Equity and Access in an E-Enhanced, International, University Environment: Learning Style Implications

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Abstract

Globalisation and technological development have simultaneously pressured universities to provide students with flexible and innovative learning options. Among the ways universities address these issues are by internationalising their curriculum and investing in educational technology. These changes have affected pedagogical and andragogical approaches and outcomes. Learning styles potentially affect the strategic approach of academics when utilising innovative technological tools in their teaching, which converges with internationalisation of the curriculum and a diverse student body to accentuate the issues of equity and access. The literature in this field is explored in context with the authors' diverse experiences to provide policy makers, academics and other education stakeholders with a new perspective.

Key words: Globalisation, internationalisation, universities, on line education, equity and access.

Internationalisation of Curriculum

In the last few decades concepts such as 'internationalisation' and 'globalisation', have reoriented the business world. Universities and higher education have not been spared either with terms being used such as "intercultural-, comparative-, multicultural-, and international- education" (Knight, 1997, p.5, see also Blackmore, 2002; Coleman, 2003). Internationalisation of curriculum has gained considerable momentum, with higher education becoming a "booming business" in a number of countries including Europe (Dijl & Meijer, 1998/1999) and Australia (Blackmore, 2002; Coleman, 2003; Hicks et al, 2001; Nachmias & Shany, 2002).

Internationalisation can be defined as the "process of integrating an international/intercultural dimension into the teaching, research and service functions of the institution" (Knight, 1997, p.8). Internationalisation can incorporate one or more of the following activities (Olson, 2005): recruiting international students; developing and teaching international courses; offering programs overseas, and cross-border research.

Students support aspects of internationalisation by studying in overseas universities, away from their family and friends for a combination of reasons such as (University of Otago, 2002; Li, 2004):

- Desire for gaining a specific, professional credential
- Developing a proficiency in English
- Building business and social contacts amongst the local people
- Being in a safe country, and
- Intending to gain permanent residence.

Universities have recognised students' motivations and attempted to merge them with their policies and curriculum. A number of political, economic, academic, social and cultural (Knight, 1997, p.5) factors have been cited for internationalisation effecting higher education. Developments and exponential uptake of technology (such as the Internet, email, video conferencing, teleconferencing) by the wider community have closed the gap between geographical borders and time zones. In response to increasing global competition for their share of international students, many Australian universities continue offering distance (or off-campus) courses and maintain partnership with off-shore campuses (see Calverley & Shephard, 2003; Coleman, 2003; Eastmond, 2003; Weigel, 2002).

For universities to continue to attract international students they need to ensure that their courses are comprehensive, informative and prepare students to work anywhere in the world, which again can be achieved by internationalising their courses. Getting input from the students currently studying, representing diverse cultural values and experiences, this process of internationalisation can be made easier. A successful example is where an academic co-authored a book with her students capturing diversity in various cultural issues in case studies (see Ramburuth, 2005).

In experiences of one of the authors teaching a third year subject the aspect of internationalisation was addressed in the unit by using a combination of resources. For instance, the author of the textbook used is an American even though examples provided in the textbook are not solely restricted to the American context – they are global. More specific Australian examples are included in the lectures and during tutorial discussion. This provides students with different perspectives whilst communicating the message that there is more than one way to resolve issues when faced by organizations and individuals, and that the solutions may be dependent on the company they are working for, or the country they are operating in. Exchange of views can be further seen during class discussions when students from their respective countries share their experiences, knowledge, and ideas of resolving an issue from different perspectives. An experience of your other author in teaching a second year subject differs in that the textbook writers are half a dozen Australians, although with diverse international backgrounds, and examples in the textbook continue to express internationalised content. Other academics in Australian universities also attempt to reap the benefits of having a diverse class of students (see Wadud, 2005).

Internationalisation and Design, Pedagogy and Equity Issues on Inclusive Education

One important aspect of internationalisation of curriculum is to ensure that all students (regardless of their geographical limitations) have equal access to resources including those provided electronically in the learning management system. Unless required by relevant subject, the academic needs to beware of deploying material that requires too much use of the Internet or high-speed connectivity. This is to ensure adherence to the W3C accessibility requirements (World Wide Web Consortium, 2004). This aspect is significant as not all the students have firstly, access to Internet (both in city and regional areas; and across borders); and secondly, not everybody has high computer skills and literacy (whether they be young or mature age students). These aspects hence need to be addressed in accordance with University policies (see Selwyn et al, 2001).

To address the issue of equality in the above-mentioned third-year unit, it was ensured that all the students (both on- and off-campus) had equal access to the resources. This was achieved by duplicating most of the material posted on the learning management system onto the CD Rom, posted in mail to off-campus students, as then students need not log onto University website to read relevant material. It should be noted here that even though CD Rom was posted only to off-campus students, on-campus students also had the option to buy it from the bookshop. In the second year subject the CD Rom was provided to all students, whether on or off campus, in addition, core content files were disaggregated and provided in the Blackboard learning management system. This served to minimise most variations of accessibility problems.

Another potential equity complaint can emerge from the types of assessment used in units. Kozulin and Garb (2004) remind that assessment amounts to an evaluation of a student's learning ability with the subsequent aim of gaining information useful for improving instruction. It is acknowledged that students as learners have diverse learning styles, some are better at remembering factual topics, others are better with numbers. Similarly learners have different skills with respect to writing and expressions, some are more creative than other; and there are students with limited ability to express in traditional writing styles such as essay and reports. Academics are thus faced with number of issues when finalising assessments, such as:

- Diverse learning styles and needs of students
- English proficiency
- Developing and evaluating written or oral skills
- Level of understanding of subject
- Diverse cultural learning styles
- Possible workload of various students (number of subject enrolments; and fulltime work versus university study)
- Whether to design an individual or a group assignment
- Whether assessment should be completed inside or outside of scheduled class times, or submitted inside the university's electronic learning management system
- Percentage of marks for each assessment, and
- Whether to make examination a 'hurdle' to pass the subject.

Consequently, the majority of academics have a combination of assessment tasks, such as an essay, a report, critical review, multiple choice questions, to name a few (Ramburuth, 2005). Many units also incorporate diversity in having both group and individual assignments. For instance, in both the second and third year units referred to in this paper, students are given a choice as to whether they wish to complete their second assignment in a group or individually. Whichever option is chosen by a student it is made clear at the start of the semester that the assignment task and weightings would not change. Other Universities, such as Flinders, have outlined the advantages and weaknesses of various assessment types that would assist an academic in finalising their decision-making (Learning, 2005).

Another requirement that necessitates unit team attention is to avoid any bias in marking assessments. The bias could be introduced due to a number of factors, for example, "prior knowledge of student ability; comments from other markers; handwriting; gender bias; personal knowledge of student" (Leitch, 2005). Since 2004 the authors' university has attempted to address some of these concerns by removing the names of students from examination sheets. There are hence fewer opportunities for markers to match student numbers with names and faces at the time of marking. Nonetheless, questions arise of addressing bias concerns in subjects with no examination component. In such instances to reduce bias from assessment tasks (and marking), the University requires all academics to follow and comply with 'comparability of assessment' policies, specifically by mandating each cohort of students follow the same fundamental assignment criteria, then that assessors mark and moderate with appropriate objectivity.

Another predicament often faced by academics is whether to have an 'open' or 'closed' book examination. One can question whether 'open' book examinations are of any use as students can refer to the textbook – in this instance what are we really testing? Concurrently, we also need to be aware of the group of students (Peszynski, 2005) for whom the word examination represents stress and anxiety regardless of whether they were brilliant writers and participated in lectures/tutorials. In such instances, is having less weighting on examination a solution, or not making an examination as a 'hurdle'? Is having a variety of assessment methods (case studies, short answers, multiple choice, essay) a solution? This is where the question of equity is validated by real questions about what is appropriate.

Following an in-depth study of assessment practices in a number Australian universities James et al (2002) have discussed issues faced by academics in higher education including those of assessment requirements and plagiarism. A checklist of effective assessment criteria's has also been presented. As academics we need to comply with various polices and procedures but the bigger question that is not always addressed is what academics are testing and evaluating, such as:

- What students have learnt throughout the semester
- Application of theoretical aspects, and
- Delivery of the course and/or how effective an educator has been in delivering the course?

In 2005 the authors' university faculty introduced the policy to remove all choices from examination as it provides a medium for equal comparison. Critics have raised the question of equity and queried whether this is really fair for all students, acknowledging that students have different learning and writing styles (not to mention differences related to on- and off-campus situations). In addition, the issue of written assessment being the main way to measure someone's competency is fraught with

problems of equity. There are a few instances of unit teams bucking the faculty's strong reliance on written means of assessment, especially by the use of supervised examinations. This may be handy for online students but what about equity for face-to-face, not to mention people with learning differentials? These are a couple of many examples of the bureaucratic battle facing educators. Ideals of instructional design are often difficult to implement.

Weigel (2002, p.14) proposed three principles for embedding assessment and encouraging deep learning:

- Respectful communication and awareness of primacy of written skills in online environments
- Clarity of public and private dimensions when assessing collaborative or individual work, and
- Focus not on anonymity but on constructive criticism in a learning process.

Making a careful, purposeful critique of pedagogy in the light of recognised issues in learner diversity, differing learning needs, and different teaching styles and modes of delivery, is complex but essential. Cross (1981, p.141) gives an example where an 'activity-oriented' learner with the goal of "making social contacts" attends a traditional lecture where the participants all disperse individually at the end. This person is more likely to rate the course poorly. The pedagogy is mismatched to needs. Another learner may encounter a class where there is plenty of interaction but, due to inherent shyness cannot participate effectively. They may even prefer to sit in the previous lecture scenario. This person would also rate what is otherwise a good class poorly. The styles of active and social learners, as well as passive and shy ones can also play out in the online classroom (Cameron, 2006). The growth of virtual forms of education warrants continued attention of policy makers and academics if they wish to create the balance between students' learning styles and mode of education. Failure to recognise and address different learning styles in e-enhanced education creates the risk that the needs of students may be ignored in a market filled with choices at tertiary level in a global arena.

Is there a Link between Learning Styles and Teaching Styles?

Learning styles are not attributes set in concrete, we as individuals modify them according to the situation. Learning styles merely "offer descriptions of the different ways in which people acquire knowledge, think, and learn" (Nachmias & Shany, 2002, p.316; see also Perry, 1994). It has been repeatedly argued that our learning styles have a direct effect on our teaching style (Ballard & Clanchy, 1991; Marshall, 2005). There are a number of questionnaires such as Learning Style Analysis (2005) and Learning Styles Scales (2005) that can assist educators to identify their learning styles. Once teachers identify their own learning style preferences, the next step is to recognize if learning styles have an impact on teaching styles. Academics need to be conscious of the restrictions placed by the university on the extent of changes permissible in the subject content or the delivery. In our experiences students generally from Asian cultures, due to cultural backgrounds, tend to be quiet in class and write everything down even though they are familiar with the response (see Ballard & Clanchy, 1991; Gilchrist, 2005; Shao et al, 2005). Accordingly more and more academics write information on the white-board or a

similar medium, wasting time as some would say, instead of spending the time debating issues. Critics have, however, questioned whether, even though educators may try to modify their styles to suit such learners, this approach is beneficial to learners in the long run when they enter the diverse workforce (see Verreck, 2003) as employers would not be 'spoon-feeding' them. Universities still need to produce graduates capable of performing at work, otherwise the reputation of the school is eroded.

Ballard and Clanchy (1991) encourage educators to recognise the cultural roots of learning habits, to explicitly address styles of learning in consort with learners, to model appropriate learning behaviour and thinking styles, and to offer exemplars of study habits for learners. There are significant barriers to learning that Cross (1981, p.99) categorises as situational, institutional and dispositional. Notice how e-enhanced learning platforms change the emphasis in each of these areas. The situation of an online classroom is certainly quite distinct. At the institutional level, policies related to online teaching and delivery and accessibility of content and assessment have to be tailored according to the available technology. Dispositions of teachers and learners are subtly different in the online classroom and when using different types of e-learning technologies. Consider how one responds in thought and behaviour in a teleconference, for example, compared with an asynchronous discussion thread in a learning management system, such as Blackboard. Essentially, the context of learning, the limitations on teaching practice and learner behaviour, and the preconceptions teachers and learners bring to the classroom can play out in limiting ways. Fortunately, given the irreversible march of e-enhanced approaches to education, it appears the recommendations of Ballard and Clanchy (1991) go some way to mitigating these barriers.

It is interesting to consider the point made by Ramsden (2003) that learners can quite easily distinguish between entertaining teachers who present inaccurate material, and average entertainers who know their subject matter well. It appears the latter rate better in most evaluations of teaching. Of course, combine the latter with excellent presentation and ratings move yet higher. It seems learners can make the best of imperfect teaching; they can assess, adjust and learn in less than optimal contexts – but they can excel in situations where teaching is improved, and that is where Ballard's and Clanchy's (1991) advice comes into its own. With the identified growth of e-enhanced education, the discussion of entertainment continues in context with such learning objects as podcasts and animation files. Now, the emergence of social software and Web 2.0 interactivity, the role of the facilitative teacher, the one who truly knows how information fits together and can guide the learning through the sea of information, is reaffirming (Ramsden, 2003). It continues to be insufficient to provide fun information, say via a podcast, then fail to contextualise this for the learner in accordance with learning outcomes. Plaisted and Irvine (2006) describe Web 2.0, the new generation of social software and interactive online applications, as encouraging the learners to "selectively participate, actively or passively, in the generation and selection of content and discussion."

Changing Role of Educators amidst Online Technologies

Long before Web 2.0, it was well observed that the method of delivering education has changed over the centuries, from teaching face-to-face to a few disciples (for instance as in times of Socrates – Simpson, 2001; Nunan, 2005), to classroom teaching (involving teachers and students) (Coleman, 2003). In present

times we generally practice a three-way method, involving the teacher, student and a specified curriculum (Simpson, 2001). In all these methods, reliance on memory was primary function and subsequently assessed by the educator. Then came the technology, and power-point presentation was one of the main uses of technology by educators.

With the coming of the online technology, the way of delivering knowledge and learning has dramatically changed. The students can now "choose when, where, how, with whom, and for how long they engage in learning exercise" (Simpson, 2001, p.4). Critics argue that "academic must adapt to new technologies or perish" (Steck, 2003). This needs to be remembered within the current context where students of this century are more technologically savvy than ever before (see Stacey, 2005). Accordingly, it is expected that an increasing number of universities would tailor their courses to respond to individual students needs (Sheard & Lynch, 2003; see also Anderson & Elloumi, 2004; Hicks et al, 2001).

Depending on the available resources and more importantly dollars and time, different policies and strategies are being developed by universities to market their on-line courses (see also Steck, 2003). These could range from either simply duplicating the material used in face-to-face lectures on the web page, to, having a combination of text material (such as a text book) accompanied by audios, videos and other regular posting of relevant information. Then there are universities which offer either some subjects or complete courses only online and solely employ technology (such as the Internet, emails, discussion sessions, audio streaming) to communicate with their students (see Weigel, 2002).

Irrespective of the extent of technology being used by a university to distribute its material and communicate with its students, "if they do not deepen the learning experiences of students, they are not worth much … e-learning should enable students' to become more proficient learners" (Weigel, 2002, p.1, 2; see also Anderson & Elloumi, 2004; Eastmond, 2003; Philippe, 2005; Selwyn et al, 2001). Accordingly, it is essential that we as educators make a genuine effort to enhance our students learning experience, keeping in mind our personal limitations (of technology awareness) and moreover the course and university's expectations and guidelines. One of the ways that we use to enhance students learning experiences is by giving them detailed, comprehensive, timely feedback regardless of whether they are on-or off-campus students. We as assessors of student learning should be able to justify where and why the students' marks got deducted.

Online teaching experience offers a number of advantages such as being cost-effective, offering flexibility to educators and learners, instantaneous communication and access to myriad of web resources. Universities and eductors however need to be cautious that their on line delivery does not become a "discouragement and isolation" (Weigel, 2002, p.8) experience for students. In online teaching, the educator/teacher needs to become a facilitator (see Mezirow, 1997; Nachmias & Shany, 2002; Simpson, 2001; Stacey, 1998). The authors accordingly respond to student messages in the learning management system and emails as promptly as possible. The potential time delay in responding to student queries becomes more significant when the students have no face-to-face interaction as it then requires building of trust between the educator and learner and between the different learners as well. Many have argued that sometimes social interaction takes longer in online environment than face-to-face as we cannot see the other person's expressions and get immediate feedback.

Mezirow (1997) usefully explains the concept of the frame of reference with which learners enter a situation. To function as truly autonomous beings, individuals would ideally use their own frame of reference (their unique background of experience, perceptions and responses) to engage with the matter at hand, and construct their ideas, concepts and actions about it. This transformation from passive to active learner facilitated in a frame of reference is the core of transformative learning, and is especially relevant in context with technological delivery modes. The frame of reference itself is under pressure when, for example, e-learning modes change from semester to semester. Now we are trying to understand not only how learners engage with the subject of study but also with the self-analysis of learning. What seems obvious to one learner about, for example, the ways a group discussion activity may assist understanding of a topic, is not necessarily obvious to another who, for example, feels emotionally restricted talking about things in the group.

Mezirow (1997, p.6) points out that one aspect of transformative learning is communicative learning, which involves, "understanding purposes, values, beliefs, and feelings." It seems that some reference to 'scaffolding' might be important in transformative learning. Weigel (2002, p.10) refers to the constructivist origins of the concept and how it elevates the role of the teacher as facilitator in an information rich environment. The scaffold, (the learning design and facilitated support) would be essential for a learning transformation to be complete. Weigel (2002) more directly discusses scaffolding in terms of online education. The potential for miscommunication and personal distance online may make a scaffold between concepts more important. Technology can connect people, but it can also act as a barrier to rich connection unless some structure and facilitation are provided.

For universities to be truly successful in their efforts to share knowledge globally and practice "lifelong learning" (Hicks et al, 2001; Keogh, 2001; Selwyn et al, 2001) it is essential that efforts are made to bridge the "digital divide" (Keogh, 2001; Selwyn et al, 2001) resulting from inequalities of access to technology "in terms of age, socio-economic status, race, gender" (Selwyn et al, 2001, p.260) or living in remote/rural areas, having a disability or English not being the mother tongue (Keogh, 2001, p.223). For example, research has shown that women are less likely to access technology due to their greater family commitments (see Kramarae, 2003; Selwyn et al, 2001). Study conducted by Vergidis and Panagiotakopoulos (2003) on students' dropping-out from Open University found that females dominated this trend primarily citing "unexpected situations" or "lack of sufficient time". Other studies have shown different learning styles of males and females also affect the extent of on-line contribution made by females (Barrett & Lally, 1999, p.52).

Creed and Swanson (2004) propose a model of mental tactility whereby the increasing amount of information technology being used in education is encouraging increasing reliance on good written skills if learners are to succeed in tertiary settings. Coupled with the traditional emphasis in university on written prowess in assessment, such as essays and examinations, and the re-emergence of writing as an educational tool is, indeed, impressive. So, the pressures in education are two ways, one about producing high quality graduates equipped to function in a modern world with requisite skills (such as writing) and another about equity in learning and assessment where writing ought not be elevated if at the expense of the less capable.

Students Feedback on On-Line Teaching Practices

To identify the needs of learners, the authors asked their second and third year students, via focus groups and open questions posted on electronic database respectively, to share their experiences of using technology versus paper modes of learning. The focus group discussion was started early in the semester (week 3) where they were asked about their own needs as learners, how they learn, and their expectations and anxieties about their learning. In the final tutorial of the semester (week 13), the focus group participants were re-convened and asked to reflect on what they have learnt, how they have learnt it, and whether they felt they had opportunities to demonstrate their learning. The focus group discussions revealed strong pressures and perceptions of the subject matter in the context of assessment. It was found that tension exists in each topic between what is ideal and what institutional policies allow and support. Ultimately it was revealed that there is a duality of apparent simplicity in trying to provide learners with what they need, and encountering the practical complexity of trying to achieving the course design.

In 2005, the third year unit was for the first time delivered in both on- and off-campus modes whilst practicing internationalisation of curriculum and ensuring consistency across all cohorts. The aim was to identify student's reactions on not having a traditional, paper based study guide. This is not to say that the material sent to off-campus students (or even for on-campus students) was deficient in any way. A variety of resources were prepared such as CD Rom comprising of audio interviews with experts, videos, weekly case studies, links to various Internet sites, and newspapers articles. Lecture overheads, responses to tutorial work, and short abstracts introducing each topic were posted weekly on the electronic database. It was anticipated that these resources would complement students different learning needs and also provide them with a medium to gain in-depth knowledge in any area they wished to further explore. This decision to have an electronic study guide in the form of CD Rom was in accordance with University move to steadily introduce electronic material.

Students were asked to respond to a number of open-ended questions. To address the issues of confidentiality and anonymity, the students had the option to respond either on the electronic database (a public forum) or mail their responses via email to the unit coordinators. All except two students replied on the electronic database. Two students responded via emails cited faster connectivity to their personal emails than anonymity and confidentiality of their responses.

Mixed responses were received from students on absence of a printed study guide. Majority of the students appreciated the change to electronic medium as it provided them with greater accessibility and flexibility to resources without logging onto the Internet, as seen in comments such as:

This subject has been the most organised and thorough in its content that I have done in my entire time at University. The CD Rom is excellent, Thank You.

As a first-time off-campus student I have been amazed and impressed by the electronic information. At first, it took me a little while to get around and working out how it all worked but the attentiveness to issues and concerns expressed regarding study issues have been responded to so quickly and all information has been exceptionally helpful. The videos and audios have been great. I think all the material provided has been excellent to provide a thorough understanding of business ethics.

I really enjoy the CD Rom and the websites chosen to facilitate the lecture notes. I find them very refreshing and less cumbersome than using text books and I don't mind printing what I need to read. I would really appreciate it if other management subjects would adopt electronic materials rather than just the printed reading material and text book as I feel it suits my learning style better, but I understand that this may not suit everyone.

I've also really enjoyed the way this subject has been structured this semester. It suits my learning styles. I certainly have no problem not having a study guide as I have felt in the past (and current for another subject), that the study guide is more often like an executive summary of the textbook.

There was also a group of students who wanted a printed study guide and cited a number of reasons for it – costs of printing material from CD Rom and the electronic database; need to start up computer to access reading material; having young children at home and/or working full time, which did not leave them with enough time to print material. These findings and emotions have been echoed in comments such as:

Personally, I would prefer a printed study guide with all this material because it has taken me a lot of time to print off the material I need, and cost.

I too would have liked to have a printed study guide. I'm lucky in that I can print a fair chunk of the resources at work (but not everyone has that luxury). I also have a toddler at home, and it's a lot easier to put down the study guide for two minutes to stop what mischief is occurring and to 'supervise' from the couch with study guide in hand. I found the CD needed a lot more focussed and intense concentration which at times was difficult. Otherwise, it has been good and interesting.

I would prefer the study guide as a printed resource as I struggle to read material off a computer screen (my own weakness), but I was satisfied with the content of the electronic materials supplied.

As an off-campus student who works full time and travels interstate for work … I have to spend significant time printing the readings and case studies so that I can study off line.

Student's feedback assisted the unit team to gain a better understanding of the differing needs, of especially off-campus students. In 2006, the unit team incorporated a number of suggestions to further improve the structure of the subject. The suggestions also assisted the unit team to convince the appropriate authorities to not replace the current printed study guide. Students could alternatively be offered a choice of whether they prefer to receive electronic material or printed hard copies.

Conclusion and Future Research

Globalisation and technological development changes have affected educators' learning styles and preferences when utilising innovative technological tools in their teaching. In addition, internationalisation of the curriculum and a diverse student body, have elevated the issues of equity and access. Student learning styles should also remain at the centre of understanding these changes. The literature in this field has been integrated with the authors' diverse experiences to provide new perspective. The authors explored the origins and foundations of demand for immediate online feedback, discussed the ways to facilitate effective and efficient teaching in this context, and explored supporting research. The main ideas discussed in this paper were:

- Universities have recognised students' motivations and attempted to merge them with their policies and curriculum
- Online technology is dramatically changing the way of learning and delivering knowledge
- Critique of pedagogy is essential in the light of recognised issues in learner diversity, differing learning needs, and different teaching styles and modes of delivery
- The advantages offered by e-learning technologies could also become its downfall if not managed properly in this intensified world of equity and access issues.

Further research is required to identify the degree to which the differences between e-enhanced and face-to-face teaching may (-not) contribute to differentials in perceived and actual equity and access difficulties. Gender, for example, as a possible indicator of uptake of technological learning environment also needs to be further explored. How cross-cultural diversity may impact internationalisation also calls for further study.

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