PERCEPTIONS OF ONLINE LEARNING IN AN AUSTRALIAN UNIVERSITY: MALAYSIAN STUDENTS' PERSPECTIVES – USABILITY OF THE ONLINE LEARNING TOOLS

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ABSTRACT

This study set out to investigate the kinds of learning difficulties encountered by the Malaysian students and how they actually coped with online learning. The modified Online Learning Environment Survey (OLES) instrument was used to collect data from the sample of 40 Malaysian students at a university in Brisbane, Australia. A controlled group of 35 Australian students was also included for comparison purposes. Contrary to assumptions from previous researches, the findings revealed that there were only a few differences between the international Asian and Australian students with regards to their perceptions of online learning. Recommendations based on the findings of this research study were applicable for Australian universities which have Asian international students enrolled to study online.

Keywords: Asian international students, Online learning, Online learning environments, Online learning environment survey (OLES), Net Gen, Online Learning Tools.

1. INTRODUCTION

Online learning, for the purposes of this study, is defined as learning which takes place via a web browser on the Internet, intranet, and extranet (Chiu, Chiu, & Chang, 2007). The usability of the learning management system is important as are its applications such as interactive video, bulletin boards, chat rooms, e-mail, instant messaging, and document sharing systems (Martins & Kellermanns, 2004; Klein, Noe, & Wang, 2006).

A review of existing research literature on students' perceptions of online learning revealed several gaps in the body of knowledge necessary for the informed utilisation of blended online courses with Asian students studying in Australian universities. An example of this is the lack of research on the influence of different culturally-based learning styles on the Asian students' engagement with and perceptions about online learning. According to Wang (2007), cultural attributes affect online presence and learner perceptions. Another gap is the limited corpus of knowledge about how differences in online learning environments influence Asian students' perceptions of online learning. These student differences in online learning environments have been reported in the literature (e.g., McLoughlin, 1999, 2001a, 2001b). In terms of student experiences, the research study focused on the problems that these students faced when studying in an online learning environment, the strategies they employed to address these problems, and how they used the online learning tools (e.g., chat rooms, conference/video conferencing and emails) to overcome these challenges.

1.1. Learning Environments

Researches on learning environments have led to the development of a range of learning environment instruments. In the past decade, quite a number of tools have been developed to specifically evaluate online learning environments including Constructivist On-Line Learning Environment Survey (COLLES), Web-Based Learning Environment Inventory (WEBLEI),Technology-Rich Outcomes-Focused Learning Environment Inventory (TROFLEI), Distance Education Learning Environments Survey (DELES), and Online Learning Environment Survey (OLES). The OLES instrument is the most recently developed online learning environment evaluation tool compared to others (before 2004) that have been used to evaluate the university's online learning environment. This instrument was used to evaluate the Masters degree and Postgraduate Diploma students' perceptions towards the actual and preferred online learning environment in the university (Trinidad & Pearson, 2004, 2005). Although the review of the research literature implied that OLES was probably the optimal learning environment instrument to utilise in this research study, the review of the research literature also reflected the need for an additional three scales to adequately ascertain Asian students' perceptions of these important factors: Evaluation and assessment of individual and group learning, Online learning tools, and Interface design.

1.2. Net Generation

The term Net Generation refers to those who were born in 1982-1991. The majority of Net Genners are known for their obsession with achievement that has been initiated even from before university days, where guidance counsellors, parents and lecturers have been emphasising college education and the need to attain the best possible results (Oblinger & Oblinger, 2005). Net Gen students are mobile, comfortable with fast tempo, and are good in multitasking (moving back and forth rapidly) between real and virtual spaces (Brown, 2005).

1.3. International students: Cultural Differences and Learning Environments

Previous research (Smith & Smith, 1999; Ramburuth & McCormick, 2001) reported significant differences between Asian international and Australian students studying in Australia. Leder and Forgasz (2004) suggested that international students were often assumed to be disadvantaged because many do not have English as their first language and their educational backgrounds were different from those of their Australian peers.

Teaching online to an international audience can be significantly different, when compared to teaching in a traditional classroom setting with the same audience. In a traditional classroom setting, the learners are usually removed from their own cultural context and required to operate in the educator's context. However, within online learning environments, factors related to the differing cultures that Asian international students bring to the university online courses have the potential to have a more significant impact on their experiences and their perceptions of online courses.

2. METHOD

This study was conducted with the Malaysian students who were enrolled at an Australian university. The students sample comprised 40 Malaysian students (*n*=40) and 35 Australian students (*n*=35). All of the students in the study were first or second year undergraduate degree students. The survey consisted of twelve OLES scales, (three of which were added by the researcher) used to investigate the students' perceptions on online learning. The modified version of OLES contained a total of 71 items broken into twelve scales - CU (Computer Usage), LS (Lecturer Support), SIC (Student Interaction & Collaboration), PR (Personal Relevance), AL (Authentic Learning), SA (Student Autonomy), EQ (Equity), EN (Enjoyment), AS (Asynchronicity), EA (Evaluation & Assessments), OLT (Online Learning Tools), and ID (Interface Design). A Likert scale questionnaire (1-Never; 2-Sometimes; 3-Quite Often; 4-Frequently; and 5-Always) was used to gather responses from the students. An open-ended item

was attached at the end of each section to generate qualitative data that could be utilised to supplement the quantitative data. To facilitate the collection and analysis of data derived from the survey, the twelve modified OLES scales were clustered into four categories: Enjoyment, Usability of the Online Learning Tools, Support for Learning, and Quality of Learning. In this paper, the Usability of the Online Learning Tools category will be reported. This category is to identify the tools that students used the most to assist their learning and enhance their level of satisfaction with the Blackboard interface design, the students completed questions in the following three scales: Asynchronicity (AS) scale, Online Learning Tools (OLT) scale and Interface Design (ID) scale. The collected data was analysed using ANOVA to investigate the differences between the Asian Malaysian and Australian students. The feedback on the open-ended questions were then analysed using thematic analysis.

3. ANALYSIS AND DISCUSSION

All Three scales (Asynchronicity, Online Learning Tools, and Interface Design) were used to evaluate the students' perceptions about the usability of the online learning tools in Blackboard. These three scales also examined how the students used the online learning tools to aid their learning in the online learning environment. The Cronbach alpha reliability scores in this study ranged from 0.75 to 0.91. Interface Design scale had the highest mean of all the scales (M=4.10) followed by Asynchronicity (M=3.56), and Online Learning Tools (M=3.42)(Table 1).

Downey, Wentling, Wentling and Wadworth (2005) argued that learner's perception of usability is greatly influenced by the cultural differences. However, the results from this study appear to contradict Downey et al.'s (2005) claims. There were no statistically significant differences at the $p<0.05$ level between the Malaysian and Australian students' responses in respect to these three scales. This suggests minimal influence of culture on the students' perceptions about the usability of the online learning tools. The effect size was small (less than 0.2) which further supported the assertion that there was no significant difference between these two groups of students' perception about the usability of the online learning tools.

Table-1. Mean and Standard Deviations for the Asynchronicity, Online Learning Tools, and Interface Design Scales

OLES Scales	Descriptive Analysis						Differences		
	Mean		Standard Deviation		Valid Cases		Effect Size	F	p
	MAS	AUS	MAS	DOM	MAS	AUS			
AS	3.56	3.38	0.69	0.77	40	35	0.25	0.74	0.48
OLT	3.42	3.33	0.70	0.83	40	35	0.12	0.14	0.87
ID	4.10	3.88	0.70	0.85	40	35	0.28	1.41	0.25

Garrison and Kanuka (2004) indicated that many students often found it challenging in dealing with asynchronous communication. Asynchronous means that the instructor and the learner are available at different times, whereas synchronous means having the instructor and learner available at the same time to share learning experiences and interactions (Baldwin-Evans, 2006). In this study, the Malaysian students had an overall mean of 3.56 on the Asynchronicity scale (see Table 1). This indicates that the Malaysian students encountered only a few problems in communicating online. They also seemed to find the discussion forums beneficial too. This was due to the students having easy access and being able to post their thoughts online conveniently.
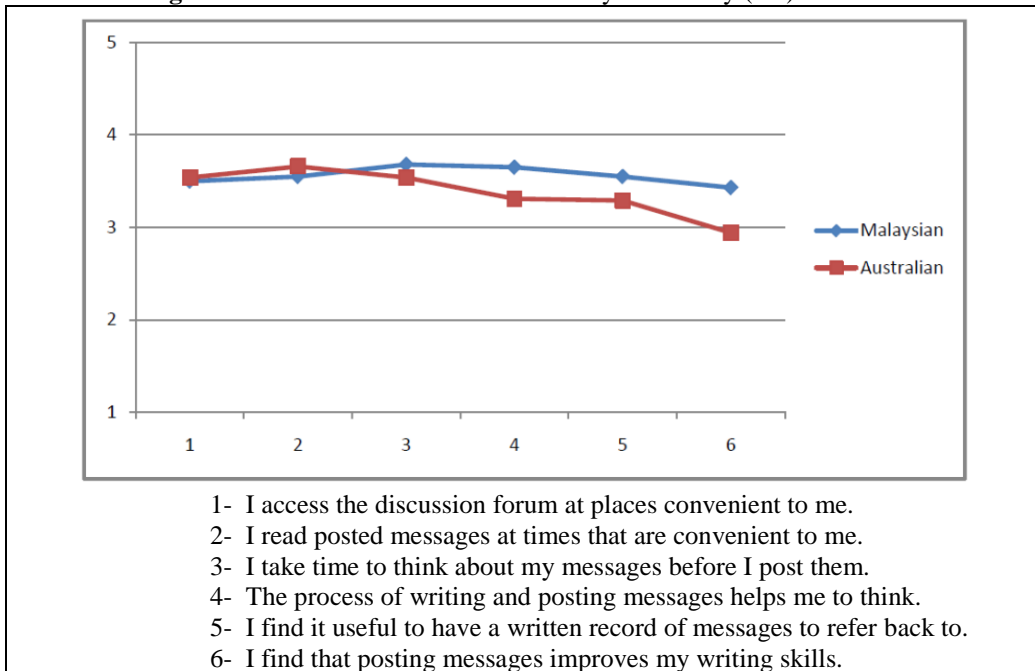
The overall mean of the Asynchronicity scale for the Australian students was 3.38. This was another indication that the Australian students seemed to encounter just a few problems with the asynchronous online communications. A comment from one of the Australian students provided an insight into why this was so. He said that online communication is easy, as he is in the Net generation and he grew up with computers. Another Australian student expressed similar

sentiments. She indicated that online communication is an every-day activity for her and she could communicate with her classmates easily and quickly.

Net Gen students need to communicate quickly with their peers and lecturers and therefore, the use of discussion boards is the most effective way of communication (McNeeley, 2005). As most students in this study were from the Net Generation, it can be concluded that they had familiarized with online communication and thus were unlikely to encounter problems in communicating with each other in the online environment.

According to Zhang (2007) and Vonderwell, Liang, & Alderman (2007), online discussion forums not only have the potential to promote critical thinking skills, but also to contribute to improving the students' writing skills. However, item six (I find that posting messages improves my writing skills) in the Asychronicity scale (see Figure 1) had the lowest mean for both Malaysian and Australian students (M=3.43 for Malaysian and M=2.94 for Australian). This indicated that the students thought that posting up messages only had a moderate impact on the improvement in their writing skills.

Figure-1. Means of Individual Items in Asynchronicity (AS) Scale

1- I access the discussion forum at places convenient to me.
2- I read posted messages at times that are convenient to me.
3- I take time to think about my messages before I post them.
4- The process of writing and posting messages helps me to think.
5- I find it useful to have a written record of messages to refer back to.
6- I find that posting messages improves my writing skills.

The Online Learning Tools scale had means of 3.42 and 3.33 (Table 1). Delialioglu and Yildirim (2008) stressed on the importance of the use of email, chat, and teleconferencing tools to avoid one-way communication and also to enhance quality online teaching. In Blackboard, there were six online learning tools; namely blogs, assignment upload tool, emails, discussion boards, wikis and podcasts implemented to assist students in online learning. Kim (2008) added that the use of email could help to engage students' learning in an online learning environment. This was supported by the findings in the Online Learning Tools scale (Figure 2) which had the highest mean value (M=4.15 for Malaysian and M=4.23 for Australian students) in "Emails". The findings reflected that both the Malaysian and Australian students utilised emails to facilitate their learning frequently.

Figure-2. Means of Individual Items in Online Learning Tool (OLT) scale

1   Blogs
2 - Assignment Upload Tool
3 - Emails
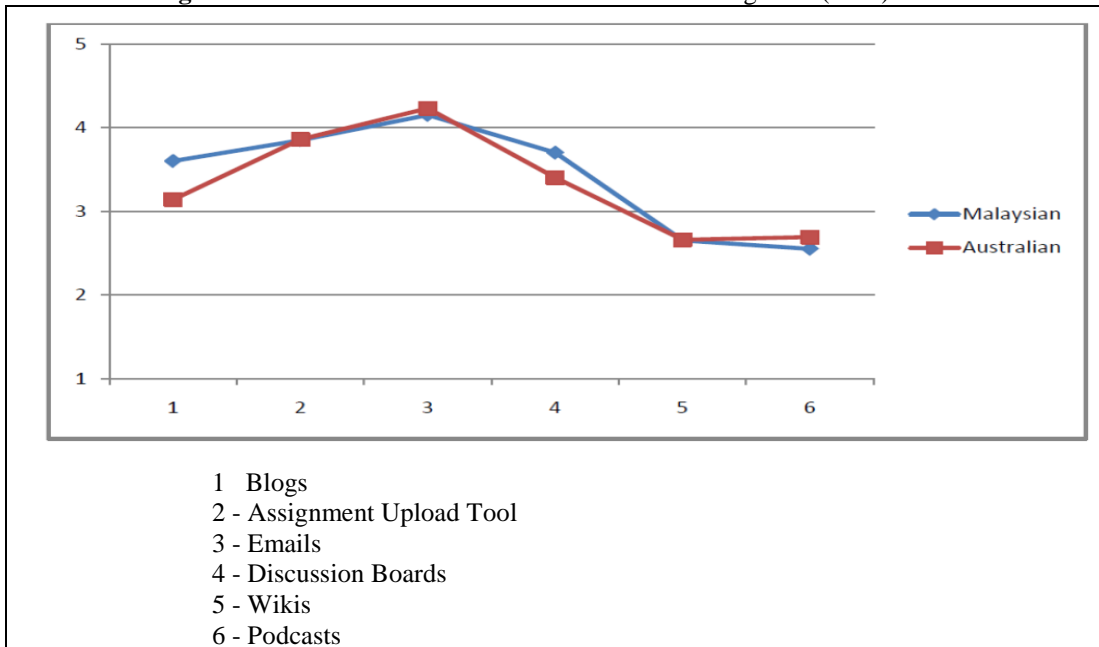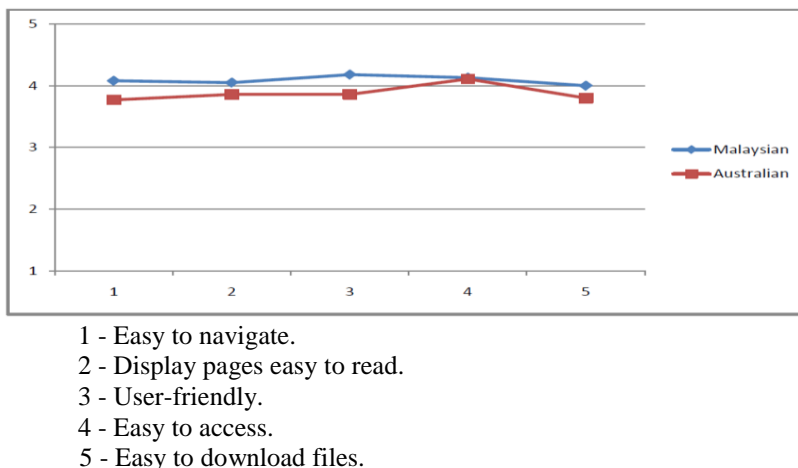4 - Discussion Boards
5 - Wikis
6 - Podcasts

Table 1 shows that the Interface Design scale had the highest overall mean among all other OLES scales (*M*=4.10) which suggests that Blackboard was perceived as being a user-friendly platform which assisted the students with their learning. Yuen, Deng, and Fox (2009) stated that the online learning platform should be user-friendly, reliable and stable so that students will not face any difficulties such as system downtimes which will result in learning discomforts and unnecessary frustrations. Having the highest mean in the Interface Design scale among all other scales, it can be seen that Blackboard was perceived by both Malaysian and Australian students as being generally user-friendly and assisting them in their learning.

The individual items in the Interface Design scale showed that most of the items fell closely to the "Frequently" category (see Figure 3). From this result, it is plausible to suggest that the students had no major issues with Blackboard. Having the "Easy to Access" item scored the highest among all other items on the scale; this indicates that students found Blackboard was easily accessible.

Figure-3. Means of Individual Items in Interface Design (ID) scale

1 - Easy to navigate.
2 - Display pages easy to read.
3 - User-friendly.
4 - Easy to access.
5 - Easy to download files.

Six themes emerged from the qualitative analysis of data from the open-ended questions following the Asynchronicity, Online Learning Tools, and Interface Design Scales. Four of these themes were positive with respect to the students' perceptions about the usability of the online learning tools: Plan, Write, Improving Students' Work, Information and Idea Sharing, Assisted with their Studies, and User-friendliness. However, three other themes emerged from the analysis (Limitations of Online Discussions, Technical Issues, and Issues with Blackboard) indicating perceived limitations about the usability of the online learning tools.

3.1. Plan, Write, Improving Students' Work

Though the analysis of quantitative data from the Asynchronicity scale indicated that posting up messages appeared to minimally help students in improving their writing skills, the qualitative analysis of the students responses to the open-ended question following the Asynchronicity scale indicated that many students found that posting up messages online considerably helped them to plan, write, and improve their work.

The Malaysian students and a few Australian students also indicated that online communication helped students who had problems in expressing themselves in public to better plan and to write their responses to tutorial questions and read them carefully before they post their messages up on the discussion forum. The Malaysian students also reported that they found online communication was helpful in the sense that they did not feel nervous, since they had ample time to think of what to say before actually penning and posting online, or emailing their ideas to their peers or lecturers.

One of the Malaysian students commented that although English was not his first language, he took the initiative to prepare drafts before proceeding to actual online postings. Based on the qualitative findings, this revealed that even though the postings were susceptible to grammatical and spelling errors, the students still endeavoured to minimise such mistakes. Thus, the possibility of grammatical and spelling errors did not discourage them from participating within the online learning environments.

3.2. Information and Idea Sharing

Both Malaysian and Australian students perceived that the online communication provided by the online learning tools facilitated their learning by allowing them to share information and ideas quickly and easily. Other students commented that they had found online communication fast and easy because information and idea sharing could be done quickly via the discussion boards. This finding is consistent with McNeeley's (2005) assertion that the use of discussion boards is the most effective way of communication, especially with Net Gen students who need to communicate quickly with their peers and lecturers.

3.3. Assisted with their Studies

Based on the students' comments to the open-ended questions, most Malaysian and Australian students perceived that online learning tools such as Discussion Forums, Assignment Upload Tool, Learning Resource Tool, and, Course Material Database (CMD) assisted them to learn effectively within the online learning environment. The Malaysian students felt that the Assignment Upload Tool and Discussion Boards assisted them in their learning. The students also indicated that they had found other tools useful in assisting their studies. Tools such as the CMD, Useful links tool, and Learning Resources & Assessment which they could access from the university's Blackboard were often used to supplement their lectures.

3.4. User-friendliness

The analysis of the responses to the open-ended questions about the online tools revealed that most of the Malaysian and Australian students found the Blackboard interface user-friendly. Generally, the Malaysian students perceived that Blackboard's interface design was generally good and user-friendly. However, some students, whilst stating that in the end they found Blackboard

user-friendly, initially they found that it had taken some time to become conversant with the interface.

Despite all the positive perceptions about the online learning tools, negative perceptions also were expressed about the usability of the online learning tools. These negative perceptions can be categorised under the following three themes: Limitations of Online Discussions, Technical Issues, and Issues with Blackboard.

3.5. Limitations of Online Discussions

Some of the Malaysian and Australian students perceived limitations in the nature of online discussions that in many cases led to misunderstandings and miscommunications. For instance, some of the students perceived that online communication tend to remove feelings and emotions from the discourse and thus got in the way of meaningful discourse. Another limitation of online discussions that emerged from the analysis of data from the open-ended questions was that online communication, because of the lack of body language and other visual cues found in face-to-face communications, resulted in difficulty to express the more complex ideas. There was another limitation of online discussions that emerged from the analysis of data. This was the inability of the online discussions to provide real-time feedback on the problems/issues being raised when the student required instant feedback, especially in dealing with their assignments online.

3.6. Technical Issues

The analysis of data from the open-ended questions revealed that both the Malaysian and Australian students perceived that there were technical issues with the online learning tools such as Blogs, Wiki, and YouTube clips that caused frustration which led to the particular online learning tool not being used because the students perceived that it did not assist them in their learning. This could in part explain why the Wikis was not a commonly used online tool used by the students to assist them in their online learning and thus had the lowest mean among all the items on the Online Learning Tools scale (See Figure 2).

3.7. Issues with Blackboard

Both the Malaysian and Australian students have indicated a few issues they faced with Blackboard which they felt impeded their studies within the online learning environment. The identified issues were: cluttered layout, differences in lecture uploading styles, and specific programs being required to access downloaded files.

3.8. Cluttered Layout

The qualitative analysis of the open-ended question data indicated that a minority of the students felt that the Blackboard interface design could be further improved. The Blackboard's layout plays an important role in ensuring students will be able to learn effectively. Therefore, the layout should be informative and not appear confusing to the students. Access of learning materials should be made easy for the students and not troubling students to attempt for multiple attempts just to open up a file.

3.9. Different Lecture Upload Style

Apart from layout being cluttered, some students perceived the different lecture upload styles utilised by the lecturers/tutors also caused confusion when they tried accessing the learning materials.

3.10. Specific Programs Required to Access Downloaded Files

The need of specific programs to access the files downloaded from Blackboard was also another limitation noted by the students. Zhao (2003) stated that technological aspects may impact the learning process. Therefore, ways of overcoming the problems in Blackboard such as these

identified by the students in this study is important since the students very much rely on the learning materials being uploaded online.

4. CONCLUSION

The findings from this study appeared to contradict the findings from most previous studies in the field, namely that there were significant differences in the perceptions about online learning between Malaysian Asian and domestic Australian students based on cultural-background factors. This study found only a few differences in perceptions between the Malaysian Asian and the domestic Australian students. With the sample of participants in this study, it seemed that commonalities based on joint-membership of the Net Generation overcame most of the cultural difference factors. In addition to advancing the corpus of knowledge in the field of students' perceptions about online learning, the findings from this study have generated important implications for research and practice in this field. Upskilling of lecturers' ability is important to structure their teaching online and to apply strong theoretical underpinnings when designing learning activities such as discussion forums, and for the university to establish a degree of consistency with regards to how content is located and displayed in a learning management system like Blackboard.

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