



Linguistic and cultural perspectives on globalised design education

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Abstract

In an increasingly globalised world, design educators face challenges of complex linguistic and cultural differences in their studios and critique systems. While general issues relating to globalisation and education have been discussed in past research, this paper is focused on improving the teaching and learning environment created by design educators in terms of perceptions on linguistic and cultural differences. Using interviews and focus group data from 56 participants, pedagogical themes are identified and categorised in terms of four pedagogical perspectives: (i) applying multicultural teaching and learning strategies, (ii) accommodating, encouraging and respecting diversity, (iii) ensuring equity and transparency, and (iv) building a supportive school culture. Within each perspective, the interview themes and supporting excerpts are used to suggest strategies and ideas to overcome linguistic and cultural barriers. This paper contributes to improvements in design education for a globalised world, as well as to improving teaching and learning for diverse student cohorts.

Keywords Design education · Globalisation · Focus group interview (FGI) · Linguistic difference · Cultural diversity · Design communication

Introduction

The relationship between design and language is a complex one that is often forgotten in debates about a globalised workforce and educational system. For example, Richard Florida (2002) argues that the architecture and design professions are central to an economic revolution driven by creativity, because of their capacity to work without conventional borders and to communicate in the seemingly international language of design. The so-called ‘creative class’ comprises large, international design teams, apparently communicating through a linguistically transparent combination of various levels of English expression,

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sketches, models and computer graphics. But rather than being a ‘universal’ panacea for linguistic and cultural differences, design is a by-product of individual mental and representational models which are largely shaped by a person’s native language (Munnich and Landau 2003). This is because a person’s native language is not just a spoken or written system, it also shapes how they use and understand drawings, diagrams, models and computer graphics. This same assumption—that design is a universal language—is also embedded in current education systems, where it is used as a rationale to accommodate significant growth in international student numbers. This is the catalyst for the present paper, which investigates student and academic responses to, and beliefs about, the linguistic and cultural challenges endemic in design education.

Past pedagogical research confirms that students not only have different learning styles, approaches, and skills (Felder and Brent 2005), but that architecture and design students face particular challenges associated with being enculturated into a specific design school and a studio system (Strickfaden and Heylighen 2010). Moreover, architecture and design schools are multi-lingual environments (Heugh 2018) and international students studying in creative disciplines face significant linguistic and cultural challenges because of the impact of native language on design cognition and communication (Ostwald and Williams 2008; Williams et al. 2010). In particular, models of design education, which are founded in a design studio culture and the use of public critique systems, focus attention on verbal language skills in such a way as to significantly disadvantage international students (Anthony 1991; Nicol and Pilling 2000; Stevens 1998; Tucker and Ang 2007). Indeed, verbal skills are central to the way designers engage with and describe the built environment (Strickfaden and Heylighen 2010).

To further complicate this issue, design educators also use domain-specific design language or jargon to talk about style, form, shape and aesthetics. The language that educators use is also shaped by their memories and learning experiences (Strickfaden and Heylighen 2010). When viewed collectively, such past research emphasises the importance of language in design education; however, the secondary realisation that design language may shape design itself, and vice versa, is less commonly observed (Lee et al. 2019; Dong 2009; Lloyd et al. 1995). Thus, the problem is not only that the studio environment and creative assessment are so reliant on linguistic skills, but also that language as a system is a reflection of the way people think and of their sociocultural values, both of which are central to the process of design (Choi et al. 1999; Gerrig and Banaji 1994; Gleitman and Papafragou 2005). It is this compound realisation that is the catalyst for the present paper.

This paper firstly identifies four linguistic and cultural perspectives on globalised design education drawn from literature, and then develops a series of recurring themes in each pedagogical perspective. The themes are developed from two sets of interviews, including five focus group interviews (FGIs) with 17 academics from four institutions and interviews with 39 students drawn from three cultural groups. All of the participants’ responses are categorised into themes and discussed in terms of their linguistic and cultural perceptions of design education. Finally, the paper concludes with a discussion and directions for future research.

Pedagogical perspectives on globalised design education

Globalisation poses both a fundamental challenge and an opportunity for the higher education sector (Scott 1998, 2000). Universities must be able to prepare students for employment in complex global work environments and therefore internationalisation of

the curriculum is an important part of a student's learning experience (Green and Mer-tova 2016). In addition to the conventional dimensions identified as important in multicultural teaching and learning strategies, developing a capacity to find employment, operate as a professional in the design industries, and engage in ethical citizenship are also important. A globalised model of design education essentially addresses the development of the skills, knowledge and abilities required for a graduate to engage productively with the world. Design is a transformative, socially engaged form of practice. Design education should provide a platform from which that practice can grow (Mendoza and Matyók 2013 p. 215). In this context, our perceptions of globalised design education can be categorised into four pedagogical perspectives: (i) applying multicultural teaching and learning strategies, (ii) accommodating, encouraging and respecting diversity, (iii) ensuring equity and transparency, and (iv) building a supportive school culture.

Applying multicultural teaching and learning strategies

The first pedagogical perspective used to structure the analysis of the results is associated with the need for *multicultural teaching and learning strategies* in response to internationalisation. Dynamic teaching and learning strategies that empower students and acknowledge their individual needs and differences are an ideal starting point for supporting international students in design education. Student-centred learning could be seen as active learning, or as arising from choice in learning and the shift of power in the teacher–student relationship (O'Neill and McMahon 2005). Past research has identified that not only do students have diverse learning strategies and preferences, but that some of these are directly shaped by individual linguistic and cultural differences. For example, Asian students often present deep motivations for learning, but adopt only surface pedagogical strategies, whilst Australian students demonstrate more frequent use of deep learning strategies but with only surface motivations (Ramburuth and McCormick 2001).

Accommodating, encouraging and respecting diversity

The innate diversity present in student cohorts is central to creativity, innovation and sustainable development in design practice (Moalosi et al. 2016). Thus, design educators not only need to acknowledge diversity, but seek to accommodate and support it. Not only do design students in many universities come from a diverse range of backgrounds, but to prepare graduates for a global workplace this diversity needs to be recognised (Mendoza and Matyók 2013). Civitillo et al. (2018) categorise five beliefs about what cultural diversity in education is: (i) cultural self-efficacy; (ii) cultural context and environment; (iii) cultural content or knowledge; (iv) culturally sensitive teaching practices or approaches; and (v) culturally diverse students and their families. In the context of design education, diversity not only refers to obvious linguistic and cultural differences, but also differences in student learning styles, approaches to learning (surface, deep and strategic) and intellectual development levels (Felder and Brent 2005). When examining the needs of a diverse student cohort it is crucial to understand the cultural differences that are seen when creating, developing and applying new knowledge (Li et al. 2016).

Ensuring equity and transparency

The increasing diversity in schools is one of several potential impediments to ensuring educational equity (Florian 2009). There have been many important studies on ‘equity pedagogy’ (Cherry and Banks 1995; Cochran-Smith et al. 2016; Mueller and O’Connor 2007; Nieto 2000), while inequity or inequality is still a major issue in the multicultural education sector. Cochran-Smith et al. (2016) suggest four tasks to address equity: (i) conceptualizing inequality/inequity and teacher education’s role, (ii) defining practice for equity, (iii) creating equity-centred programs tailored to local history of inequality, and (iv) researching equity-centred teacher education. In this way, not only is *accommodating, encouraging and respecting diversity* essential in a globalised teaching and learning environment, but at the same time achieving *equity and transparency* is fundamentally critical to any pedagogical system. As a process, education is fundamentally concerned with emancipation, equity and transparency. Education provides students from all backgrounds with an opportunity to access new knowledge, skills and opportunities. To support these goals, design education must be clear in its communication, consistent and transparent in its application and accountable in its results.

Building a supportive school culture

Design education needs to successfully build an interactive, *supportive school culture*, highlighting student values and relationships in studio settings. Such a culture has the potential to provide the motivation for students to achieve their learning goals (Reeve 2013). The design studio is typically positioned at the heart of education in the creative disciplines (Brandt et al. 2013; Strickfaden and Heylighen 2010; van Dooren et al. 2017). Each design studio features a distinct culture with its own values, beliefs and actions (Strickfaden and Heylighen 2010). The studio is the environment that promotes the adoption of language codes, stylistic preferences and design methods (Strickfaden and Heylighen 2010). The studio not only bridges between professional and academic communities of practice (Brandt et al. 2013), but it develops and shares design domain-specific language and communication skills. For example, discussions in a studio course allow students to be aware of possible diverse readings of space (Öztürk and Türkan 2006).

Methodology

This research records and examines academic and student perspectives on globalised design education. The method involves two sets of interviews, (1) focus-group interviews (FGIs) with academics and (2) face-to-face interviews with students, at four architecture and design schools in Australia: The University of Newcastle, The University of South Australia, Deakin University and RMIT University. All interviews were semi-structured, starting with a list of open-ended questions in order to give participants the opportunity to discuss the effects of language in teaching and learning, and the language support available to architecture and design students.

The 17 participants in the five FGIs were drawn from all academic levels, ensuring a cross-section of views. The results were used to determine if academics are aware of any barriers faced by international students and to identify any strategies they have employed to

support or improve teaching and learning in this context. The face-to-face interviews were conducted with 39 students enrolled in Master of Architecture programs at the participating universities. In order to capture both domestic and international student perceptions, this study differentiates three linguistic and cultural groups of students: (i) 16 Australian students whose first language is English, (ii) 14 international students from Asian countries or regions where English is an official language in their home nations, and (iii) nine international students from Asian countries or regions where English is not used as an official language. Student interviews were designed to capture individual experiences of the use of language in learning and teaching in design education and to understand the impact of linguistic and cultural differences on individual learning experiences.

The interviews were recorded (audio only) and transcribed for in-depth analysis. All responses were summarised into major themes and their frequencies determined. According to the frequency, each theme is identified with a four-range scale. For example, FGI data from 17 academic participants uses the following scales: 'very high' (response from more than 14 participants), 'high' (response from between 11 and 14 participants), 'medium' (response from between 7 and 10 participants), and 'low' (response from between 3 and 6 participants). These ranges provide an indication of the prevalence of each theme in the interviews. Finally, the results were categorised in accordance with the four conceptual perspectives identified previously.

Findings

From the interviews with academics, responses associated with 11 academic themes (A1 to A11 in Table 1) are identified and categorised in accordance with the four perspectives. The highest frequency response, which suggests the need to employ various strategies to address the language barrier, is linked to the first perspective, 'applying multicultural teaching and learning strategies'. The next most common themes include 'dynamic strategies

Table 1 Academic themes categorised by four perspectives

Perspective	Academic theme (<i>Frequency</i>)
Applying multicultural teaching and learning strategies	A1. Employing strategies for addressing language barriers (<i>very high</i>) A2. Dynamic strategies empowering students (<i>high</i>) A3. One-on-one instruction in design education (<i>high</i>)
Accommodating, encouraging and respecting diversity	A4. Differences among students in behaviour and language ability (<i>high</i>) A5. Cultural aspects of prior learning (<i>high</i>) A6. Linguistic limitations creating specific challenges for students (<i>high</i>)
Ensuring equity and transparency	A7. Design communication through different kinds of languages (<i>medium</i>) A8. Overcoming the problems of isolation or cultural difference (<i>low</i>)
Building a supportive school culture	A9. Linguistic and academic supports (<i>medium</i>) A10. Building trust networks between students, as well as teachers and students (<i>medium</i>) A11. Critical engagement and interaction (<i>low</i>)

empowering students' and 'one-on-one instruction in design education'. The interviews also highlight the second perspective, 'accommodating, encouraging and respecting diversity' with three common themes arising: acknowledging differences between domestic and international students in behaviour and language ability; cultural aspects of prior learning; and language barriers creating specific challenges for students. Academics identify five themes across the last two perspectives, 'ensuring equity and transparency' and 'building a supportive school culture', but there is more limited consensus on these themes.

Table 2 describes sub-themes and relevant strategies according to each academic theme. First of all, most academics employ various strategies to address language barriers, for example, incorporating cultural perspectives and modifying language. They also consider various strategies for teaching and delivery to meet the needs of a diverse student cohort. As for the second theme, 'dynamic strategies empowering students', academics suggest the need for teaching competency in empowering students and intuitive, reflective, and

Table 2 Academic sub-themes and strategies

Academic theme	Sub-themes and strategies
A1. Employing various strategies for addressing language barriers	Using strategies to address language barriers (e.g., incorporating cultural perspectives, modifying language) Teaching and delivery to meet diverse audiences
A2. Dynamic strategies empowering students	Competency in empowering students Intuitive, reflective, and experiential strategies
A3. One-on-one instruction in design education	One-on-one language support service Dynamic and multicultural tutorial grouping
A4. Differences among students in behaviour and language ability	Differences between domestic and international students Individual differences in language and design skills Language barriers creating differences
A5. Cultural aspects of prior learning	Cultural dimension of design students Different cultural values embedded in languages Critical thinking skills
A6. Linguistic limitations creating specific challenges for students	Difficulty in understanding requirements and feedback Challenges in communicating ideas in tutorials, writing and presentations
A7. Design communication through different kinds of languages	Challenges posed by different modes of communication Opportunities for developing academic skills using different languages
A8. Overcoming the problems of isolation or cultural difference	Creating social opportunities and incorporating other cultural perspectives
A9. Linguistic and academic supports	The importance of support The difference between linguistic and academic support Academic support for every student
A10. Building trust networks between students, as well as teachers and students	A set of supportive, inclusive and interactive relationships Becoming culturally respectful
A11. Critical engagement and interaction	Considering 'saving face' as a cultural issue

experiential strategies. They also highlight the use of one-on-one language support and dynamic and multicultural tutorials grouping in design education.

The first theme of the second perspective, 'A4. Differences among students in behaviour and language ability', addresses the differences between domestic and international students, individual differences in language and design skills, and language barriers creating differences. As for the next theme, 'cultural aspects of prior learning', academics raise three sub-themes: (i) the cultural dimension of design students, (ii) different cultural values embedded in languages, and (iii) critical thinking skills. Linguistic limitations are related to difficulty in understanding requirements and feedback as well as challenges in communicating ideas in tutorials, writing and presentations.

Academics' perceptions collated in the category 'A7. design communication through different kinds of languages' can be categorised into two sub-themes, challenges posed by different modes of communication and opportunities for developing academic skills using different languages. Overcoming the associated problems of isolation or cultural difference can be achieved by creating social opportunities and incorporating other cultural perspectives. 'A9. Linguistic and academic support' starts by acknowledging the importance of support and the difference between linguistic and academic support. To build 'trust networks' in design schools, academics indicate that creating a set of supportive, inclusive and interactive relationships and becoming culturally respectful is important. Finally, as for 'critical engagement and interaction', 'saving face' is regarded as a cultural issue.

From the student interviews, 12 student themes (S1 to S12 in Table 3) are identified and categorised in accordance with the four perspectives. Four of the themes, ranging from high to very high in frequency, are grouped into the first perspective and represent domain-specific thoughts. For example, both domestic and international students identify the complexity of the language used to describe design. Both architecture and design have their own languages (with both complex technical and philosophical terms) and, regardless of

Table 3 Student themes categorised by four perspectives

Perspective	Student theme (<i>Frequency</i>)
Applying multicultural teaching and learning strategies	S1. Acquisition of design language and multiple skills for design programs (<i>very high</i>) S2. Learning experience shaped by tutors, tutorials, and the composition of groups (<i>very high</i>) S3. Developing design domain-specific verbal and visual language (<i>high</i>) S4. Developing confidence in design presentations (<i>high</i>) S5. One-on-one instruction (<i>medium</i>)
Accommodating, encouraging and respecting diversity	S6. Different levels of abilities and diverse starting places in design education (<i>high</i>) S7. Linguistic limitations (<i>high</i>)
Ensuring equity and transparency	S8. Sympathy and misunderstanding (<i>high</i>) S9. Clear communication between teacher and student (<i>high</i>)
Building a supportive school culture	S10. Learning and understanding the value placed on original and critical thinking (<i>high</i>) S11. Social opportunities to make cross-cultural friendships (<i>high</i>) S12. Everyone being concerned with saving face (<i>low</i>)

students' native languages, learning this new domain-specific design language is critical for their success.

Students also acknowledge several similar themes to their academic counterparts, including different linguistic capacities and abilities. Student themes (S6 to S9) in 'ensuring equity and transparency' and 'building a supportive school culture' identified by students are also very similar to the academic themes (A4 to A8). However, students identify two interesting themes about the relationship between students: 'sympathy and misunderstanding' and 'learning and understanding the value placed on original and critical thinking'. Table 4 describes sub-themes and relevant strategies according to each student theme.

As explained previously, the themes identified by academics and students can be jointly categorised and discussed in terms of the four perspectives. Thus, the following sections further examine academics' and students' perceptions of globalised design education in

Table 4 Student sub-themes and strategies

Student theme	Sub-themes and strategies
S1. Acquisition of design language and multiple skills for design programs	Developing skills for intense and challenging design programs Overcoming language and cultural barriers
S2. Learning experience shaped by tutors, tutorials, and the composition of groups	Tutors, tutorials, and the composition of groups supporting the experience and success of students in design education
S3. Developing design domain-specific verbal and visual language	Learning and using domain-specific vocabularies
S4. Developing confidence in design presentations	Overcoming anxieties over design preparations Being confident in presentations and critiques
S5. One-on-one instruction	One-on-one learning and support Challenges in tutorial groups
S6. Different levels of abilities and diverse starting places in design education	Considering students with multiple and diverse backgrounds and varying skills in English. Engaging and collaborating with students from diverse backgrounds
S7. Linguistic limitations	Language barriers sometimes indistinguishable from cultural barriers Cultural challenge embedded in the curriculum
S8. Sympathy and misunderstanding	Acknowledging the difficulties that international students experience Developing a collaborative, mixed studio environment
S9. Clear communication between teacher and student	Clear statements and design briefs, and clarity about submission Addressing the problem of misunderstanding
S10. Learning and understanding the value placed on original and critical thinking	Adjustment from a pragmatic approach to aesthetic and creative emphasis in design education Adopting the discursive form of learning
S11. Social opportunities to make cross-cultural friendships	Providing opportunities for domestic and international students to meet and interact with one another Making friends or working together across cultures
S12. Everyone being concerned with 'saving face'	'Saving face' as an explanation for particular behaviours associated with international students

terms of four linguistic and cultural perspectives, along with supporting excerpts from the interviews.

Applying multicultural teaching and learning strategies

Academics' perceptions

Academics interviewed in the present study employ various strategies for addressing individual language barriers in lectures, group instruction or one-on-one consultation. While intercultural learning opportunities for students are only rarely offered, academics report general success with strategies that seek to incorporate other cultural perspectives in a tutorial-based discussion, design studios, modules in construction, communication, and even urban design. For example, academics report spending more time during and after class with particular students, modifying their verbal delivery of information, or translating abstract concepts into visual data, to assist communication.

Most importantly, academics identify that there is a need for teachers to achieve competency in understanding how to empower students, while acknowledging that strategies used by academics are often an intuitive response to a problem, rather than based in training or information. For example, one academic uses a normalising strategy and explains:

In one of the studios we had three separate contexts, and then people could identify whichever context they felt was 'normal'. Then they were the expert of that 'normal'. So, in one case, we had Hong Kong as a context, so the students could be expert in that and then students that didn't have that context would then go and have to ask the overseas students—because that was their 'normal'.

Normalising cultural diversity is a powerful strategy to support international students.

The practice of intercultural teaching and learning is not widely acknowledged by academics in the interviews, but it is regarded by some as the most likely strategy to be successful in supporting international students in an Australian educational environment. In another example, an academic describes an inter-school initiative designed for this purpose:

I conduct a study tour that's intercultural, that's a collaborative design education platform, and [our university] students have to work collaboratively with [other university] students from different countries, so they do have language barriers and cultural barriers. What has worked for me is to provide them with some skills to cross that bridge, so they have an icebreaker activity before they actually engage in the task. We use scaffolding to introduce the concept of intercultural learning or learning preferences or communication style.

This 'icebreaker' strategy not only supports a better understanding of how each different cultural group prefers to communicate, convey and engage, it also improves the students' learning experience.

Students' perceptions

In contrast, students perceive that architecture and design programs are intense and challenging, because they are struggling to learn a new design domain-specific language and multiple visual presentation skills. In addition, language and cultural barriers do fundamentally exist in our educational systems. As a domestic student notes:

The language of architecture is quite complex. A lot of the time, you think, one word means a certain thing ... but in architecture it's a bit different. So you have words you probably haven't heard before like 'phenomenology' or 'deconstructivism', and I think for anyone it would be quite daunting to begin with.

The design domain-specific language is obviously a barrier encountered by many students. It is characterised by complex specialised vocabularies and the use of common words with specialised design related meanings. Understanding and applying those conventions into parallel visual languages—such as plan drawing, detailing and diagramming—also presents a challenge for students. In particular, design presentations for assessments are a source of anxiety for students who feel they lack the skills to present confidently.

Both academics and students suggest that one-on-one instruction is currently the most effective form of language support in design education. However, this argument is also criticised by both domestic and international students because it results in an unfair allocation of time by tutors, as some international students may require much more time (because of language difficulties) or accept much less time (as a result of being less willing to present in front of others), in tutorials.

Accommodating, encouraging and respecting diversity

Academics' perceptions

Academics identify the linguistic limitation experienced by students as a clear teaching challenge in architecture and design. In particular, they observe that there is a general difference between domestic and international students in terms of behaviour and linguistic ability. For example, one identifies differences in 'clarifying and communicating ideas' between domestic and international students in the design studio. However, academics point out that not all international students experience these difficulties, and some domestic students experience similar problems related to language and design. As one academic remarks:

in my experience of teaching, particularly in design studio, there's some language issues based on whether or not English is your first language, there's a few issues around that, but aside from that, I don't think there's any difference in whether or not an international student is able to understand a concept better or to a lesser extent than a domestic student, I have no hesitation in saying I don't think there's any difference.

Regardless of whether or not there are clear differences between domestic and international students, academics highlight that language and culture remain an issue. Interviewees identify that some behaviours that might be attributed to language difficulty may in fact be better described as cultural differences. They point to language, and its embedded

cultural concepts, as personality-defining. Values such as deference, obedience, hierarchy, egalitarianism, respect for tradition, and honour may all be constituted in language in unconscious ways. Moreover, cultural aspects of prior learning—for example, seeking binary yes/no answers, learning by rote and respect for authority—can complicate teaching and learning among international students. Furthermore, teaching international students who lack basic critical thinking skills can be the hardest problem to address in design education. Linguistic limitations also pose specific challenges for students, from difficulty in understanding what is required in a task or interpreting feedback, to challenges in communicating their ideas in tutorials, written assignments and design presentations. For example, a lecturer says:

I think the student who is more comfortable with language and especially communication, is better able to test their ideas, whether that be graphically or verbally, and get verbal or written feedback on it before it gets to a formal assessment point.

While recognising the need to support and develop critical thinking skills for students, academics tend to rely on the transposition of written and verbal information into visual formats as the principal means of aiding student learning.

Students' perceptions

International students have different levels of abilities in language and architecture and they come from diverse starting places in design education. Their only commonality is that they are not native residents in the country. However, an international student strongly argues that this is a positive situation.

Coming from a different background has a different impact on your design because you see things differently. You live differently. I think that's one of the reasons why you would study abroad too, because you would want that exposure and that mix of culture which is good for architecture. The world is full of other people not just you.

In the meantime, students keep searching for a way to apply their past knowledge and cultural experience—something that they gained from their home countries—to new educational environments. Students also identify that language and culture are linked, and linguistic limitations are sometimes indistinguishable from cultural differences. In addition, languages do not always translate easily from one to the other. One salutation to some of these challenges is to realise that cultural memory can be used to develop creative ideas and solutions (Moalosi et al. 2016). Designers spontaneously develop their drawings from their memories and experiences (Strickfaden and Heylighen 2010).

Ensuring equity and transparency

Academics' perceptions

Academics identify a number of different languages available to them as teachers, including visual language, verbal communication and professional terminologies used in architecture and design. Adopting a diversified design communication approach that uses different kinds of language is one important way to support clear, consistent and accountable teaching activities. The problem of spoken language is identified as a challenge for

international students, even though it may be supported by other languages. For some academics, the multiple languages drawn upon in design are its key characteristic. One observes:

I think design is more intuitive because it involves more than one mode, it's multi-modal, it's text-based as well as visual, so for me, when we say a word like language, it doesn't necessarily mean spoken or written or alphabetical. For me, if you're using the spoken language—which is good for the speed of transferring—that's where I think an ESL [English as a Second Language] student is at a disadvantage, because in a lecture format, you're really just transferring virtually everything verbally.

In addition, academics suggest that creating social opportunities can give all students the chance to meet one another. This helps to overcome the problems of isolation or cultural difference experienced by many international students. Changing course content to incorporate other cultural perspectives also helps to address the need for 'ensuring equity and transparency'.

Students' perceptions

Students in general are sympathetic to the difficulties experienced by international students, although some (other international students), feel that the behaviour of international students exacerbates the challenges they experience with language barriers. However, a collaborative studio environment might be one means of overcoming this situation. For example, a domestic student suggests:

All of the international students that I know do really well. I don't think that's to do with how the courses are structured. I think that has to do with work ethic, studio, culture and good tutorial time. I think that's so important for understanding.

In this way, 'ensuring equity and transparency' can be achieved through the proper provision of a 'supportive learning environment' that highlights students' engagements and values. This also requires clear communication between teacher and student. Teachers can create confusion through ambiguous statements, poorly-worded briefing documents, and lack of clarity about submissions. Even domestic students call for clearer communication in this regard. A student says:

I think sometimes when lecturers are giving talks ... it's not translated into visual material. So a lot of it is talking or delving into the theory of a person, but to actually list the ideas and translate them into bullet points on a slide, I think would help me personally to gauge what was really going on.

Poor communication can negatively affect all students, not only international students, although international students are more likely to misunderstand, or to spend additional time interpreting, course communication. Thus, clear communication using multiple languages—visual, verbal, body language, and a professional lexicon—would be an essential approach to build an equal and transparent education system.

Building a supportive school culture

Academics' perceptions

Academics firstly identify that it is important to support students, but there is a difference between linguistic and academic supports since even domestic students need academic support. However, the question of how to structure language support for international students in design, and who it is targeted at, is raised by a number of interviewees. Selecting a specific group of students for specific language support could be problematic. As one alternative, an academic explains:

Students are under an increasing amount of pressure in terms of workload, compared to what I did. These students work a ridiculous amount. All I did at my university was design, no history, no technical stuff, just purely design. These students are engaged with ecology, history, tech, communication and they do electives, so [to] add another component on top of this—maybe it could be an elective 'design and language' that could be designed for students who want to improve their language skills.

Design educators need to build trust networks with all their students and become culturally respectful and welcoming. A common response from academic interviewees is that through a trust network, a set of supportive relationships, the best learning environment can be created. The trust network has the characteristics of inclusive learning, and academics spoke of using and developing activities to encourage students to interact and share their learning processes. One academic describes a version of this technique:

A technique that I've used with students to critique each other, is you get one student to present and you nominate the next one to critique them, and then the person who has presented critiques the following one. So it's kind of like a slow 'round robin', but what that does is it means that they know they have to say something, and it gives them time to prepare, in a receptive way as well as having then presented to the class. So I think that those sort of things, like the 'speed dating', mix up the social relationships within the studio to give students an opportunity to meet each other under different circumstances".

Academics acknowledge and draw upon the diverse cultural backgrounds of students to encourage their interaction. They also remark that looking beyond differences and respecting each person as an individual is how to create trust. However, academics acknowledge that some students have a fear of being engaged in this way. Asian students, for example, are seen as being so concerning with 'saving face' that it inhibits critical engagement and can limit interaction between students and tutors in a class. Students also identify that everyone is saving face. No student wants to make mistakes or be seen as inferior. A fear of failure is described by a lecturer, who says:

Maybe it's a cultural thing as well. I feel that my experience of dealing with Europeans who struggle, their English standard is usually a little bit higher but they seem a little bit less hesitant with mangling the language. Whereas I find with Chinese students sometimes there is this fear of failing and a need to fit in. It takes very brave or strong-minded students to actually express themselves from their own perspective, whereas sometimes, a lot of times, students try constantly to see the pedagogy and the curriculum through an Australian's perspective.

Students' perceptions

Students identify that it would be a cultural challenge for some students to adapt the pragmatic approach developed in their previous studies/countries to an aesthetic and creative variation of architecture and design education (in their new country). They identify a need to develop a more discursive form of learning where value is placed on original and critical thinking. In the meantime, both domestic and international students should have a chance to use the cultural memories and design experiences that are a foundation of their design domain-specific language, to communicate and collaborate. For example, an international student says:

It would help if we could find a way that we could apply [our past knowledge and cultural experience]—something that we gained from our home country—to the new environment. Personally, I feel it's really cool if we can do this and the tutor appreciates it, they appreciate something different.

In general, each cultural group of students should engage and collaborate with other groups of students to develop and improve their own design and language skills and thereby build a globalised design practice. Students should appreciate teamwork with a diverse range of colleagues to acquire multicultural design knowledge and further develop international networks when solving local, national and international design problems. Engaging and collaborating with students from diverse backgrounds allows all students to learn different design styles, skills and strategies, through which they can inspire themselves and broaden the opportunities for their collaboration. Social opportunities also help to create cross-cultural friendships, although getting to know domestic students is challenging for some international students, and there are few opportunities offered to students to meet and interact with one another either in the classroom or outside it.

Conclusion

This paper investigates academics' and students' perceptions of linguistic and cultural barriers to understanding and improving our teaching and learning in globalised design education. The themes developed from the two sets of interview data have been broadly categorised into four linguistic and cultural perspectives to provide some context for each; while acknowledging that it might be possible to map multiple themes to different perspectives, their purpose here is to give structure to a diverse and complex topic rather than propose a definitive answer.

Most of the interviewees identified a few common themes in 'applying multicultural teaching and learning strategies', while themes in the 'ensuring equity and transparency' and 'building a supportive school culture' perspectives were relatively less frequently suggested. Interestingly, in this particular theme, both academics and students tend to have similar linguistic and cultural perceptions. Furthermore, each perspective may be independently understood and applied to design education, but it fundamentally supports the others. For example, the last perspective, which addresses engagement and collaboration with students from diverse backgrounds, can support all of the other challenges in globalised design education.

The perspectives themselves are not new points of view in education, but they are contextualised and used here to address specific linguistic and cultural perceptions that

contribute to improving teaching and learning in globalised (design) education. The qualitative analysis of interview data also captures several interesting strategies and techniques, which design educators can immediately adopt in their studio courses. These include 'normalising cultural diversity', an 'icebreaker' strategy and 'speed dating'. The research presented in this paper is limited to the identification of linguistic and cultural perspectives from academics and students in design education.

Adopting multicultural teaching and learning strategies is not a new resolution in education, but globalised design education should consider adopting specific strategies of such to enable verbal and visual skills to be effectively practised by diverse students. In particular, an appropriate strategy for developing design domain-specific language should be addressed to improve the learning experience of both domestic and international students in design education. In addition, diversity should be a core issue in tertiary design education systems, so that students will not only appreciate the significance of global markets and opportunities, but develop a capacity to practice in multicultural contexts.

Although both academics and students fundamentally agreed with the four perspectives, a group of students highlighted practical strategies and themes. For example, students indicated some common linguistic and cultural challenges in design education such as 'learning and using domain-specific vocabularies', 'overcoming anxieties over design preparations', and 'being confident in presentations and critiques'. There are also some different perceptions between domestic and international students. International students who are obviously more unfamiliar with Australian education systems need additional linguistic and academic support, but these solutions might cause inequity in the class. Thus, 'building a supportive school culture' is a better way to improve their learning experience, developing a set of supportive, inclusive and interactive relationships.

The broader context in which education occurs is as important as the pedagogical frameworks that directly support design students by way of various teaching and learning strategies. The context includes not only support services and central processes, but also the maintenance of an environment where students are encouraged to actively engage with their peers from diverse backgrounds and teachers in learning situations. Such environments are not just physical spaces, or managerial systems, they are an integral part of the learning culture of a school that accommodates diversity and ensures equity at the same time.

This research is limited to identifying our perceptions of globalised design education in terms of linguistic and cultural perspectives, while a future study will refine the application of these themes and perspectives. For example, a follow-up study may develop a set of recommendations and suggestions for improving teaching and learning experience in multicultural design education. The study also supports the development of an internationalised curriculum in design education and a practice guide for academics and students (domestic and international students separately) as well as administrators. The future outcome of this research would require more evidence from literature as well as monitoring and implementing a practice guide in actual design courses using ethnographic research techniques. This paper, as a starting point, not only contributes to developing four overarching principles (the four perspectives in this research) for an overall research framework to structure at various scales, but also provides fundamental evidence (themes and strategies) to give advice at various scales for its future application.

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