CURRICULUM INNOVATION IN TRANSNATIONAL TEACHING: A PILOT STUDY

Usha Iyer-Raniga¹ and Dallas Wingrove²

¹ School of Property, Construction and Project Management & Centre for Design, RMIT University, GPO Box 2476, Victoria 3001, Australia
² Learning and Teaching, Design and Social Context Office, RMIT University, GPO Box 2476, Victoria 3001, Australia

Students are increasingly operating in a globalised world. Offshore education is challenging for students and teachers, as both need to make connections between local and culturally located knowledge and discipline. The relevant literature indicates that the transnational classroom has a number of challenges. Skills and knowledge of offshore and onshore teachers to enhance the quality of offshore learning and teaching are limited and unrealised. Offshore students experience culturally dislocated and disconnected pedagogies which impede student learning, engagement, program cohesion, and graduate outcomes. Yet, the transnational classroom also offers opportunities. Not just from an economic perspective, it offers Universities an opening to build and maintain a global presence and has the potential to offer scholarship benefits to staff and students alike. This paper presents the results of one of RMIT University’s Learning and Teaching Investment Funded applied research project. The aim of this project, trialled as a pilot was to improve student learning experiences, outcomes and employment opportunities by developing and implementing a transnational educational partnership comprising; on and offshore teachers, students, and local industry stakeholders. This partnership used focus groups, interviews and surveys to develop and deliver three interactive workshops designed to integrate international and local contexts and enhance student’s learning and work. The results show that the partnership between on and offshore teachers introduced a change in teaching practice developed through a partnership with their local and offshore teachers, each other and local industry. In addition to enhanced student learning outcomes, opportunities for professional development for teachers were also realised. The success of this pilot has led to changes in the Bachelor of Applied Science Construction Management curriculum and teaching practices at RMIT University.

Keywords: construction management, curriculum development, teaching and learning, transnational education.

INTRODUCTION

Since the start of the new millennium, transnational education has made a slow and steady progress from few offerings to mainstream education (Bohm 2000; Cuthbert,
Iyer-Raniga and Wingrove

Smith and Boey 2008). There is currently no accepted definition of transnational education. It can include off shore teaching to cross cultural teaching (Dashwood et al. 2008). For most universities in Australia, however, transnational education generally refers to formal educational qualifications by Australian universities outside their country (Ziguras 2007). Most universities in Australia now consider global education, in terms of content and presence, as part of their strategic vision. For transnational education to be successful however, there are many facets that need to be considered. True transnational education should reflect exchange of ideas or knowledge, of students and faculty (Altbach 2000). To do this, it is essential to examine and identify the culture based assumptions that impact on transnational program delivery.

Student experiences are central to any educational program. Traditional modes of education typically result in greater levels of satisfaction among students. Although typically, transnational education has been lagging slightly behind, students’ experiences indicate satisfaction with the overall experience of transnational education (Archer and Brett 2009). With specific reference to Singapore, Dunn and Wallace (2004) report that Singapore students prefer to be given opportunities for deep learning, but the teaching, learning and assessment styles for Australian students do not produce the same interactions with Singaporean students. Singaporean students find the student centred pedagogical approach that characterises Australian higher education for teaching, learning and assessment to be confronting. In a subsequent paper, the same authors (Dunn and Wallace 2006) reported that there is an untapped potential in using the expertise of the local tutors and partner organisations in ensuring effective learning in the transnational classroom.

From a teachers’ perspective, transnational education can provide fulfilling professional development opportunities (Smith 2009). Leask (2004) argues that transnational programs provide an opportunity for institutions to achieve internationalisation goals if academic staff can be assisted to transform their teaching through active engagement in other cultures.

To achieve good practice for transnational education (Baird and Gordon 2009) a number of factors need to be considered. Among this is the role of transnational pedagogy, considered in terms of both development of the pedagogy itself and a process for developing this pedagogy (Dashwood et al. 2008). A challenge is to determine how teachers recognise and apply good practice principles of transnational teaching and learning; and to understand the extent to which students derive benefits from the application of different pedagogies. Goodfellow et al. (2001) discuss intercultural issues with e-learning and transnational education, and suggest that communities of practice and a learning approach would be appropriate.

Central to transnational program design and delivery is the need to consider cultural differences right at the outset (Hoare 2006). Hoare showed that for a transnational program to be effective, one objective must be the ‘recognition of, adaptation to and valorisation of, cultural difference’ (Hoare 2006: 243). She suggests greater face to face student contact hours and longer periods between intensive teaching sessions, rather than focusing on teacher availability.

From a curriculum development perspective, epistemological awareness and attendant pedagogical questions need to be considered. Curricula cannot be simply transplanted without acknowledging cultural and social contexts. For Singaporean students in particular, Hoare (2006) recommends small groups as effective pedagogical practice, linked directly to assessment, wherever possible. Leask (2009, 2008) describes that
curriculum innovation in the transnational classroom will need to consider relationships between individuals, institutions and nations, and relationships between culture and knowledge. An internationalised curriculum will engage students with internationally informed research and, cultural and linguistic diversity. Local content and knowledge also has a place in the curriculum (McBurnie 2000). Strategies for professional development need to be developed, along with attendant changes in the curriculum design, teaching, learning and assessment methods.

In this paper, curriculum is referred to mean both teaching and pedagogy. This includes content, learning outcomes, and learning activities and assessment to meet required learning outcomes. The process of teaching and learning, interaction of the students amongst themselves, interaction of students with teachers, and competencies developed are all considered. As this paper focuses on curricula, only those elements directly related to curriculum development have been considered. Staff professional development and interactions, cross and inter cultural learning for example, have not been considered.

THE CONTEXT AND AIM

RMIT University’s vision includes transnational education as a fundamental role in realising the University’s mission to embed itself as a quality provider of further education and training in local and global contexts, reflected in RMIT's Strategic Plan 2010-15. The School of Property, Construction and Project Management (PCPM) has been offering the Bachelor of Applied Science (Construction Management) Program as a joint degree with SIM University since 1995. To date, over two thousand students have graduated from the program. Currently, students are enrolled for the 33rd Intake of the program.

The degree is identical to that awarded to a full time student studying in Australia. The program is taught over 2.5 years, as face-face part time, with classes over weekday evenings and Saturdays. Students enrolled in the program usually have a Polytechnic Diploma and most of them work full time, which is part of the attraction for the Program. There are 12 courses to be completed over 5 semesters, and these are taught by Singapore local lecturers (off shore, mostly appointed as sessional staff) and Melbourne lecturers (on shore teachers).

The aim of this applied research project was to develop a framework for curriculum innovation by fostering students’ capacity and awareness of the role local and international culture plays in shaping professional practice. With limited resources, the obvious place to trial the partnership was in the transnational classroom, by developing and implementing an innovative transnational learning and teaching partnership model. The underlying approach in this paper uses the work of Dunn and Wallace (2006) to bridge gaps between Australian approaches to teaching and Singaporean students' abilities to learn. This model was piloted in in the Bachelor of Applied Science Construction Management Program- Research Project: BUIL 1222, from June-December 2010.

There were many challenges associated with the existing framework. Until 2010, BUIL 1222 consisted of a teamwork effort of 4-5 students per group, working on a predefined topic. There were difficulties with this approach; including, lack of ongoing engagement with the research groups by the RMIT lecturers leading to modest learning outcomes for this part of the curriculum. Due to cultural issues, timetabling and resources, the students often did not come prepared to the teacher-
student meetings. Follow up was conducted using email, however, due to language and cultural barriers, it was difficult for teachers to direct students appropriately, leading to only partial realisation of this engagement. From the student perspective, lack of confidence and language barriers dissuaded them from making the best use of available resources. It must be noted that although the common language in Singapore is English, official languages are English, Chinese, Malay and Tamil. Due to Singapore policies, increasing numbers of migrants are attracted to Singapore to service the building and construction sector.

The innovative approach comprised not just a change in the content of the curriculum, but also how the change was put into effect. The project team worked on a framework for curriculum change where on shore and off shore teachers were able to work together in the transnational classroom. A theme was selected to provide the framework for curriculum development and change. This theme was “Living in Singapore in 2020”. The new course design for BUIL 1222 incorporated interactive student workshops involving teachers, industry and students at the start of the semester, where the focus was on discussion and debate and both, processes and content were explored. The number of students in this cohort was 65. The total number of teachers teaching this course was 7, comprising 3 on shore and 4 off shore teachers. These teachers were involved in the workshops.

The students presented their research work in the form of a written piece of work: ‘research report’ and a Poster. The posters were presented and assessed at the ‘Industry Night’, where RMIT and SIM University teachers and external industry experts were invited to view and assess student work. The rationale underlying this was two-fold: to give students the opportunity to showcase their work, and for the on shore and off shore teachers and industry experts to view and assess student work.

RESEARCH APPROACH

The theoretical framework underpinning the curriculum innovation was drawn from constructivist theory, recognizing the subjective nature of human experience. In addition, the project also used the self-learning and reflective practice model, as developed by Schon (1983). Reflective practice is linked closely to double loop learning as also espoused by Argyris (1990). The project team adopted a case study approach because this offered the most viable means of capturing rich experiential data, both qualitative and quantitative. Analysis of data captured through the roll out of the project informed the development of the transnational partnership model. A range of research instruments were used: focus groups, interviews and surveys.

A focus group was conducted with teachers involved in the course (total 7) prior to the roll out of the project to support collaboration and seek engagement of off shore teaching staff. This was conducted in Singapore and enabled the project team to determine if there were common goals in overall learning outcomes between on shore and off shore teachers as well as shared concerns in the learning outcomes of students. The focus group also enabled the project team to determine the themes for the course workshops and determine the industry participants to be invited to the workshop. Interviews with three selected on shore teachers provided the historical context and the background leading to the current course learning outcomes, and whether the framework for the proposed curriculum innovation would work in Singapore. Student pre and post course surveys were designed to capture student learning goals, preferences and outcomes, and overall project impact of the curriculum innovation. Pre and post course teacher surveys, administered to both on and off shore teachers
were also undertaken, designed to capture professional learning aims, research and industry interests needs and project impact.

All students were provided with paper copies of a survey and asked to complete these in the class at the commencement of the course. The pre survey was undertaken at the information session provided to the Final year students, and the post survey was undertaken at the Industry Night. Pre and post course surveys were compiled in Excel to allow data to be analysed. In addition to this, pre and post course survey responses were entered into a secure online survey using Survey Monkey for the purposes of data analysis. Pre and post course teacher surveys were completed online using Survey Monkey making it easier for data analysis. As the sample sizes were small, it was easier to use Excel rather than coding into more sophisticated packages such as NVivo.

Data from the student and teacher surveys and teacher interviews were analysed to determine themes and patterns. Data was further evaluated in light of current and recent research as discussed in the literature. Where possible variables of gender and years in industry were used to establish patterns within the data. Summary notes of all interviews sessions were taken and sent back to the contributing participants for review and approval before being considered as research outcomes. For qualitative analysis, all captured data was analysed using qualitative data coding techniques to identify main themes. Patterns and themes arising from the data informed the research project’s findings, including recommendations for the future development and implementation of a potential transnational teaching partnership in the future.

All data was numerically coded in the project report. No person was attributed to any response; it was reported anonymously and patterns rather than specific responses were sought for the curriculum innovation component of the research project. Participation in the partnership model and the project’s research was voluntary for both students and teachers. Prior discussions with the teachers both, on shore and off shore indicated a willingness to work collaboratively on the research project, hence there was an implicit commitment to improving their teaching. Likewise, for Singapore students, participation in the project’s research was also voluntary.

There are limitations to this study. As the research was conducted for the Bachelor of Applied Science Construction Management between RMIT and SIM Universities, the findings cannot be generalised for all construction management curricula. The application of the pilot model in other off shore courses and programs delivered across RMIT is likewise, limited. This also applies to wider findings across international partnerships among other universities. Nevertheless, this study does provide an insight to effective teaching and learning as a cycle of continuous improvement. Observations were made by one of the Project Leaders during the Industry Night, and informal discussions with teachers and students were also held to ensure that the findings of the study are consistent with the data obtained. This was done mainly for validating the findings, rather than as a means for gathering additional data.

CURRICULUM INNOVATION

As this paper focuses on curriculum innovation the finding and discussions are restricted to these aspects of the research project only. The curriculum innovation focused on one course. Prior to the commencement of the semester, focus group undertaken with staff assisted in developing the content for the workshops for the course and gather baseline data. Likewise, the student preparatory workshop was used
to explain proposed changes and gather baseline data from students as per the research plan. Although the original intention was to run four, only three industry workshops were undertaken due to time constraints. It was decided to run the workshops during the time the RMIT teachers were teaching in Singapore due to resource constraints. Workshops were undertaken from July-September 2010 to coincide teaching times of RMIT teachers. The workshop themes were: Sustainability; Property and Construction, and Economic and Social Contexts of the construction industry as determined through the focus groups and discussions with the on shore and off shore teachers. Each workshop was led by an RMIT teacher and supported by off shore teachers. Where possible, industry mentors were also invited to the workshops. The workshop assessment contributed to 30% total of the overall score, with each workshop assessment being 10% of the total. The remaining 70% assessment comprised of 30% for the poster presentation and viva at the Industry Night and 40% for a written paper- the ‘research report’.

The workshop worked as a 'constructionarium', where students worked on tasks for a short period of time. The focus was on high level response, not detailed information. Each workshop comprised three hours duration. The first hour involved a presentation by the lecturers on the theme of that particular workshop. Thus, a partnership between on shore and off shore teachers were realised during the workshops. Prior reading materials were provided to students, so they came prepared to the transnational classroom. The second hour included student engagement in their pre allocated groups, with the lecturers/guest lecturers working with the students. The third hour involved students presenting to the class their responses and in class assessments by the off shore and on shore teachers.

Each workshop addressed five questions. The students critically engaged with these questions in their groups and presented the responses to the class in the third hour. Prior reading materials provided to the students was undertaken in consultation with on shore and off shore teachers. Students submitted their responses as a record to their lecturers via an online learning hub on a standard template. The questions for the workshop were:

1. What is living in Singapore going to be like in 2020 from a sustainability perspective; from a property and construction perspective and from economic and social perspectives?
2. What needs to be done to maximise benefits?
3. What areas need to be prioritised in each sector?
4. Suggest at least two ways in which changes can be facilitated.
5. How can these changes give a competitive edge for Singapore companies?

An Industry Night was held at the end of the semester where students presented their work. The Industry Night was well attended by staff of SIM and RMIT Universities, and other members from the industry such as student employers.

FINDINGS AND DISCUSSION

This section presents the findings and attendant discussion. As the sample size of the teacher group is small, the resulting data cannot be considered statistically significant or extrapolated to a wider group. The Construction Management Program was taught by 8 local teachers from Singapore and 4 teachers from Australia, so this represented the sample size of the teachers. The sample size of the student group is considerably larger in comparison, with 65 students participating in the course and accompanying research. As the focus of this paper is on curriculum development, this paper focuses
on student responses to the curriculum innovation. Some elements of the teacher survey considered noteworthy and general observations by the Project Leader have also been presented.

**Pre course student survey**

As already indicated, students were surveyed before and after the course. Of the 65 students who participated in this study, the gender split was female 37 and male 27 with 53 indicating they were currently working in the construction industry on a full time basis. Of these 70% (38) had been employed for between one-five years and 18.5% (10) for between five-ten years in the industry with the remaining 11.5 % (6) having been in the industry for over ten years. The respondents were aged between 20 and 45 years of age; 45 respondents were aged 26-35 and 22 were aged 20-25. Only 2 respondents were aged 36-45.

A question in the survey related to why students were enrolled in the Program. The most frequent responses to the question was a combination of ‘improving employment prospects; career development; and personal satisfaction’ comprising of 18 responses, closely followed by ‘career development’ with 16 responses.

Open and close ended responses were sought as to whether student learning so far in the Program supported their professional practice. In response to the close ended part of the question, 53 (80%) of 66 respondents agreed that the BCM program has supported their professional practice. Seven respondents (11%) agreed and disagreed with the questions, while just 6 (9%) disagreed with the question. In response to the open ended part of the question about learning outcomes students perceived the program had fostered: industry knowledge, technical knowledge, career development, capacity as a learner, knowledge building, confidence, discipline knowledge, broadening of understanding of other fields related to construction. In addition, fitting learning into cultural experience and geography dominated the responses.

Students were also asked to identify their preferred learning styles. Most students preferred to work in groups directed by the teacher or face to face interaction as directed by the teacher. Working in groups with a mentor or working individually with a mentor did not score highly in comparison. When students were asked to identify their expectations of BUIL 1222, 45 (85%) of 53 respondents agreed that BUIL 1222 would ‘deliver useful and relevant learning’. Two respondents (4%) indicated that the course would not deliver useful learning, while six respondents (11%) indicated both.

**Post-course student survey**

After the students completed and submitted their Posters at the Industry Night, students were asked to rank the list of outcomes and aptitudes arising from the new teaching partnership. Students strongly agreed ‘understanding of current /emerging issues in the local construction industry context’ was the primary outcome, closely followed by ‘ability to work in teams’.

Most students agreed that ‘ability to think globally and consider construction management issues from local and international perspectives’ and ‘ability to source research material from a variety of sources’ were the most important outcomes. This was closely followed by agreement on ‘ability to evaluate diverse views to take an informed position on differing viewpoints’, ‘ability to evaluate research material from a variety of sources’, and ‘ability to make ethical decisions about the impact of the construction industry in Singapore’.
These findings demonstrate that the pilot curriculum intervention has, from the student perspective delivered successful results. The new learning model improved student’s capability development. When analysed according to gender, it was found that women were overall 21% more likely to choose ‘neutral’ as a response to these statements than men. Nearly 7.5% of men and 27% of women chose ‘neutral’ to the statement ‘ability to make ethical decisions in the workplace’; 7.4% of men and 27% of women chose ‘neutral’ to the statement ‘ability to make ethical decisions about the impact of the construction industry in Singapore’. In all but one of these statements a higher proportion of men responded ‘strongly agree’. ‘Working in teams’ was the only statement where a higher proportion of women responded ‘strongly agree’.

When asked about their overall experience of the course, there was a strong agreement expressed by majority of students that the BUIL 1222 course would benefit their career, that they would recommend the course to their peers, with the partnership perceived by the majority as having improved their learning.

**Discussion**

As identified in the literature and reported in the first section of this paper, there are significant challenges in engaging off shore students in the transnational classroom, and in fostering quality learning and graduate outcomes. Eliciting genuine critical feedback and encouraging critical engagement with content and delivery with Singapore students is challenging as on shore teachers are seen as experts and are held in higher esteem than the local teaching staff (Dunn and Wallace 2006, Gribble and Ziguras 2003).

In its endeavour to address this challenge, the project team incorporated student briefings in the project design to make explicit to students the purpose of the project, and the significance of their learning and teaching experiences for the Program and the future of the Program. As a large proportion of students (80%) were working either full time or part time in the building and construction industry, the students had the nous to comment on the Program outcomes and related aptitudes. It also provides the underlying reasons as to why students indicated ‘career development’ and ‘improving employment prospects’ as being primary reasons for enrolling in the Program. Eighty percent of the students indicated that the Program supported their professional practice. This also highlighted that they considered professional practice capability as core to the learning outcomes of the Program. In addition, students also identified dispositional factors such as self-confidence as learning outcomes they had developed prior to the teaching partnership approach to the final year Research Project.

The curriculum intervention involved a mixture of student to student, and student to teacher interactions. Understanding student's learning preferences served to illuminate the degree to which the pedagogy enacted through the teacher partnership aligned with students preferred learning styles. This contributed useful knowledge about the cohort and about how to in the future, bridge the disjuncture between Westernised and non-Westernised pedagogies. Understanding the degree to which the partnership aligned with student’s preferences also contributes to knowledge of culturally located ways of knowing for local Singaporean students. Using the local teachers and the industry as a resource assisted this process.

In the pre course survey, students were confident that the course would deliver useful learning. This was confirmed in the post course student survey. Broadly, the majority of students strongly agreed or agreed that they had developed a suite of capabilities to
enhance professional practice. There were strong agreements on a number of key outcomes and attitudes, including understanding key issues in the local construction industry context and team work. Students agreed that they were able to think globally and consider construction management issues from local and international perspectives. They were also able to source material from a variety of sources, which equipped them with useful professional attributes.

In summary, the curriculum innovation enhanced the quality of learning and teaching in BUIL 1222, and supported the development of student's professional practice capabilities skills and expertise, and improved learning outcomes. From the teachers perspective, intercultural learning and understandings were facilitated between off shore teachers and their students, and between on and off shore teachers. The ‘us’ and ‘them’ mentality that existed to date between the on shore and off shore teachers was diluted through the new partnership model used as the foundation of this research.

There are clear limitations as already identified. The project was trialled over one semester, with only a small group of teachers and one student cohort. A longitudinal study would greatly benefit in providing greater richness and validity to the findings of this pilot project. Tracking the impacts of the pedagogical developments would greatly benefit content, approach and student learning outcomes of the Program and related aptitudes of students. So too, would expanding this model across the Program.

The curriculum intervention introduced in the course BUIL 1222 has the potential to be applicable to diverse disciplines, both on and off shore. Modest innovative changes as shown with this project design model has the potential to be adopted for application across wider RMIT off shore programs, with a professional development teaching partnership applicable to a breadth of program delivery.

CONCLUSIONS AND RECOMMENDATIONS

The aim of the project was to develop a framework for curriculum innovation. This was done by developing and implementing an innovative transnational learning and teaching partnership model. This model was piloted in an off shore Program offered by RMIT University in Singapore. The results from this pilot show that it is possible to implement and evaluate a model of intercultural learning to identify and develop best practice in transnational education. The curriculum innovation analysed has the potential to enhance transnational learning experience and graduate outcomes by engaging students in local and internationalised learning facilitated by off shore and on shore teachers, including local industry experts. As this paper has explored, it is possible to create a forum for the exchange of intercultural teaching skills, knowledge and expertise, and to actively foster student’s preparation for professional practice. In tandem, there are unrealised opportunities to create an evidence base for future professional development for on shore and off shore staff. The project enhanced student learning and fostered student's pride in their work through formal recognition and rewards, culminated in a presentation at the Industry Night.

It is recommended transnational programs consider how international and local knowledge can enhance student learning outcomes by planning, designing and implementing a teaching approach comprising local knowledge as part of the curriculum. Creating partnerships with on shore and off shore staff in the transnational classroom can provide opportunities for professional development for staff, while enhancing learning experience for students and teaching experience for staff.
ACKNOWLEDGEMENTS

The authors thank RMIT University for the LTIF grant, on shore and off shore teachers and staff, and off shore students involved in the project. In particular, the authors thank Kathryn Robson and Guillermo Aranda-Mena.

REFERENCES


