THE ACADEMIC ACCLIMATISATION DIFFICULTIES OF INTERNATIONAL STUDENTS OF THE BUILT ENVIRONMENT

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Teaching models common to Australasia can be antithetical to those of its Asian neighbours. Australasian andragogy is a bottom-up student-centred mode of knowledge transmission promoting extroverted learning styles, whilst in Asia andragogy is commonly a top-down teacher-centred model promoting introspective learning. Yet these teaching styles are in opposition to the cultural-systems attributed to Asia and the West. Such socio-cultural differences are recognised in this research as contributing to the difficulties international Built Environment undergraduates experience when asked to learn in multi-disciplinary collaborative teams. This paper presents the initial stages of a study currently running as a reflexive research program aimed at resolving these learning difficulties. The primary aim of this program is to inform a new culturally inclusive andragogy for design teaching. The outcome of the research questions are addressed through a triangulated analysis including: the formative appraisal of student satisfaction through questionnaires; the summative evaluation of student achievement through the analysis of grades and the assessment of knowledge and skills gained through the measure of student design projects; and illuminative evaluation through focus group discussions and the observation of tutorials.

Keywords: collaboration, internationalisation, culturally inclusive design andragogy

1. INTRODUCTION
The Department of the Environment and Heritage of the Australian Government acknowledges that future sustainability demands establishing opportunities within tertiary education to incorporate collaborative and multidisciplinary learning[1]. Although collaborative (or what might more accurately be termed cooperative) learning in architecture schools reflects the design process in successful professional practice, the approach is not without shortcomings as a teaching and learning archetype for design[11,12]. The major hurdle is not the application of concrete knowledge, but the ability of students to navigate the process of transition from theory to practice in a collaborative setting. Students are not educated in the skills needed to work in an effective collaborative environment, and this hampers the development of their design skills in the studio[9]. Moreover, in the context of multicultural studios, the western model of good team skills may not necessarily be appropriate for multicultural teams[9].

It is likely that the difficulties of instigating the andragogical shift needed to emphasise collaboration are compounded by the increasing cultural diversity of Australian Higher Education Institutions. Department of Education, Science and Training figures[9] reveal that the number of international students, the majority of who are of Asian origin, enrolled at Australian universities has doubled in less than a decade. In 2004, 1,577 out of the 6,571 students enrolled in architectural courses were from overseas[9]. High numbers of international students of different cultural backgrounds are faced, when starting at a new university, with many social obstacles as well as an educational background structured around an almost antithetical teaching perspective[6]. On top of these challenges, collaborative design presents a difficult and frustrating academic challenge[4,7,8]. The attrition rate for students in Australian architecture schools is high (at around twenty-three percent[9]). Moreover, the average mark of the international students in the study sample in early collaborative design projects has over the last three years been seventeen percent lower than for home students (data derived from 2005 Deakin University (Australia) pilot study – see also[10], on the problems of first-year overseas students). Although successful changes to models of assessment, teaching and group formation have been informed by recent scholarship, e.g.[11,12], the study presented here recognises that further research is needed to establish best practice principles for the teaching of collaborative design projects that are culturally inclusive.
2. CULTURALLY INCLUSIVE DESIGN TEACHING: Researching the Effects of Academic Acclimatisation Difficulties on the Design Education of International Students

The project discussed in this paper iterates a one-year internally funded pilot project that took place at Deakin University in 2005 focusing on “Establishing Best-Practice Principles for the Teaching of Group Design Projects.” The 2006 research furthers the 2005 findings, which were informed by personality type and experiential learning theory [13], by conducting across a further year a study of the relationships among different learning style preferences, teaching approaches and cultural systems in design education. In order to explore these relationships, the research focuses on studio teaching processes through the recognition of reported learning styles. The conceptual frame adopted in this is the Experiential Learning theory of Kolb[13]. Building on previous studies indicating that learning styles may differ between cultures[14,15], the research was conducted to explore the relationships between learning style preferences and student performance during the design process. Two design units, in the first and third-year - where most international students in the study joined architecture and construction management streams - were evaluated to address the academic acclimatisation problems reported by overseas students working in collaborative teams. As well as students’ team role and learning preferences, teachers’ teaching preferences have a significant role in the collaborative studio. If, as Charkins et al. have shown[16], there is conflict between the learning style of the student and the teaching style then learning can be impaired. This research has aimed, therefore, to assess, compare and reconcile teaching styles with the learning styles and team-role preferences of students of diverse cultural origins across the built environment disciplines. Through this process, the research will advance collaborative teaching models compatible with those characteristics that recognise and draw upon different andragogical approaches internationally and within Australasia. The aim of the research is therefore not the development of an exclusive andragogy, but rather the broadening of teaching approaches to encompass a diverse range of learning styles.

The primary research questions of our overall study have been as follows: 1) Does structuring group formation by learning styles and team-role preferences have a positive impact on student academic and course satisfaction outcomes? 2) What combinations of team formation and teaching models and learning styles improve learning outcomes? 3) Are there any significant differences across learning style preferences in different stages of design education and in different built environment disciplines? 4) For design students in different disciplines, and with different learning style preferences and cultural origins, are there any significant differences in performance scores, student satisfaction as measured through questionnaires and unit evaluations, and group working abilities and student participation as measured through studio observations? 5) Are there any further opportunities for making design teaching more culturally inclusive to international undergraduates during their early education?

In this paper, we will focus on only the latter two questions - to explore how we might alleviate the academic acclimatisation difficulties of international students of the built environment at Deakin. We shall consider these questions though an analysis of two focus groups. The focus groups book-ended the summer semester of 2006 to survey students’ perceptions of collaboration and learner differences before and after a semester-long group design project. Before proceeding to consider these focus groups and the academic challenges they highlight let us first consider the initial acclimisation problems facing international students.

3. QUALITATIVE EVALUATION OF INTERNATIONAL STUDENT ACADEMIC ACCLIMATISATION DIFFICULTIES

3.1 Mentor Reflection-Transition and Support for International Students

Whilst study abroad provides the opportunity to experience a different culture and lifestyle, it also presents challenges to both student and educator[17]. A range of experiences of international students’ are associated with transition into the Australian education system. These include heightened physical and emotional upheaval attributed to displacement and acclimatisation to a new environment, feelings of anxiety, loss of control, lack of confidence, insecurity, stress, isolation, frustration and anger. High numbers of international students at Deakin report to pastoral liaison staff that they are studying under the pressure of high financial commitment from families back at home, the displacement of familiar support and, moreover, of occasionally finding themselves enrolled in a course that has been chosen for them by their parents for reasons removed from their own ambitions. Sawir[18] found that acclimatisation difficulties can affect the performance of international students in their studies, and that a direct relationship exists between these difficulties and international student’s learning experiences. Wong[19] identified three main difficulties highlighted by Asian students who have studied abroad-different learning styles, cultural barriers and language problems. The first of these difficulties will be the prime focus of this paper. Burns also found that, compared to local students, overseas students had significantly greater difficulties adjusting to academic requirements, and these were mainly in
Education costs are far higher for today’s international student than they were for those who were part of the early 80s influx. This imposes a potentially increased pressure on students to attain success in line with the expectations of their sponsors, who are most likely to be their families. A second notable difference between today’s students and earlier arrivals is that the benefits of the integration of international students into Australian academic culture are now highly esteemed by university leadership\(^{[17]}\). This acknowledgement and the change in attitude it reflects has given rise to a myriad of university-wide pastoral and academic skills support services being offered to international students. These begin even before students leave for Australia in the form of pre-departure briefing sessions held in their home countries, followed by peer support reception and orientation upon their arrival. Evaluation studies in this area validate these offerings in terms of general support to international students, but suggest that such services do not appear to effect the academic performance of international students\(^{[20]}\).

Although the academic demands confronting international students pursuing a career in architecture today have been much the same since the 80s, misconceptions still exist. In recent years, international students at Deakin have reported to pastoral liaison staff that their choice to pursue architecture was informed by the misguided belief that there would be little writing required of them, and many have voiced their surprise that the course demands such high levels of language skills, both written and oral. Additionally, many international students report to perceive, possibly accurately, that the assessment of their design submissions is unfavourably influenced by their poor language skills in the studio. Certainly, in Australia excellent oral and written communication skills are mandatory at tertiary level across all subjects. At Deakin, deficiency in these skills has been seen to impact on the academic performance of architecture students. Whilst it can be argued that the communication of a student’s design work, which is presented largely in graphic or modelled mediums, should not rely on words, if the design is not orally explained well at reviews this can adversely affect learning outcomes and assessment. It is, after all, expected that architects should be capable of “selling” an idea – and good communication and negotiation skills are accepted to play a significant role in this.

Oral communication and interpersonal skills are at the forefront of undergraduate design programmes, but they are commonly the skills that international students in the study sample, especially those of Asian origin, have trouble learning and demonstrating - especially when this learning takes place collaboratively. Not only, as already stated, is the average mark of the sample international students in early collaborative design projects far lower than for home students, it is clear too from participation observations that there is a hierarchy of engagement during group discussions. This hierarchy in studio suggests that international students are not comfortable with communicating architectural ideas within a collaborative design team. The hierarchy declines in participation from male Australian students, to female Australian students, to male international to female international students – with female Asian students at the extremity of the continuum. This problem is one the research team hoped that the focus groups investigated in this paper might elucidate.

Two focus groups for international students enrolled in third and fourth year architecture-design studies (design studio) took place. The selection criteria asked for volunteers who had spent less than three years in Australia. All students that volunteered for the focus groups were invited to attend. A Human Research Ethics Committee approved procedures governing the recruitment of students, their briefing and interview, and the collection and storage of data. The first focus group centred on students’ prior educational experiences, while the second focus group was held with the same students and centred on their experiences of the semester they had just complete. We will now consider these focus groups in detail.

### 3.2 Focus Group One

Nine third and fourth-year students took part in the first discussion group. Seven were of North Asian origin, whilst one was from the U.S.A. and the other from the U.K. Their time in Australia ranged from two years to two weeks. The age range was from twenty-one to forty years old with six male and three female.

The facilitators delivered a structured questionnaire so that common student responses could be used to generate group conversation. The conversation centred on two broad themes: knowledge transfer and working in groups.

#### 3.2.1 Knowledge transfer

The students who most strongly agreed with the proposition that learning at Deakin was different to that which they had previously experienced were North Asian in origin and listed language, teaching methods and student culture as primary dissimilarities. They elaborated the biggest difference as teaching style; at home “the lecturer is usually much older and the direction and style of the teaching is much more clear and hierarchical. In Australia (the teaching style) is much more open and interactive… [Here] you are expected to explore yourself.”

There was a strong classification of learning as ‘creative’ in contrast to education at home being “practical;” echoing the findings of Biggs\(^{[7]}\) and others\(^{[21]}\) describing Western education as informed by
an ‘extending’ attitude to knowledge in comparison to the ‘conserving’ attitude to knowledge characteristic of many Asian cultures. Although the students listed this contrast as a key dissimilarity, they reported enjoying the different learning experience. However, they also drew a correlation between the more creative, questioning learning and heightened anxiety over language problems. Although the students enjoyed the creative freedom of a more student-centred teaching environment, they found it difficult to navigate language in this context - experiencing problems following the content of the course while not feeling confident to ask for help.

The students who had already studied at tertiary level elucidated a more student-centred approach to teaching in Australia, describing as far more “hierarchical” the relationship between teacher and student at home, such that “lectures here are more interactive. The place I come from it’s like the lecturer talks and we all just sit there in silence and listen.” All students agreed that the different learning experience at Deakin sometimes caused them problems. However, they all saw too that this challenge should be embraced as an opportunity to broaden their educational experience. The students concluded that they needed a balance of both teaching styles-teacher-centred and student-centred. Through reflecting on their own learning experiences, these students have drawn the same conclusions that educational theorists have long been working towards. Namely, the importance of acknowledging different learning styles, goals and beliefs and of providing a balance of different learning avenues and contexts that support each of these within available resources."13,14,22-25"

When asked in the questionnaire how highly they valued lecturers giving a lot of information the mean response on a Likert scale of 5 was 4, indicating a strong preference for teacher-centred transmission of knowledge; a sentiment supported by recent literature looking at preferred Asian learning styles."26-30,14"

When solicited about the type of interaction they would find useful the Asian students indicated that what they desired was not academic debate but rather a focus on respectful and trust among team members and a firm understanding of what the team expects of them."32"

3.2.2 Working in groups

All the students agreed that a significant problem of designing collaboratively was limited studio time, which for students with prior architectural learning experience was far less than what they were accustomed to. The time constraint was a problem because many of the students who had already found difficult developing a social rapport with their culturally dissimilar peers found it more so under the pressure of a group project. They all agreed that this pressure led to difficulties in the early stages of group work, or what Tuckman terms the ‘forming’ stage of groups."33"

Students can self-select team-mates or can be allocated to specific groups. Allocated groups can either be randomly assembled or engineered to create teams of a range of experiences and abilities. In response to student feedback and tutor observations from 2003 to 2005, the method for group formation in 2006 asked third-years to choose team-mates from three pools. The cohort was divided into three to deliberately split friendship groups, which had been established and recorded in prior projects, and to evenly distributed the overseas students in response to previous research that has demonstrated deeper learning through the challenges of designing in new and diverse teams."34"

The aim of the group formation strategy was to gain the best of both group diversity and of self-selection; preventing students from working with friends whilst allowing them to avoid enemies and thus reducing the number of timarchic (conflicting) teams."34"

All the overseas students expressed concerns about the formation of groups in this way, for being new to Australia and not knowing their peers they had been concerned at the time of choosing team-mates that they would be left to work
with ‘poor’ students ‘rejected’ by their peers. All the students agreed therefore that they preferred to be allocated to groups, even though this could lead to the possibility of working with peers they did not like. There was also a consensus in favour of engineering groups so that each had a mix of different academic abilities. Group composition concerns such as these can be further interpreted and analysed via the significance of status recognition to co-operative learning – a subject we shall return to later in this paper.

3.3 Focus Group Two

Seven third and fourth-year students attended the second focus group. The two females and five males, who had attended the previous focus group, were all of North Asian origin. Ages ranged from twenty-one to forty. The time they had spent studying in Australia ranged from three months to three years. Once again, a structured questionnaire was used to stimulate discussion. Before moving on to talk about their responses to this questionnaire, students were asked to reflect on the semester long collaborative design project by rating their experience of it.

While most students reported a ‘fair’ to ‘good’ experience of the project, two were immediately and strongly negative about it; citing problems such as interpersonal clashes over design decisions. It should be noted that their conflict anxiety may have been exacerbated by the impending deadline for the design project under discussion, which was due for submission in seven days. Despite this pressure, the average response to the question “has group work been a positive experience for you?” was 4 (on a 5-point Likert scale) – i.e. mostly positive. When asked to review what made their experience so positive, the unanimous reason cited was heterogeneity of skills within the group. Not only was diversity seen to improve the design process towards a more considered end product, but it also lead to more cohesive and inclusive collaboration. When there were different strengths within the group it was, students reported, easier to delegate tasks appropriate to expertise. Whilst it might be argued that delegation according to strengths can inhibit the chance to improve underdeveloped skills, the students identified clear advantages arising from this type of co-operative learning. Namely, that by acknowledging strengths and skills in team-mates greater than or different to their own-or rather, through the mutual recognition of status-individuals were more willing to compromise towards designs ideas at odds with their own. This view suggests, as Cohen highlights[35], that where extensive mutual exchange of ideas and strategies is desired, limited participation of low-status students may impede the very interaction necessary for co-operative conceptual learning. This influence on interaction is not limited to multi-cultural teams, but seems less significant when teams are culturally homogeneous. The students’ positive view of heterogeneity is consistent with the hypothesised benefits to low and high-achieving students of exchanging knowledge because of the desire to increase trust and friendliness between members of different social groups[34,36]. Research has shown these benefits to be especially important to the group when the task is challenging and ambiguous and has an ill-structured solution[15], as is typically the case in design.

The one student in the discussion group reporting acute group problems was an international female student. As previously discussed, female international students have been observed in the study sample to have significant difficulties learning cooperatively, appearing to find it difficult to speak in a group situation much less enter critical discussion. The body language observed in studio of the typical female Asian architecture student in the sample indicates that group discussion is an uncomfortable situation for her. Even in the focus group, this female student apologised for wanting to speak. She expressed initial optimism about engaging in a multicultural learning environment, but added she felt being in a group with three Australian males had disrupted her learning goals and lessened her achievement: “I wanted to join another culture not only… [to] improve my design or concept but I wanted also to touch another culture and learn more. But this time I didn’t learn more because my group have four members, three men.” The experiences of this student are consistent with tutor observations in studio suggesting that problems of unwanted male dominance in mixed gender groups are exacerbated when the female belongs to a marked (minority) identity category in addition to gender, such as race or even age. This student identified a further cultural identity differentiation when discussing how the learning commitment of her group members was disrupted by outside work, for while only one student in the focus group had a casual job, the others believed that “your work is your study” and had observed most of their Australian peers to have jobs outside university. As the six international students without casual work in the focus group had not only financial support from home but also the pressure to excel academically as a result of this support, the students believed that the majority of their time should be devoted to study.

The next series of propositions aimed to test problems shown to be common to Asian students studying abroad concerning the group psychology of co-operative learning[28,37,38] and dealt with issues of hierarchy, status, face and shame that had been touched upon in the first focus group. We shall consider now what student responses suggest were the most significant of these propositions.
3.3.1 Leadership and hierarchy

The first proposition was informed by the notion that Asian students in groups will only interact comfortably after the relationships between themselves and the others in the group have been clearly and hierarchically defined\(^{[39]}\). The proposition put it to students that, “I find it much easier to work in a group where there is a clear leader who will lead discussions and make decisions.” The average response rate to this was 4 - in strong agreement - and although there was ambivalence surrounding leadership during the discussion of this, the majority of students agreed that when learning preferences in a group are diverse a strong leader can focus co-operation. In contrast, the international female student who had described her group experience as negative indicated that having a strong leader (an Australian male) with contrasting learning preferences to her own had greatly disrupted her learning experience; an effect that once more might be associated with the dominance of majority identity-characterised students.

3.3.2 Challenging the teacher

If student learning preferences have been informed by a cultural emphasis on respect for authority such as is common in Asian society\(^{[40]}\), it can be expected that their classroom behaviour will reflect this emphasis. Classroom behaviour in Asia tends therefore to have moral as well social connotations, explaining why, as Ballard and Clanchy suggest\(^{[21]}\), “many of our Asian students find it repugnant to join in spirited arguments in the classroom where Australian students are questioning the point of view of their teacher.” When asked about this in the form of the proposition “I think it is disrespectful to the teacher to enter into debate with them; questioning their point of view,” the average response was 3. The students tellingly corrected the word ‘argue’ when discussing this, but agreed that they were happy to disagree politely with tutors both in Australia and at home. The main obstacle cited by the students as preventing critical debate was a lack of time, for the pressure of reduced tutor contact led students to focus more on receiving explicit feedback towards a specific design solution. This preference for tutor-centred knowledge transmission, which maintains the ‘passivity’ of learning style characteristic of the former education of many Asian students\(^{[22]}\), is heightened not only by time-constraints but also by the social dynamics of group work. For the students admitted to being far less likely to present their point of view if this opened them to tutor criticism that they did not have time to defend - a situation they felt was confronting in the context of group discussions. Here the link between the socio-cultural belief system of and learning behaviour in the Asian student is clear - for as Chan states\(^{[8]}\), “the pressures to preserve harmony, to conform, to avoid loss of face and shame” mean that a didactic and tutor-centred style of teaching and learning is clearly preferred.

In contrast to the previous focus group when students had not yet become familiar with their tutors, none perceived the age of the studio tutor a major concern. All acknowledged that young teachers could have a more contemporary view whilst older lectures may have more experience. This view would suggest that the age of the teacher is less important to these students than the perceived value of knowledge taught by them.

3.3.3 Role-play

Assigning students roles can encourage group members to take responsibility for active participation in the group\(^{[35]}\). Moreover, when the group is working on problems with ill-structured solutions, such as design, roles can also be used to foster interaction that leads to conceptual gains. Yet role-play is heavily reliant on abstract thinking and has, therefore, been seen to pose difficulties for students not used to openly expressing critical opinion\(^{[40]}\). Indeed, the predominant view is that Asian students of Chinese origin prefer passive teaching methods over case studies and role-play\(^{[41]}\). In order to evaluate this possibility the focus group students were asked if they found the client/design team role-play ‘meetings’ that were the hub of group tutorials in third-year useful “for developing designs and for improving design skills.” In response there was an even mix of very positive and very negative responses. Those against, as Nield has found\(^{[42]}\), did not give any reason that could be said to relate directly to culture, but described the role-play as a “waste of time” akin to merely sitting in on another group’s tutorial. It should be noted here that as part of the study four tutors headed the role-play meetings and that while two of these were asked to tutor as they saw fit, the third was assigned a more passive role and the fourth a more dominant one (the latter in line with the teacher-centred tutorial traditional to studio). This allocation of teaching styles aimed to allow for the observation student responses to the different teaching models. Two of the students against role-play claimed their tutor had an overly dominating approach, directing feedback at the exclusion of many in the group. These students clearly recognised that a more group inclusive student-centred teaching model encouraging greater participation might have helped generate ideas to make studio more interesting and productive. An antithetical problem cited by the other two students against role-play was that of having a passive tutor acting merely as a facilitator to the group discussion. For in this case students complained of inadequate tutor instruction in light of greater input from their peers – of feeling that they “never knew whether they were moving in the right direction or if they were focusing on the right things.” The clear message here is that teachers have to find a delicate balance in the role-play tutorials between a teacher-centred and student-centred model.
Feedback in favour of the role-play tutorials indicated that for students in a creative and vocal team the forum presented new design opportunities. However, the students felt this was not the case if they perceived the group they were paired with as less creative or academically skilled than themselves. Here they felt they had little to gain from the criticism of an inferior group and thus needed to consolidate designs with tutors independent of the team meetings. This view of role-play echoes the importance highlighted earlier of status recognition to co-operative learning and the mutual exchange of design strategies. As one student put it, “It’s good to talk with the client team but the main thing is the client team itself must be very creative and it must be very experienced so you can learn more from them. If not, it is a waste of time.”

3.3.4 Group discussions
Most of the students, when asked to reflect on their participation in the group discussions, admitted to being quiet and that this largely was due to English being their second language and to worries about becoming embarrassed or offending someone by saying something inappropriate. One student related this to what he termed as ‘power’ in the classroom - indicating that those who were more articulate retained control. Although these are views that can be readily related to the cultural imperative to avoid loss of face and shame, a reaction to these comments by a Korean student cautions against the stereotypical perception of the over polite and reserved Asian student; “actually when I studied in Korea, the students usually offend and are very critical and blame each other and like but it’s not fighting, it’s a kind of discussion but it’s direct. We are much more offensive to each other. But here... I can’t criticise.” This preference for forthright debate underlines that not all Asian cultures and Asian students have the same approach to learning. It is important to acknowledge that while there are views that can be readily related to the cultural imperative to avoid loss of face and shame, a reaction to these comments by a Korean student cautions against the stereotypical perception of the over polite and reserved Asian student; “actually when I studied in Korea, the students usually offend and are very critical and blame each other and like but it’s not fighting, it’s a kind of discussion but it’s direct. We are much more offensive to each other. But here... I can’t criticise.” This preference for forthright debate underlines that not all Asian cultures and Asian students have the same approach to learning. It is important to acknowledge that while there are attitudes to learning that emphasise knowledge conservation and attitudes that emphasise its extension, both types of attitude can operate concurrently in all cultures. On the other hand, as Ballard and Clanchy explain, there is “great fluidity within all cultures in the attitudes to knowledge which individuals adopt and in the learning strategies that they employ in particular learning contexts.”

3.3.5 Cultural inclusiveness
When asked whether the course was culturally inclusive, many of the students were unclear of the question’s meaning. One student, after a brief explanation, suggested that it was neither the course nor the teachers that hampered cultural integration, rather his difficulties stemmed from inabilities to exploit the opportunities available to him. All the focus group students strongly agreed with this point; that the course was as culturally inclusive as they chose to make it and that their cultural integration was primarily their responsibility. This proactive attitude seemingly contradicts the stereotypical perception of the ‘passive’ Asian international student. However, it might be speculated that those students with the confidence to travel and study overseas may, by their very nature, be more proactive in seeking culturally challenging situations.

To conclude our summary, it should be noted that there was one female Asian student who did not talk during the second focus group and when asked if she would like to comment immediately declined. The same student was a member of a design team monitored in studio and she was observed, in five twenty-five minute client/design team role-play tutorials, to make not one utterance. This realisation poses a problem, because attempts to integrate into group discussions unwilling female students at the marked identity characteristic extreme seems only to add to their discomfort; suggesting another approach such as additional one-on-one teaching may be required. Of course, there is also the possibility that some students might be as shy in a familiar learning environment as they are in an unfamiliar one.

4. CONCLUSIONS
This paper presents the initial stages of an overarching study aimed at resolving the learning difficulties of international students collaborating in undergraduate design studios. The paper restricts itself to two questions explored in focus groups and studio observations initiating the study that reflexively informed its subsequent stages. Namely - for current international design-students, are there significant differences in satisfaction, group-working abilities, learning preferences and participation, and are there further opportunities for making studio teaching more culturally inclusive to undergraduates during their early education? The paper has demonstrated within the limits of the case study it discusses that international students arrive with, as might be expected, expectations, knowledge and behaviours that have been informed not only by their individual personalities and abilities but, more fundamentally, by their previous educational experiences abroad. The attitudes to learning informed by these experiences and revealed as most significant in this study can be summarised as follows:
1. Leadership-When the learning preferences of the group are diverse, a strong leader can focus co-operation.
2. Knowledge extension-a knowledge ‘conserving’ preference for tutor-centred teaching can be heightened by time-constraints and by the social dynamics of group working.
3. Role-play-role-play was not universally disliked, but teachers must find a delicate balance in studio role-play tutorials between a teacher-centred and student-centred model.
4. Group discussions-reticence during group
discussions is largely a result of language difficulties and shame avoidance.

5. Cultural inclusiveness—students see their cultural experience and integration as primarily their own responsibility.

As Tang suggests[43], when Asian students are asked to collaborate in teams, tutors need to provide them with the procedural knowledge of “how to participate in group discussions, how to express and justify their ideas, and how to give a receive constructive criticism.” Although the Asian students who were the subjects of this case study clearly struggled with such participation, our research suggests that their struggle is entirely in line with their language difficulties when viewed relative to the similar difficulties of home students. That is not to say, however, that these difficulties can be ignored. Indeed, both the tutors and peers or team-mates of international students should be encouraged to acknowledge and compensate for these difficulties. The mere awareness of these difficulties in those students observed in our study has already seen a shift in attitudes, with home students seen to sympathise with and actively attempt to help international students through their academic acclimatisation.

The attitudes to learning revealed in this paper can be analysed via the significance of status recognition to co-operative learning to suggest that student perceptions of unequal status make small collaborative design groups less productive in terms of inequitable participation and unequal cooperative learning outcomes. Thus, as Cohen has stated[24] inequities in participation informed by marked identity characteristics, such as race and gender within cooperative groups, must be considered in heterogeneous settings. For if the participants “have pre-existing stereotypes about lesser competence of minorities and women confirmed in their group experience, then the effects of cooperation are far less desirable than many proponents of the technique would have us believe.” It will be the aim of the further stages of the study introduced in this paper to determine, as Cohen subsequently suggests, whether these inequalities in participation are linked to learning outcomes. In other words, is it the case that international students’ perceptions and experiences of difficulties with communication and participation in co-operative design projects are associated with lower levels of achievement? Moreover, it is the further andragogical aim of this study, through its inclusiveness of all students, to counter ethnocentrism and the cultural biases that amplify these difficulties.

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