Is It Fully 'On' or Partly 'Off'? The Case of Fully-Online Provision of Transnational Education

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Executive Summary

With the rapid expansion of the transnational education market, more and more universities join the ranks of transnational education providers or expand their transnational education offerings. Many of those providers regard fully-online provision of their programs as an economic alternative to face-to-face teaching. Do transnational students accept this model as a viable and effective educational alternative?

A recent research study investigated students' attitudes towards fully-online provision of computing education programs in one of the most important Australian transnational education markets: Hong Kong. Of interest were students' perceptions about the suitability of fully-online mode of teaching and learning with respect to computing studies, and their views on the importance of face-to-face interaction in their programs. Students from three transnational computing programs, offered in Hong Kong by Australian universities in co-operation with Hong Kong partners, participated in the study; the programs are delivered in face-to-face sessions and rely on the Internet for support and communication (unit Web sites, bulletin boards, email, etc.). The rationale behind the choice of locale and participants for the study was threefold: first, Hong Kong is one of the largest Australian transnational education markets (hence, the results of the study would be of importance); second, it is a well-developed territory where English is commonly spoken (hence, participants would not be biased towards online education because of lack of suitable technological infrastructure or inadequate linguistic skills); and thirdly, computing students were technology savvy and, therefore, would not be biased in their views of online education because of technophobia. Approximately three hundred students participated in the study, which was based on analysis of data collected though a survey and group interviews with students.

Results from the survey revealed that students did not regard fully-online provision of transnational programs as a preferred alternative to the current model – that is one that is based on face-to-face communication and uses the Internet for support. Their opposition was pronounced and ranged from total rejection of fully-online provision in one of the programs (100% of students against the idea), to marginal support of fully-online provision from students in the other two programs (9% and 13% respectively). Students repeatedly stated the importance of face-to-face communication as the most important reason for preferring the current program model.

The subsequent group interviews with students sought to explore further the reasons behind the students' views. Students again responded in favor of the current model of the programs reiterating the importance of face-to-face inter-

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action. They regarded face-to-face communication as more conducive to the learning process, affording better opportunity to sharing knowledge and asking for help, "easier" and more interactive, and more compatible with the needs of Hong Kong students. However, the respondents acknowledged the usefulness of the Internet as a means for providing course material, facilitating submission of assignments, and enabling communication with lecturers outside classes.

The findings of the study endorse the current trends of Australian transnational education in South East Asia and support the prediction that Web-supported face-to-face delivery is likely to continue as a principal model of transnational tertiary education programs.

Keywords: computing education, cultural differences, face-to-face interaction, learning environment, online learning, transnational education.

Introduction

Distance education is an increasingly common educational alternative as well as a key contributor to the newly competitive landscape in higher education. The distance learning market has become highly competitive, and universities are under going pressure to develop programs that are not only current, but also relevant and responsive to market needs (Marginson, 2002). In recent years a particular stream of distance education called 'transnational education' has become widespread (IDP Education Australia, 2000; McBurnie & Pollock, 2000; van der Vende, 2003). While there may be many definitions of transnational education, the one used in this article describes that type of education, often referred to as offshore education, *in which the learners are located in a country different from the one where the awarding institution is based* (UNESCO & Council of Europe, 2001).

The transnational education market involved 1.42 million higher education students globally in 1998, of which Australia had an 8% market share (Wyatt, 2001). According to Jones (2002), the demand for transnational higher education grew by 26% between 1985 and 1992; the growth is set to continue, particularly in South East Asia. It is estimated that the demand for transnational higher education in Asian countries (excluding China) will reach nearly 500,000 students by 2020 (Global Alliance for Transnational Education [GATE], 2000). This presents both a challenge and an opportunity especially for Australian universities, who are among the key transnational providers in the region. The Australian Department of Education, Science and Training estimates that, already, *approximately one in every four international students in the Australian education and training system is enrolled offshore* (Department of Education, Science and Training [DEST], 2005, p. 7).

Competition for students in the transnational education arena is becoming intense. For Australia, one of the main providers of transnational education in South East Asia (IDP Education Australia, 2000; van der Vende, 2003), satisfying the needs of highest demand disciplines in the region – computing and business – is of vital importance. With the growing number of transnational education offerings, students will be able to choose more widely and will increasingly demand high quality programs. According to Moore & Kearsley (2005), this power of consumer choice will drive universities to acknowledge and respond to student needs; it will also force universities to increasingly consider the effectiveness of their educational offerings in terms of their value to students. As Chapman and Pyvis concluded:

> If universities are to attain a 'goodness of fit' between the needs of their offshore students and the resources of the university, student expectations about quality need to be taken into consideration. (Chapman & Pyvis, 2006, p. 236)

One aspect of this 'goodness of fit' that needs to be considered is the delivery mechanism of transnational programs. While advances in technology, and the Internet in particular, have created

new ways of delivering education, and fully-online provision of transnational programs has been viewed by many providers as an economic alternative to face-to-face teaching (Davis & Meares, 2001), others believe that online learning cannot be regarded as a suitable alternative in transnational settings (Emil, 2001). What are the transnational students' views on the matter? What kind of delivery mechanism do they want and prefer? To Australian providers, the views of South Asian students are of vital importance, as this region is the main and fastest growing market for Australian transnational education. This article discusses the issue of fully-online provision of transnational programs and reports on the results of a study that sought the views on fully-online provision of such programs from current Australian transnational students in Hong Kong.

Problems with Online Delivery

The online learning environment has many advantages, such as extending the spatial and temporal barriers, flexibility, interactivity and interoperability (Curran, 2002; Huang & Hu, 2000; Khalifa & Lam, 2002; Kinshuk & Yang, 2003). However, fully-online provision of transnational programs raises many concerns regarding the learning experience, particularly about the extent of feedback and guidance that can be provided to students (Herrmann, Downie, & O'Connell, 2001; Knipe, 2002). Debowski (2003) agrees that fully-online provision of offshore programs is generally perceived to be less effective than options including a face-to-face component. She emphasises the strong recognition of the value of (Australian) academics meeting and interacting with the offshore student population; such regular teaching input by these academics significantly enriches the transnational program (Debowski, 2003; Ziguras & Rizvi, 2001).

Research literature identifies various aspects that are likely to hamper the development of fully-online programs in transnational education, including educational, cultural, technological, economic and legal factors (Debowski, 2003; Ziguras & Rizvi, 2001). Those factors, which often overlap, can be discussed in terms of localisation, technology, and curriculum.

Localisation Issue

Localisation of teaching is one aspect of transnational education that online delivery might find difficult to support. As Ziguras (2000) pointed out, the curriculum of a transnational program is usually standardised across several campuses, which may be located in different countries. While the curriculum is sometimes tailored to local conditions, the modifications are usually minimal; they may only involve assignment questions for example. In such circumstances, teachers, through face-to-face interaction, can play an important role contextualising and interpreting the content of study materials to make it useful for their students.

> Face-to-face teachers are able to introduce a significant degree of local interpretation for imported educational materials. Being in close contact with students, they are in a position to know how much local contextualisation these materials may require, and can achieve a balance in the use of various types of material according to students' level, interests, language skills, and so on. (Ziguras, 2000, p. 33)
>
> The relationship between students and face-to-face teachers is crucial in making foreign materials relevant to students. (Ziguras, 2000, p. 33)

Technological Constraints

Although some advanced technologies, such as streaming media technologies, are very capable of supporting voice and video and afford the possibility to emulate face-to-face interaction, they may be out of reach for many distance learners. For example, videoconferencing for learning over the Internet requires more bandwidth than is usually available to a regular Internet subscriber (Hentea, Shea, & Pennington, 2003).

It should also be noted that even universal access to computers by offshore students is not a safe assumption. For example, Singh and Han (2005), while working at Jilin University in China, found that many of their academic colleagues and students had limited access to a personal desktop computer, the Internet, and email; they had to pay for timed access to their email accounts and for downloading attachments, and they did not have access to high-speed data networks. For those users, their offline education could be supplemented, but not replaced, by ever-advancing online technologies (Singh & Han, 2005).

In China, the limited equipment and infrastructure for transnational online education in many institutions is only one factor that reduces its viability; one other important factor is *the strict legislation of central government regarding online education services provided by foreign countries* (Huang, 2003, p. 203).

Curricular Constraints

The availability of technology is not the only prohibitive factor; there are also aspects of curriculum and teaching that are difficult to emulate through technology. For instance, *demonstration of theoretical knowledge in Internet classes is below that of traditional classes* (Marold & Haga, 2004, p. 16). Having measured online students' ability to apply programming theory, Marold & Haga concluded that the Internet did not lend itself to the deployment of subjects that involved problem solving and higher analytical reasoning, such as advanced computing subjects – the online students in their study performed significantly worse than their counterparts in a traditional classroom. Discussing the results, the authors identified several factors that determined poorer performance of online learners in their study, including inadequate instructional methods, technology differences, and differences in group interaction. With respect to instructional methods, they pointed out that

> instruction in the online environment is still in its infancy and faculty, as instructors and course designers, have not yet developed the most effective methods for delivering some type of content in this context. (Marold & Haga, 2004, p. 17)

On the subject of technology, Marold & Haga highlighted the fact that face-to-face interaction created opportunities that let

> classroom instructors emphasize important content and encourage application of that content in ways that are not even apparent to the instructor – often through subtle changes in voice or body language that are simply instinctive for effective instructors. (Marold & Haga, 2004, p. 17)

They went on to say that application of theory in particular, might be effectively illustrated in the classroom through the choice of suitable examples or through answers to students' questions; technology could not easily emulate this kind of interaction. Moreover, *simple repetition can be effective in a classroom, but it is difficult to implement online* (Marold & Haga, 2004, p. 17). The authors also suggested that group interaction in a classroom setting could be an important contributor to the learning process. However, this kind of interaction is difficult to emulate in the online environment even through thoughtful use of online forums, chat sessions, and email; *the cohesiveness and satisfaction of class discovery is not duplicated online* (Marold & Haga, 2004, p. 17).

In addition, students who have to rely solely on online learning may have reduced opportunity to develop a broad range of learning skills, which may be possible under the guidance of a teacher *in situ*. However, this problem may be alleviated if teachers involved in the delivery of an online program are well trained in conveying such skills through good program design (Oliver, 2000).

Importance of Face-to-face Interaction

Research studies have indicated the importance of face-to-face interaction (Marold & Haga, 2003) and demonstrated that quality in education can be achieved by incorporating computer technology and face-to-face interaction (Kiser, 2002). Marold's study of performance and achievement between online students and classroom students found that achievement tended to be higher in the Web students. However, performance on projects and homework submissions was found to be higher in classroom students; especially in programming classes, online students with an average ability level had more difficulty applying the theory of programming problems than classroom students (Marold, Larsen, & Moreno, 2000).

The importance of the face-to-face communication and the need for localisation of transnational programs was also raised by Evans & Tregenza (2002). They examined a range of transnational programs offered in Hong Kong by Australian universities in collaboration with Hong Kong partner institutions. They commented on provision of face-to-face tuition in those programs concluding that *Hong Kong students seek and expect such contact*. They also pointed out that both the Australian instructors as well as Hong Kong tutors agreed *that the Australian courses need to be adapted to suit the needs of Hong Kong students*; to this end, Australian instructors would localise study materials, and face-to-face Hong Kong tutors would put those materials in relevant context. However, the extent of course localisation was limited by the existing regulatory framework (Evans & Tregenza, 2002). It should be noted that under Hong Kong legislation, all award granting programs offered by transnational (non-local) institutions must be registered; the registration criteria include the following condition:

> In the case of a course leading to the award of non-local higher academic qualification, the course must be offered by a recognised institution and is itself recognized by its home country as being of a comparable standard to a similar course operated by the institution in the home country. (Hong Kong Government, 1996, Section 10, p. A666)

Related to the importance of direct group interaction is the community aspect of face-to-face contact (Chen, 1997). Chen found that dialogue not only allows students to assess their learning but also to develop a sense of community with other students; this sense of community can alleviate the problem of isolation often reported by distance students. Kirkup & Jones (1996) agree and state that *students need dialogue with their teachers and with other students in order to consolidate and check on their own learning* (p. 278). Moreover, they list the inability to offer dialogue in the way that conventional face-to-face education does as one of three most significant weaknesses of distance education; the inflexibility of content and study method and the isolation and individualisation of the student are cited as the remaining two weaknesses.

Kiser (2002) reported on a two-year study by Thomson Learning. Launched in 1999, the study compared the results of three sets of adult learners: the first – the *blended* group – were taught to use Microsoft Excel with a mix of online and face-to-face instruction; the second group took an online course; the third group – the control group – received no training. The study report concluded that the blended group performed tasks 30% more accurately than the online-only group. The blended group and online group both performed tasks of accuracy better than the control group (which had no training) by 159% and 99% respectively. In addition, the blended group performed tasks 41% faster than the online group.

A recent meta-study aimed at identifying factors that affect the effectiveness of distance education has led to some important data-driven conclusions, including the importance of face-to-face communication, live human instructors, and the right mixture of human involvement and technology (Zhao, Lei, Yan, Lai, & Tan, 2005). Zhao et al. suggested that programs combining face-to-

face component and technology mediated distance component resulted in the most positive outcomes.

The Blended Model

Given the importance of face-to-face interaction, successful distance education programs are increasingly moving towards a new model known as *blended* or *hybrid* distance learning. The hybrid model adds a human touch to distance learning by using facilitators or mentors and promoting various types of interactions between students, instructors, and resource centers (Hentea et al., 2003; Riffee, 2003; Zhao et al., 2005). Some of the successful distance education programs that blend the traditional distance learning model with face-to-face teaching sessions include the programs at Purdue University West Lafayette, Indiana University, and Penn State University (Hentea et al., 2003). Riffee (2003) supports the hybrid approach maintaining that media alone cannot offer students guidance and personal engagement. Consequently, he regards face-to-face interaction as a necessary ingredient of successful distance education:

> I am fortunate to be associated with distance education programs that are very successful from the point of view of learning outcomes and that have been academically successful. It is my opinion that much of that success comes from using a hybrid model of distance education that involves the electronic delivery of content coupled with face-to-face contact by a faculty facilitator or mentor. (Riffee, 2003, p. 10)

Ziguras (2002) pointed out the importance of face-to-face interaction in transnational programs, as well as the decreasing interest in such programs if they are provided fully online. Recent Australian statistics confirm the declining interest in online programs. According to IDP Education Australia (2004), in 2004 there were an estimated 57,215 students in transnational programs offered by Australian universities. This declined by 4% on the previous year and comprised of 16,053 distance online students (15% decline on semester two, 2003), and 41,162 offshore on campus students (1% growth on semester two, 2003). Table 1 presents the numbers of distance online students in top five transnational markets in semester two, 2004 as compared to semester two, 2003.

Table 1: International students, top five transnational markets (IDP Education Australia, 2004, p. 12)

Rank	Distance Online	Number	Growth
1	Malaysia	3,846	-29%
2	Singapore	2,952	-16%
3	Hong Kong	1,952	-25%
4	China	1,867	23%
5	Canada	807	-15%
	Total	**16,053**	**-15%**

Having examined various modes of transnational program delivery in Australia and elsewhere, Ziguras suggested that the future of transnational programs belongs to programs that include face-to-face interaction facilitated largely by an offshore partner of the educational provider; he uses the term *joint delivery* to describe such programs.

> Evidence internationally shows that fully on-line delivery is proving unpopular except in small niche programmes, due to the lack of face-to-face contact, an unwillingness on the part of students to pay high fees and significant start-up costs. Branch

> campuses are faced with problems of scale and expose the provider to considerable financial risk through capital investment offshore. Perhaps the best approach, both in terms of mode of delivery and financial risk, is seen to be "joint delivery" with local, established partners, using on-line delivery in some form (for enrolment and general information for example). (Ziguras, 2002)

Views of Transnational Students

To evaluate transnational students' attitude towards fully-online provision of the programs, a study was conducted among students in three transnational computing programs offered in Hong Kong by Australian universities in co-operation with Hong Kong partners. The choice of locale and of students in computing programs was deliberate for two reasons. First, Hong Kong is not only the third largest market for Australian transnational programs, but it is also a well-developed territory where English is commonly spoken (Garrett & Verbik, 2003a, 2003b; IDP Education Australia, 2004); hence, students participating in the study were unlikely to oppose online education because of lack of suitable technological infrastructure or limited linguistic skills. Second, the intention was to seek the views of students who were technology savvy; hence, they were less likely to oppose online education because of techno-phobia alone.

All the evaluated programs operate in part-time mode for students who have previous approved tertiary qualifications. Students are normally in full-time employment and usually study six subjects per year – two subjects per term. Lecturers from Australia are responsible for the design of curriculum, detailed teaching plans, continuous and final assessment, as well as face-to-face delivery of twenty five percent of the programs. Local lecturers in Hong Kong teach the remaining part of the programs. The programs rely on the Internet for communication, e.g. subject Web sites, bulletin boards, and email. Students meet with lecturers and fellow students through face-to-face sessions and benefit from Web based support between sessions.

Data was collected through a survey and group interviews with students. The survey was administered to approximately three hundred students in the selected programs; two hundred and fifty nine completed surveys were returned. Forty-four students participated in six group interviews. The breakdown of useable survey numbers and student participation in group interviews across the evaluated programs is presented in Table 2.

Table 2: Useable survey numbers and student participation in group interviews across the evaluated programs.

	Program Type	Australian University	Hong Kong Partner	Number of surveys	Number of interview participants
Program1	Bachelor of Business (Computer Systems Support)	A	X	53	7 (1 group)
Program2	Bachelor of Computer Science	A	Y	161	29 (4 groups)
Program3	Bachelor of Information Technology	B	Y	45	8 (1 group)

Survey Results

Results from the survey revealed that students opposed fully-online provision of transnational programs and were adamant about the importance of face-to-face contact with both lecturers and fellow students. The opposition was pronounced and ranged from total rejection of fully-online provision by students in Program1, to a marginal support from students in Program2 and Pro-

gram3 respectively (see Table 3). Students repeatedly stated the importance of face-to-face communication as the most important reason for preferring the current program model that is, one that was based on face-to-face communication and used the Internet for support.

Face-to-face communication was preferred as, according to the respondents, it offered instant feedback, afforded easier communication with fellow students and instructors, was better suited to the resolution of study problems, and gave better motivation to study. Some students were of the view that learning in front of the computer only was too 'cold' and too difficult, while others were of the opinion that Hong Kong people had traditional attitudes towards education and therefore face-to-face communication was more suitable for Hong Kong students. Respondents did, however, acknowledge the usefulness of the Internet as a means for provision of course material and communication with instructors and fellow students. A summary of survey results and a selection of student comments are presented in Table 3.

Table 3: Student attitudes towards fully online provision of transnational computing education programs.

	% of students in favour of online delivery	Student comments
Program1	0	Face-to-face is the best way. Face-to-face is more important, of course. Face-to-face communication between instructors & students is important. It is important to have instant feedback. It is too cold to learn in front of a monitor only. Face-to-face gives the sense of belonging to the course. Face-to-face is more suitable for Hong Kong students. Face-to-face gives better motivation to study; instant feedback.
Program2	9	It is too difficult to learn everything through computer. Face-to-face interaction with instructors is better for the learning process. Face-to-face is better for resolving study problems. With face-to-face it is easier to get help. Face-to-face communication is clearer & easier to understand. Online learning encourages laziness. Online is not good for Hong Kong students. Face-to-face is more effective.
Program3	13	Face-to-face is the best way to solve problems in shortest time. Face-to-face communication is more important. Immediate feedback is needed. Face-to-face is better; Hong Kong people are conventional. Face-to-face helps mutual understanding. Face-to-face is important; instructors need to understand student needs. Face-to-face forces students to pay more attention to lessons.

The few students who were in favor of fully-online provision, qualified their assent with a variety of conditions including:

> Only if course materials were really good (S1).

> But Uni must ensure proper material and support (S3).
>
> Interaction via video-conferencing and advanced technologies would have to be provided (S3).
>
> But face-to-face tutorials would be necessary (S3).
>
> Only if it is much better (S2).

(To ensure anonymity, participating students have been identified only by their program identifier; that is, S1 refers to a student in Program1, S2 identifies a student in Program2, and S3 points to a student in Program3).

Group Interviews' Responses

The group interviews addressed this issue again to explore further the reasons behind the students' views. Students again responded in favour of the current model of the programs, that is one with a substantial face-to-face component. They regarded face-to-face communication as more conducive to the learning process, affording better opportunity to share knowledge and ask for help, and "easier" and more interactive:

> Face-to-face; there is more opportunity to talk to the lecturer (S1).
>
> We humans are lazy. It is easier to talk to the lecturer than learn from the computer. I also want face-to-face communication with my friends (fellow students) (S1).
>
> Face-to-face, because you can ask for explanation if you do not understand; it is quicker and easier to ask than find the answer online (S2).
>
> It is important to have the support of friends in the course. We often study together, or if I do not know something, I can ask my friend (S2).
>
> It is important to share knowledge, and it is better to do it face-to-face (S2).
>
> Face-to-face, because it is interactive (S3).
>
> I prefer face-to-face interaction with both lectures and students. Even if an online course was cheaper, I would still prefer face-to-face (S3).
>
> I could not rely on self-paced learning alone, I need pressure. Otherwise, I would be too lazy to study. It helps if I have to come to classes (S3).

However, students welcomed the Internet as a means for providing course material, facilitating submission of assignments, and enabling communication with lecturers outside classes.

> But online support is important, for example course material or email; but only as an addition to face-to-face classes (S1).
>
> Internet is good to provide material, but classes should be face-to-face (S2).

Discussion

The results of the study appear to confirm the views of Davis & Meares (2001), Emil (2001), Tomasic (2002), and Ziguras & Rizvi (2001) who opined that, although many universities view online learning as an economic alternative to face-to-face teaching, online learning could not be regarded as a suitable alternative in transnational settings. Ziguras & Rizvi (2001) argued that *fully-online global delivery has failed to capture the imagination of students and teachers in the same way as it has excited senior administrators* (p. 2). They looked at the existing transnational programs in South East Asia and concluded that distance education programs with no local support had not been popular; and they found that Australian institutions offering transnational pro-

grams in the region have learned to appreciate the importance of local presence. Students, especially in South East Asia, respect teachers and want and expect to be taught by teachers; those transnational providers that intend to *rely more heavily on online teaching and learning run the risk of eroding students' perception of quality* (Ziguras & Rizvi, 2001, p. 10).

The preference of Asian students for face-to-face contact with teachers, identified in this study, was also evident in this paper's discussion of the problems of online delivery, especially with respect to localisation (Ziguras, 2000), technology (Singh & Han, 2005), and curriculum (Marold & Haga, 2004). An explanation of this preference might be attributable to an 'Asian' preferred learning style, if one exists. In a quest to determine whether students' cultural background influences their perception and use of Web-based learning, Kum, Chang, and Bauer (2000) conducted a study involving two culturally diverse student groups: Anglo-Saxon and Asian; the students were assigned to the groups according to proximity clustering within Hofstede's model of cultural differences (Hofstede, 1986, 1991). The research findings suggested that Web-based learning was popular amongst both groups of students. However, while both groups perceived Web-based learning as an innovative way of facilitating learning, only 35% of students in the Anglo-Saxon group and 39% of students in the Asian group agreed that Web-based learning can substitute for traditional lectures. The findings also indicated that the Asian group of students seemed significantly less confident in using the Web-based materials. Asian students recorded fewer accesses to the Web-based materials and had more difficulties in navigating through the on-line materials as compared to the Anglo-Saxon students. This finding supports Hofstede's (1986) views that Anglo-Saxon students are more accustomed to student-centred situations, whereas Asian students prefer a teacher-centred approach. Kum, Chang, and Bauer (2000) concluded that the differences identified in their study suggest that a more differentiated approach to on-line learning might be necessary; they recommended that, despite the growing globalisation of education, cultural differences should be considered when developing on-line educational offerings.

Munro-Smith (2002) also recommended that culture should be taken into account in the design of learning materials. He conducted a study of differing behaviours in the use of ICT of students in Melbourne and Singapore enrolled in the same final year management unit. The study identified two prominent differences in student behaviour: one, in students' group-work; and, two, in the use of online course materials. Regarding group-work, the Melbourne students tended to rely almost exclusively on email and chat-boards for intra-group communication. On the other hand, in Singapore:

> the preference for face to face interactions remains very strong indeed; even to the point that exchanging contributions to the group reports is done in person by giving the others the files on floppy disks. Editing is done by sitting around one group member's computer. (Munro-Smith, 2002)

Regarding the use of online course materials, the vast majority of students in Singapore relied heavily on 'handouts'; they downloaded all available learning materials, printed them out, and used them as prescriptive instructions when preparing assessment tasks. Melbourne students on the other hand were far less likely to download the course materials and even less likely to follow the recommended approaches. Munro-Smith concluded that the difference between student behaviour in Melbourne and Singapore was largely due to cultural factors, and in developing an explanation for the difference, he drew on Hofstede's framework for cultural analysis.

Geert Hofstede defined national culture as *the collective programming of the mind which distinguishes the members of one group or category of people from another* (Hofstede, 1991, p. 5). Using five dimensions, he developed a model to describe cultural difference; the dimensions include: individualism, power distance, masculinity, uncertainty avoidance, and long-term orienta-

tion. Hofstede found Australians to be highly individualistic and to have both low power distance and low uncertainty avoidance. Singaporeans were found to be towards the other end of the scale in each of these dimensions. Munro-Smith (2002) used these classifications to explain the student behaviour observed in his study. Considering the individualism dimension, he suggested that students in Melbourne prefer to contribute to the group-work at a place and time that suits them (email) because they are "individualistic"; the Singapore students, on the other hand, have a strong preference to work together face-to-face because they come from a more "collectivistic" culture. He further concluded that Australian students relied sporadically on the online resources and were more relaxed in following recommended approaches because of their low scores in the power distance and uncertainty avoidance dimensions. On the other hand, the Singapore students felt obliged to respect their teachers (and by extension, the online course material) and closely follow provided instructions because they have high scores in power distance and uncertainty avoidance (Munro-Smith, 2002).

The influence of culture on internet access and usage was also explored by Gong, Li, and Stump (2007). They found that high power distance has a significant negative impact on internet access and usage. As Hong Kong has a high power distance score of 68 (as presented at the ITIM www.geert-hofstede.com Website), it might help explain the Hong Kong students' resistance to fully-online provision of transnational education reported in this article. Likewise, Singapore's power distance score of 74 seems to support Munro-Smith's (2002) findings discussed above. Wang (2006) commented on the low acceptance of online education in Asia, as compared to the West, despite the rapid development of online education in many Asian countries. He attributed the low acceptance to cultural differences. Since online learning is representative of highly developed technologies and Western values in education that emphasize individual development, self-management, active learning, and mutual communications – an example of low power distance and high individualism – it may not appeal to students from non-Western cultures. Park and Kim (2004) reported on the low number of applicants to the Korea National Open University and students' lack of confidence in the quality of education from a distance. In addition, Zhu, Gu, and Wang (2003) indicated that although 67 public universities in China have implemented online courses, most courses were *simply an extension of conventional classroom teaching* (p. 26) with the majority of teachers not ready to change their traditional way of instruction. All of this evidence seems to suggest that online learning is yet to be embraced by Asian students. Further research is needed into the possibility of an 'Asian' preferred learning style, or even to collect evidence of a learning style shared by students in a particular locale. If support eventuates, cultural considerations would need to be factored into future research and to the design, marketing, and delivery of transnational education programs.

Wong (2004) suggested that the Confucian teaching and learning framework and heritage could explain the Asian students' resistance to online learning. However, he also indicated that despite coming from a teacher-centered style of learning environment, Asian students are able to adapt to new styles of teaching and learning. According to Arbaugh (2004), the adaptation to online learning takes practice and it increases as students take subsequent online courses. The process of adaptation can be accelerated through fostering positive attitudes towards using computers in virtual learning environments. Having conducted a study among Chinese students at a tertiary institution in Malaysia, Lee, Ng, and Ng (2002) concluded that positive attitudes towards online learning were likely to prepare students psychologically to accept learning in an online environment, even despite deficiencies in computer skills. They also suggested that student maturity and motivation to undertake self-study played a role in the acceptance of online learning and pointed out the greater popularity of online course delivery at postgraduate level as compared to undergraduate level. Since the study described in this article reported the views of undergraduate students, it may very well be that the reported students' resistance to online learning could be attributed to their lack of maturity.

Students in face-to-face classroom settings see and work with one another and get to know each other well through the learning process. Online communications, on the other hand, lack elements inherent in face-to-face communication including context perception, eye contact, and a parallel visual and gestural information; the value of those elements is strongly embedded in some cultures, including the Confucian heritage cultures (Chase, Macfadyen, Reeder, & Roche, 2002). While for successful delivery online, the learning process on the Web needs to be well facilitated, the facilitation has to be particularly thoughtful when designing and delivering online programs to culturally diverse learners (Kum, Chang, & Bauer, 2000). Using Hofstede's (2001) model of cultural dimensions, Mercado, Parboteeah, and Zhao (2004) developed recommendations for the design and delivery of culturally responsive online programs. For example, online design for cultures with high power distance (of which Hong Kong is one) should include *ordered and symmetric imagery and presentation; use formal and appropriate imagery to display authority;* for those cultures feedback should be *definitive and assertive* and it should be *ready to provide standard answers* (Mercado et al., 2004, p. 190). In addition, Hedberg and Brown (2002) conducted a study of students' perceptions of interface design in Western and Chinese Web sites and discovered cultural differences in meaning and representation; they suggested that computer interfaces should be adapted for users from diverse cultural backgrounds and recommended that interface elements such as alignment, contrast, proximity, and repetition should be taken into consideration. An improved design of the course software could result in an increased student satisfaction with the Internet as a means to acquire education. According to Arbaugh (2004), satisfaction with online learning is determined by the attributes of the online learning environment rather than the attributes of the students, and the extent of learner online interaction is determined by the learner's satisfaction with the course.

Meanwhile, the appreciation of the importance of face-to-face interaction in transnational teaching has been acknowledged officially by the Australian government, in that a requirement for face-to-face interaction has been incorporated in the recently developed definition of *Australian Transnational Education* (DEST, 2005). In contrast to the general definition of transnational education, this definition includes two additional requirements: one, that the transnational program be delivered and/or assessed by an accredited Australian provider; and two, that the delivery should include a face-to-face component. It further stresses that transnational education includes *a physical presence of instructors offshore, either directly by the Australian provider, or indirectly through a formal agreement with a local institution* (DEST, 2005, p. 6).

Regarding the applicability of the results of this study to Australian transnational education, the sampling of data from programs offered only in Hong Kong does not lend itself to cross-validation of the findings against different educational contexts; the validation is constrained by the dependence on the milieu in which the research was conducted, providing only limited generalizability of the findings with respect to programs offered in other countries. It should also be noted that this study involved only participants from transnational education programs that included face-to-face delivery. Hence, the students' partiality towards this type of program delivery might have been a sign of 'preferring the familiar', except for the afore-mentioned research that suggests the contrary as far as transnational education students are concerned. Nonetheless, future research needs to address this issue.

A larger multinational sample would be desirable to expand upon the generalizability of the study findings. A study of transnational programs offered by universities from countries other than Australia, and programs offered in destinations other than Hong Kong, would be advantageous by introducing larger variation in student perceptions; this could also assist in determining any cultural influences. In addition, a study differentiating between students in blended and purely distance education (fully-online) programs might illuminate the differences in the perceptions of students seeking their qualifications through different educational modes.

Conclusions

Australian universities have had over two decades of experience in the provision of transnational higher education programs, particularly in South East Asia, and lessons learnt from this experience can provide guidance to assist in decisions concerning the choice of delivery models of such programs. The implementation and utilisation of current and emerging technologies offers many potential advantages, including ready access to a vast store of the latest information and facilitation of communication between students and between students and instructors. However, the advantages to be gained from introducing new technologies will depend on the ability and willingness of the students to use them. An assessment of cultural implications, educational needs, and potential consequences in the classroom need to be considered prior to deployment of those technologies.

This article discussed the issue of online provision of transnational programs and reported on a recent study of the perceptions of Australian transnational students in Hong Kong on fully-online provision of such programs. The study found that the students overwhelmingly opposed a purely online-based delivery model and, instead, preferred the blended delivery format of their current programs; they emphasised the importance of face-to-face interaction and regarded the Internet as a useful, but only as a supplementary, means of support.

It appears that despite earlier predictions that globally offered fully-online programs would dominate the transnational education market, Web-supported face-to-face delivery is likely to continue as a preferred model of transnational tertiary education programs. As Ziguras & Rizvi (2001) point out:

> Transnational education providers need to remember that the habitual ways of teaching and learning are resilient not because they are the most effective means of 'delivering information', but because of the richness of the learning relationship that are developed through ongoing face-to-face interaction. (Ziguras & Rizvi, 2001, p. 10)

Consequently, at least for the foreseeable future, the fully-online provision of transnational programs might have to remain off.

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Biography

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