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What can you say about teaching design when learning design is now so easy?

Disruptive technologies and anxiety to accommodate highly engaged mobile digital students has put significant pressure on universities. The lecturer's voice is in danger of being muffled in the noise and haste to cope with change but it is important to push for a balance between economic rationalism with credible pedagogies that engage emerging technology and make meaningful connections to contemporary students. Most research into how universities will change has focused on student experiences and the application of specific case studies of emerging technologies by 'innovators and early adopters… often focusing on the introduction of an innovation in a unit' (Hanson 2009 p. 557). There is a need to embrace a wider overview and resolve a basis for change that has a genuine benefit to teaching and learning while resolving what it is that will constitute the skills and makeup of future lecturers.

Contemporary learning

Contemporary learning exists in diverse environments with increased pressures and expectations that have made it unclear what constitutes the best way to approach teaching and what is the essential background and skill set of the future lecturers.

> 'More than ever, design education must prepare students for change. To this end, it must move from being teaching-centered to a learning-centered environment, which enables students to experiment and to develop their own potential in and beyond academic programs. Thus the role of a design educator shifts from that of only knowledge provider to that of a person who inspires and facilitates orientation for a more substantial practice' (Icograda Design Education Manifesto 2011).

This change in approach to student led teaching is often described as constructivism. This pedagogy advocates that the role of the individual is paramount in how they to make sense of their experiences and through reflection and action to construct their individual truth or sense of knowledge. Knowledge is seen as not external to the

student waiting to be absorbed or delivered by the teacher. Connectivism adds to the constructivist approach by taking into account the impact of digital communications and the ubiquity of information where knowledge is ever moving, often conflicting, and needing verification through the engagement with networks of diverse sources. Historically, universities have fixed high importance on the lecturer's knowledge and their ability to impart that knowledge, demonstrated by the growing requirement of a doctorate to win employment in design areas of the university. The implications of Icograda's manifesto and the implementation of constructivist's approaches could put knowledge in a decidedly less important status in favour of lecturers that can inspire students to find their own paths.

Universities are very large and cumbersome institutions and 'one of the greatest challenges we face is how to encourage our institutions of higher learning to become learning institutions themselves' (Brown, 2006, p. 20). Learning to change may not be easy as former UNE vice-chancellor, Jim Barber 'believes many institutions may not survive without change to ingrained habits and attitudes, and as yet he sees little sign of a sector rising to the challenge' (Lane 2014)

John Seely Brown, former chief scientist of Xerox Corporation and the director of its Palo Alto Research Center envisioned a student led education model that moved away from the lecturer as the centre of learning and source of knowledge. He proposed that education would be based on individual's passion connecting students around the world into 'niche communities of practice with a limited core curriculum for teaching the rigorous thinking and argumentation specific to that field' (Brown 2006 p. 22). The key to learning and what we should keep in mind is that the importance is in 'what [learners] do, not what teachers do' (Conceicao 2006 p. 29).

Discounting some criticism of Prensky's 'digital natives' (2001), the contemporary student has significant differences in the way they engage in learning and their expectations of the learning processes. Mobile and continual connected devices have liberated learning from the classroom and created 'the emergence of the nomadic, mobile learner who is dependent not on the teacher or formal educational systems' (Sims 2008 p. 153). These 'nomadic' students bring into question of the type of learner engagement and the location for learning events in favour of a reduced face-to-face environment. Students will be moving towards 'satisfying their immense curiosity on their own. This capacity for independent learning is essential to their future well-being' (Brown 2006 p. 1). As web-based tutorials, MOOCs and open

educational resources grow alongside the networks around students; we will see that 'Learning now occurs in a variety of ways – through communities of practice, personal networks, and through completion of work-related tasks' (Siemens 2004 p. 1).

Creating an interconnected online student-to-student collaborative environment could take the form of online games where 'game environment itself becomes the teacher and the interactions between players and environment will generate learning' (Sims 2008 p. 160). Recreational interactive engagement in game play with immediate feedback and immersive experiences has a significant influence on student's ability to cope with the traditional linear learning processes with expectations of immediacy, pace and depth of experiences. Their experiences in games are…

> immensely complex, information-rich, dynamic environment where you must sense, infer, decide, and act quickly. When you fail, you must learn from that failure and try again and again and again. Continuous decision-making in conditions of uncertainty is the essential skill (Brown 2006 p. 21).

The skills learned to manipulate games or entertainment soon become tools and 'the tools we use define and shape our thinking' (Siemens 2004 p. 1). This new shape of thinking will demand a very different form of education that will be provided by changes in universities or by new start-ups that can delivery that level of immersive experience. MOOCs provided some sense of that excitement in short micro courses with the benefit of big name university celebrity lecturers and the exuberance of world wide multicultural cohorts. These are just the start of alternative education forms as MOOCs and other experiments has 'become a lens used by educators, entrepreneurs, education reformers and venture capitalists to view the higher education system' (Seimans 2014).

The availability of open resources and the ubiquity of digital and collaborative tools can create a reduction in the time to prepare lessons and manage proprietary web resources. The most difficult thing for a constructivist teacher in design is in letting go of being the source of knowledge and changing roles to co-learner and facilitator. From the student point of view the difficulty is in the realignment from passive receptors of instruction to the individually responsible and collaborative participation in networks of learning. That transition is difficult for many students who have

experienced many years of instruction as school models often have a focus on final year exam success and not necessarily on wider or deeper concepts of learning.

Constructivism & connectivism

The accelerated change in many aspects of digital culture as well as student and academic life has made it increasingly difficult to sustain a vibrant studio culture (Henderson 2003). The studio learning process has a collaborative aspect although the changes in student mobility and preferences to work in their own environments has made the collaboration less effective and made the role of the teacher unclear. The 'challenges such as the 'massification' of higher education, rising class sizes, the growth of the quality agenda and pressure to maintain a research profile are having an impact on academics' perceptions of their teaching role' (Hanson 2009 p. 554).

The teaching/learning processes under these pressures have a tendency to…

> continue to revise and evolve theories as conditions change. At some
> point, however, the underlying conditions have altered so significantly,
> that further modification is no longer sensible. An entirely new
> approach is needed (Siemans 2004 p. 4).

Constructivism or connectivism, as away to reinvigorate studio culture, is bound to fail without the significant take up of communication technologies to bind cohorts and create dialogue in and around the design processes. This will have considerable ramification on the role of the lecturer expecting them to utilise communication technologies to advance dialogues around the design process, but with less face-to-face contact. The role of 'guide, coach, motivator (and) facilitator' (Jones 2003 p. 2) is even more difficult across awkward technologies that sometimes create barriers to building rapport. 'Over the last twenty years, technology has reorganized how we live, how we communicate, and how we learn' (Siemens 2004 p. 1). These moves away from the teachers as deliverer of knowledge has created an uneasiness in current lecturers as the 'displacement as knowledge expert may appear to undermine the ontological security of their academic identity' (Hanson 2009 p. 553). The connectivist pedagogy promotes personal networks or what Brown called 'niche communities of practice'. These environments have imprecise direction or clear outcomes with a need to embrace the chaos, the haphazard or casual networks in and outside the institutions with a need to self-organise. These are indicative of informal learning that often invigorates the passion in learners breaking down the

restrictions felt in the linear and prescribed formal learning processes. 'Know-how and know-what is being supplemented with know-where (the understanding of where to find knowledge needed)' (Siemens 2004 p. 1). The application of these pedagogies support and encourage environments where niche pursuits are stimulated.

Destabilising educational forms

The incorporation of constructivist and connectivist pedagogies is disruptive in itself for lecturers and learners in shifting responsibility from delivery and formal education model to student led learning. In addition to this, there are many emerging forms of education that are causing uneasiness in large institutions. One simple though pervasive form is e-learning, which has the tendency for 'faculty members to think about themselves very differently as instructors, recognize the changes in the educational paradigm, engage in new kinds of activities, and reconsider the meaning of being an expert' (Conceicao 2006 p. 44).

E-learning and open resources, in combination with tests, can be a way to curate information flow or deliver a level of competency in content areas – from slide shows put on line, to video tutorials about techniques and software to full lectures in iTunesU. These can free lecturers' development time and allow the setting of these resources as homework in flipped classroom model of teaching. A constructivist approach might even go further to encourage the student to find their own resources and aggregate them with classmates. This opportunity empowers students and in the same breath playing down the influences of the lecturer as the centre of knowledge.

MOOCs have emerged quickly into public awareness since the first occurrence in 2008 to a point when The New York Times proclaimed 2013 as the 'Year of the MOOC'. The first and subsequent MOOCs were run by George Seimans and Stephen Downes encompassing social connectivist ideals, using the affordances of the web2 tools and focusing on creating a interconnected communities of practice around a topic and 'have the social interactions create the content…(and) where the content is the conduit for connections' (Siemens 2013) Siemens has a convincing educational underpinning to the approach when he states that…

> the experience of learning, making sense of that chaos is actually the heart of
> the learning experience. But if an instructor makes sense of that chaos for you

and gives you all the readings and sets the full path in place for you, then to a degree you are eviscerating the learners experience (Siemens 2013)

The debate of the ease of teaching design can be gleaned from how some lecturers and learner are approaching MOOCs. MOOCs might downgrade smaller and regional universities into 'intellectually impoverished simulacrum of the élite university world, in which courses consist of streaming online videos of celebrity professors combined with an a robotic regime of instantly-graded multiple choice tests and software-evaluated essays' (Shullenberger, 2013) The alternate vision is that lecturers and students feed off the diversity, invigorate individual passions and incorporate at least some MOOC content and courses into a more open idea of learning making connection to their niche community of practice while learning at university.

MOOCs have been very successful as open resources in the delivery of the information and MOOC providers try very hard to create an environment of collaboration and discussion, but these have sometimes been problematic in the thousands of threads in forums and multiple communication options. In contrast, the discussion aspect of studio-based practice is its strength in the richness in the interaction, the critiques and debates that engage 'the active role of the learner in building understanding and making sense of information' (Bird 2007 p. 155).

The strength of e-learning and MOOCs lies in providing content in a way that is appealing, reusable, effective in retention of information and possibly testable. It is important to provide a balance between competencies of content against building knowledge through informed discussion and collaboration. This will allow the 'Knowing in action' (Schön 1995) to have a considerable depth from an informed position. The potential for students to view video content prior to class in a 'flipped classroom' model elevates the teacher from content delivery and empowering more collaborative and participatory learning to be done in class in an environment where the information is shared, further ratified and internalised as knowledge.

> Many of the processes previously handled by learning theories (especially in cognitive information processing) can now be off-loaded to, or supported by, technology (Siemens 2004 p. 1).

There is a strong body of research that finds that many lecturers are ill prepared and

suspicious of the role of technology in changing the way learning can happen with the assistance of technology (Hanson, 2009; Bird 2007; Conceicao 2006). There is also a tendency of managers to…

> blame the individual academic and attribute delays or failure in implementation to an oversimplification of negative attributes, ill-will, indolence, ineptitude or indiscipline on the part of those at whom the change is aimed or to portray resistance to change as 'irrational' (Hanson 2009 p. 557)

Most aspects of change management bring negative comments, though that is not to say that the feelings of those suspicious of technology are not right to do so. These are compounded by critics of constructivism who state that…

> constructivists are pressing these assertions at a time when 50% of the college attending population is, according to these US Department of Education reports at least, incapable of basic reading comprehension (Schweitzer and Stephenson 2008 p. 587).

These sorts of statistics often evoke knee jerk reaction and a call for greater focus on the fundamentals. It is important that the new blends of learning events use the benefits of technology but also use the time and skills of the lecture where s/he can have the greatest influence. The combination between the constructionist approach that may connect students to their individual goals and passions with e-learning to ensure some understanding of low-level skills and basic understanding of issues seem an important balance. The goal is to create environments where dialogue and critique use 'higher order skills such as problem solving and self evaluation' (Schweitzer and Stephenson 2008 p. 587) and where students are active in constructing their own knowledge. These discussions can be enhanced when students have mastery of specific design language, empathy for design history and skills in production that can be provided and tested in high quality e-learning.

How is learning and teaching design easy? Conclusion
Where historically the lecturer talked from their particular understanding of knowledge and issues now there is incredible raft of support mechanisms that can provide students with multiple influences and allow them to individualise their

learning and find their niche. Information is available on professional practice through professional bodies, on software skills by comprehensive tutorials and online articles and documentaries covering processes and design thinking. There is also support from personal niche communities of practice in blog, forum, wikis and specific design orientated social media hubs where students can get critiques on their work, feedback and encouragement. Lastly there are many layers of professional engagement though competitions, conferences, crowd sourcing and freelance connections within networks. These opportunities widen the scope that could not be provided by one lecturer and certainly allows students to start engaging in aspects of the industry as they learn.

Constructivist pedagogy is highly energised by the availability and potential of these resources and opportunities, though many students may not independently engaged in them in a systematic way without the support and motivation of 'a guide, coach, motivator, facilitator and co-ordinator' (Jones 2003 p. 2). The question still remains as to what the person who provides these roles needs to understanding about the specific design content.

It is possible that the process of learning might be more about what was proclaimed in 1818 by Joseph Jacotot (in Jacques Ranciere's book the *Ignorant School Master*) where Jacotot taught a course without being able to speak the language the students spoke. Jacotot was a constructivist who emancipated the learner to take personal responsibility by encouragement but not through teaching or explaining because he said 'to explain something to someone is first of all to show him he cannot understand it by himself. Before being the act of the pedagogue, explication is the myth of pedagogy' (Ranciere 1991 p. 6).

Jacotot observed the frustration of teachers, who when their students did not gain understanding of particular topics tried to 'find new ways to explain it to him, ways more rigorous in principle, more attractive in form' (Ranciere 1991 p. 8) though this seems a continual and frustration loop. The emancipation is not necessarily an easy thing and many students need the scaffolding and encouragement of the lecturer but they don't need them to be taught to or at. Jacotot was so enlightened by his way of enabling learners to learn he dogmatically stated, 'Whoever teaches without emancipation stultifies' (Ranciere 1991 p. 18). This is a scary realization if it is true and needs further discussion and research to resolve issue as it applies to design and to our students.

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