Reducing the gap between design academics and online learning developers: understanding design academics’ perceptions toward online learning in the delivery of design studio classes
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Abstract
Advanced technologies have made significant changes in our daily life, and these changes also affect the use of technologies in the delivery of Higher Education. Currently, most Australian universities engage some degree of technology in the delivery of their face-to-face curricula, while the implementation of online learning in Higher Education is still new. The literature indicates that online learning provides flexible/convenient learning opportunities for students who cannot attend on-campus courses, to expand or change their career paths, and this is one of the benefits of using online learning in Higher Education. Nevertheless, the implementation rate of online learning in design education is low, and this is likely to be linked to the design academics’ fear of using online learning in delivering practice-based curriculum. This paper investigates the perceptions toward online learning, specifically Australian academics, in the fields of communication/graphic design.

Online learning; Design Education; Studio-based learning.

Advanced technology and the Internet have influenced the way we interact with people, and acquire knowledge (Bennett, 2009). As a result, students’ expectations towards Higher Education are changing and are different to the past. The types of students engaging or re-engaging with higher education are more diverse and, the ways in which students interact and engage with their institutions are also changing. These changes have further influenced universities to consider using online platforms to deliver their curricula. However, the increasing attention in the delivery of online learning often parallels with the academics’ fear factors. Specifically in design education, where ‘studio-based learning’ forms a centerpiece to the way in which design education is taught, there seems to be a negative view of moving towards an online learning model (Souleles, 2011).
Understanding the academics’ viewpoint is important (Mahdizadeh, Biemans and Mulder, 2008), as it can help universities and online learning developers understand their concerns in the use of online learning, and ultimately understand where significant deficiencies may lie. In order to investigate academics’ opinions towards online learning, a semi-structured online questionnaire was conducted among thirty Communication Design academics in Australian universities.

**The role of studio-based learning in design education**

A large volume of literature highlights studio-based learning as being a crucial element in the delivery of design education (Oxman, 2003; Park, 2011; Park, 2008; Broadfoot & Bennett, 2003; Demirbas & Demirkan, 2007; Hill, 2007; Dutton, 1987; Anthony, 1991; Demirbas, 2001; Kuhn, 2001). In this format, students practise their design skills and acquire new skills in the process of executing a design project, and also share their processes and practices with others (Park, 2008).

‘Learning by doing’ is amongst one of the most well-known learning approaches to describe studio-based learning (Drew, 2007; Schon, 1987), and it often is used interchangeably with other terminologies, such as ‘experiential learning’. These terminologies have minor differences in their meanings, but share the same main focus.

The literature also indicates other essential elements within studio-based learning, such as:

- Strong interactions and collaborations between people (Drew, 2007; Hill, 2007; Smith, 2011; Thomas and Jia, 2004; Dutton, 1987)
- Students working within a problem-based setting (Kvan, 2001; Bennett, 2009; Adiloglu, 2011)
- An emphasis on creative thinking and idea generation (Wang, 2010; Drew, 2007; Zehner, Forsyth and Musgrave, 2009; Hill, 2007)

A number of authors also cite Schon’s (1987) ‘Reflection-in-action’ as a way of framing studio-based learning, which points to the process of acquiring both theoretical and practical skills through the reflection of engagement between an instructor and student with physical artifacts. However, as compared to the indicated elements above, this framework has received less attention as a key element in delivering studio-based learning. This may be due to the overlapped process of ‘Reflection-in-action’ with the one-to-one interaction between instructors and students while physically interacting with artifacts.

Historically, L’Ecole des Beaux Arts and the Bauhaus schools in the early 20th Century influenced design education through the use of studios, which still remain strong today in contemporary design education (Anthony, 1991; Bennett, 2009; Broadfoot & Bennett, 2003; Hill, 2007; Hauffe, 1998; Park, 2011). In other words, the contemporary studio-based learning setting has not changed dramatically in almost a century.
Indeed, there are some minor changes that have transpired in the use of technologies to support the face-to-face studio-based learning. However, the use of technology to deliver studio-based learning is very limited. Drew (as cited in Souleles, 2011) stated that it is a slow process to adapt an online learning in design education. For example, the most popular technologies in the delivery of studio-based learning in Communication Design curriculum are emails and Learning Management Systems (specifically, Blackboard). Blogs and other social networking sites are also used (e.g. Facebook and Flicker), but it is not the common case for many institutions.

The use of online learning in higher education continues to make significant changes, but why is design specifically slow to adapt and embrace this change? Souleles (2011) stated that most of his art and design colleagues had either suspicious or negative views about using online learning in delivering design education, because of the nature of practice-based discipline. However, more broadly there is limited research to understand design academics’ perceptions toward online learning, specifically in Communication Design. Anecdotally, the most common perception is that the ‘master/apprentice’ model of studio-based learning is still the most effective way to teach design, and that this cannot be replicated in an online format.

In contrast to the use of online learning in design education, we are now living in an era where everything is pretty much possible digitally via the Internet. These rapid technological changes influence students’ expectations towards Higher Education. As a result, the number of online learning students (off-campus) has increased in USA and Australia (Allen and Seaman, 2013; Norton, 2013). Moreover, there is growing amount of research in the delivery of online learning in Higher Education. A large numbers of literature indicate the benefits of using online learning, and one of the most well-known strengths is that the use of online learning allows students to study in a flexible learning environment which facilitates access and learning anytime and anywhere (Li and Irby, 2008; DealIII, 2002; Lam and Bordia, 2008; Smart and Cappel, 2006; Hammonds, 2003; Nagel, Maniam and Leavell, 2011).

However, most of the literature is currently focused on the delivery and evaluation of online learning. Only several authors such as Liaw, Huang and Chen (2007), Yuen and Ma (2008) and Mahdizadeh, Biemans and Mulder (2007) investigate teachers’ and students’ attitude toward technology and online learning. Liaw, Huang and Chen (2007) in particular, identified that teachers have sufficient knowledge and skills in using technology and e-learning, and they were also positively inclined to utilise e-learning, online instruction and the Internet as a learning assisted tool. This study could be a starting point of debate over the Souleles’ (2011) opinion that design academics have negative viewpoint towards online learning. Nonetheless, the focus of the study (Liaw, Huang and Chen, 2007) is not specifically within the design education field, and furthermore is not on a fully online learning.
Research Questions and Research Methods

This paper focuses on Communication Design academics’ perceptions toward the use of online learning to deliver studio-based classes, and further investigates the reasons for their perceptions. The key research questions are following:

- Do Communication Design academics have a negative bias towards online learning?
- If so, what are the reasons?

To understand Communication Design academics’ viewpoints, an online questionnaire was conducted, as it was the most relevant tool to collect data from participants who are geographically dispersed (Sarantakos, 2013; Cohen, 2013; Sue and Ritter, 2007). The semi-structured online questionnaire contained both open- (qualitative) and close-ended (quantitative) questions, but the focus of the online questionnaire is in qualitative data. In other words, the intention of gathering the online questionnaire is not to generalise the collected information. In total, a hundred and forty-two communication design academics, identified from twenty-two Australian Universities, were invited to participate in the online questionnaire via email. Thirty participants completed the questionnaire but only twenty-eight of the participants considered themselves being experienced in delivering studio-based classes. Due to this reason, a total of twenty-eight participants’ opinions were collected and analysed.

Findings

In analysing the data, descriptive (for quantitative data) and thematic analyses (for qualitative data) were applied. The data addressed both research questions, and also further helped to identify the importance of studio-based learning in Communication Design education.

Studio-based learning in an online learning format

All twenty-eight participants believed that studio-based learning is a central and critical aspect of Communication Design education. This result aligned with previous literature as identified above. Only six participants believed that Communication Design studio classes could be taught on a fully online format. Twenty-two participants suggested it could not be taught in a fully online environment. This result confirms Souleles’ view (2011), while it contradicts what Liaw, Huang and Chen (2007) identified, as the majority of teachers were positive about the use of online learning as a learning assisted tool. As being pointed above, the difference may arise because Liaw, Huang and Chen’s (2007) study is not particularly focused on design education.

The data analysis further illustrated a few major themes to explain the communication design academics’ perceptions. The negative bias towards online learning was mainly explained through four reasons: theme 1) a lack of social interaction between students, their peers and
instructors, theme 2) the potential for missing elements in the process of designing and theme 3) the potential to have limited experience. Further details about each theme is discussed below:

**Theme 01. A lack of social interaction**

One of the common perceptions among communication design academics was that the delivery of studio-based learning in a fully online environment is limited in its ability to facilitate social interaction. Participants felt that a fully online environment would not be able to create the same dynamic environment for conversation, sharing ideas and critiquing of each other’s work. All of these were considered important aspects of studio-based learning in communication design. In particular, participants were concerned about a lack of synchronous engagement that facilitates instant interaction in the delivery of studio-based learning. The opportunity for students to receive instant, spontaneous feedback (as well as more formal feedback as part of assessment) was seen to be important as a means of reflecting upon their practice (Schon, 1987). Participants further highlighted that having a text-based discussion in a fully online learning environment would create difficulty for students during the process of engagement, because the delivery of intonation and facial expression did not happen spontaneously as in the face-to-face studio environment. This means, based on the perceptions of communication design academics, students would work independently in the online learning format with less/limited support and interaction from others.

The literature indicates that social interaction is a significant aspect of studio-based learning (Drew, 2007; Hill, 2007; Smith, 2011; Thomas and Jia, 2004; Dutton, 1987). More specifically, the face-to-face studio environment enables students to have personal interaction, collaboration and reflection in a physical environment. In this environment, students observe each other’s work and implicitly understand the way in which students approach certain problems. As a result, losing social interaction could affect students’ ideation and developmental processes.

**Theme 02. Missing elements in the process of designing**

As the literature in the earlier section indicated, ‘Learning by doing’ (Drew, 2007; Schon, 1987) and ‘Creative thinking’ (Wang, 2010; Drew, 2007; Zehner, Forsyth and Musgrave, 2009; Hill, 2007) are the nature of delivering studio-based learning. However, the communication design educators who participated in the online questionnaire had perceptions that the use of online learning will remove these elements.

Specifically, the biggest concern raised was the fear of losing experiential learning experience, which allows design students to interact with physical materials (tactility) and learn from ‘hands-on’ experience. In other words, communication design academics believed that online design students are working with a less hands-on process, without physical
materials. Creativity was also part of the concerns and in many ways, this also relates to the potential lack of interaction and social engagement. While participants did not suggest that students might be less creative, the view was that students would be less able to explore creative processes and implement them as part of their overall design processes.

**Theme 03. Limited experiences**

Overall, communication design educators believed that the use of a fully online environment would limit students’ experience both at personal and technical levels. In terms of personal level, the most common perception was that students’ experience would be mediated and isolated in an online environment. Communication design educators’ belief that students are being isolated in the online studio may have been influenced by the perception that online learning limits the delivery of dynamic ‘social interaction’ (Theme 01) ‘experiential learning’ (Theme 02). In other words, the above perceptions (Theme 01 and 02) in an online learning environment might lead to an overall deficient experience. In terms of technical level, the common concern was that online students would be over-dependent on the technology. Their experience will be dependent on their individual capacity to use online tools, suggesting that students’ experience will differ more greatly in a fully online environment. That is, communication design academics believed that online learning is different to the contemporary face-to-face learning environment, and it leads to students having a limited experience.

To compare the identified reasons with the literature, the fear or negative perception of communication design academics was influenced by their perceptions that the important aspects (i.e. ‘social interaction’, ‘experiential learning experience’ and ‘creative thinking’) of delivering studio-based learning would be difficult to transfer in a fully online environment. These perceptions also made the participants believe that the delivery of online learning provides limited experience for design students in the process of learning.

**Conclusion**

The growth of new technology in education, along with changing expectations of students means that online learning cannot be ignored. In the field of Communication Design, there is still a traditional view that design, specifically the studio learning experience, which is mainly central to design education, cannot be successfully replicated in an online environment. My research intends to understand the reasons for this perception among Communication Design academics. By having a greater understanding of the potential challenges of delivering Communication Design curriculum, the research will enable online course developers to address the identified challenges.

The research shows that Communication Design academics expect to deliver the same quality of process and experience as the contemporary physical studio-based learning in the online learning format. However, most believed this could not achieved in a fully online
format or environment. Three main reasons were highlighted to understand their negative perception: 1) a lack of social interaction, 2) the potential for missing elements in the process of designing and 3) the potential to have limited experience. Further analysis will be required to address how these concerns can be solved, particularly if universities are planning to shift design courses into an online learning format.

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