversing of the technological and educational is enabled by the intellectual space a university environment offers (which arguably many workplaces such as agencies and production houses do not) in which multimedia professionals, whether they are lecturers/designers or students/users, can partake in this critical reflection.

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