

Perceptions of Online Learning in an Australian University: Malaysian Students' Perspective – Support for Learning

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Abstract—Several researchers have reported that cultural and language differences can affect online interactions and communications between students from different cultural backgrounds. Other researchers have asserted that online learning is a tool that can improve teaching and learning skills, but its effectiveness depends on how the tool is used. To delve into these aspects further, this study set out to investigate the kinds of learning difficulties encountered by the international Asian students, in particular 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 76 students at a university in Brisbane. A smaller group of 35 Australian students was also included for comparison purposes. Contrary to assumptions from previous research, the findings revealed that there were only few differences between the international Asian students from Malaysia and Australian students with regards to their perceptions of online learning. Recommendations based on the findings of this research study were made for Australian universities where Asian international students from Malaysia study online. Specifically the recommendations highlighted the importance of upskilling of lecturers' ability 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.

Index Terms—Asian international students, online learning, online learning environments, online learning environment survey (OLES), Net Gen, support for learning.

I. 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 [1]. 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 [2], [3].

A review of existing research literature on students' perceptions of online learning reveals several gaps in the body of knowledge necessary for the informed utilization 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's research findings, cultural attributes affect online presence and learner perceptions [4]. 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 [5]-[7]. 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.

A. 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 [8], [9]. Although the review of the research literature implied that OLES was probably the optimal learning environment instrument to utilize 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.

B. 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 emphasizing college education and the need to attain the best possible results [10]. Net Gen students are mobile, comfortable with fast tempo, and are good in multitasking (moving back and forth rapidly) between real and virtual spaces [11].

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C. International Students: Cultural Differences and Learning Environments

Previous research [12], [13] reported significant differences between Malaysian and Australian students studying in Australia. The international students are often assumed to be disadvantaged because many do not have English as their first language and their educational backgrounds are different from those of their Australian peers [14]. 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.

II. METHOD

This study was conducted with the international students from Malaysia who were enrolled at an Australian university. The students sample comprised 41 Malaysian students ($n=41$) 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 Support for Learning category will be reported. In order to adequately address perceptions about Support for Learning in an online learning environment, the students in the study were asked to complete the Computer Usage (CU), Lecturer Support (LS), Student Interaction and Collaboration (SIC), and Equity (EQ) scales. The collected data was analysed via ANOVA to investigate the differences between the Malaysian and Australian students. The feedback on the open-ended questions were then analysed via thematic analysis.

III. ANALYSIS AND DISCUSSION

There were no statistically significant differences at the

($p<0.05$) in the means between the Malaysian and Australian students in the four scales associated with the Support for Learning category: Computer Usage, Lecturer Support, Student Interaction and Collaboration, and Equity. The effect sizes were also small (less than 0.2) [15]. As indicated in Table 1, all the scales fell under the "Frequently" category except for the Equity scale that fell under "Quite Often" category. In these four scales, Malaysian students generally scored higher means compared with Australian students except for the Student Interaction & Collaboration scale. The individual items in each of these scales are further discussed in the subsequent section.

TABLE I: MEAN AND STANDARD DEVIATIONS FOR THE COMPUTER USAGE, LECTURER'S SUPPORT, AND STUDENT INTERACTION AND COLLABORATION SCALES

OLES Scales	Descriptive Analysis						Differences		
	Mean		Standard Deviation		Valid Cases		Effect Size	F	P
	MAS	AUS	MAS	AUS	MAS	AUS			
CU	3.76	3.50	0.64	0.71	41	35	0.38	1.27	0.28
LS	3.74	3.55	0.73	0.90	41	35	0.23	0.71	0.50
SIC	3.49	3.75	0.74	0.79	41	35	0.34	1.24	0.29
EQ	3.46	3.59	0.69	0.96	41	35	0.16	0.46	0.64

As indicated in Fig. 1 (the Computer Usage Scale), generally students had no issues with computer usage except for some technical issues mentioned in the responses to the open-ended question. On the Computer Usage scale, item one has the lowest mean among all items ($M=3.41$ for Malaysian, $M=2.80$ for Australian). This indicates that the students seldom used the computer to email assignments to their lecturers/tutors. Item four scored the highest mean ($M=3.54$ for Malaysian, $M=2.80$ for Australian) on the Computer Usage scale. This indicates that the students frequently used the computer to read lessons notes prepared by the lecturer.

Several researchers have asserted that different cultures influence computer usage in education [16], [17]. These researchers have looked into the cultural aspects for example, student engagement with the organizational, technological and pedagogical components of online learning. The findings from this study are at variance with these researchers; in this study, there were no significant differences indicated on the Computer Usage scale between the Malaysian and Australian students.

A few research claimed that positive technology attitude and computer skills play an important role in the success of online learning [18], [19]. The findings (Fig. 1) from this study are consistent with these claims. Most students stated that their use of Computer Usage fell under the "Frequently" category. This indicates that the students embraced a positive attitude towards computers, a crucial factor in online learning. The finding also explains the reason why the students enjoyed online learning; it could be due to the students having had embraced a positive attitude towards computers.

On the Lecturer Support Scale, most of the means fell under the "Frequently" category (Fig. 2). This indicates that generally the students perceived that they had received much support from their lecturers/tutors. According to Chou, if students are able to interact with their peers and lecturers

effectively, this will increase the learning satisfaction and positive attitudes of students towards online learning [20]. Chou's viewpoint was borne out in the responses to the items in this scale and also in the students' written responses to the open-ended question.

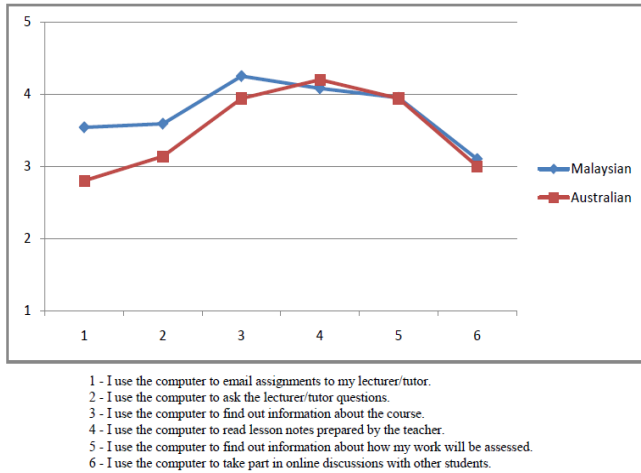


Fig. 1. Means of individual items in computer usage (CU) scale.

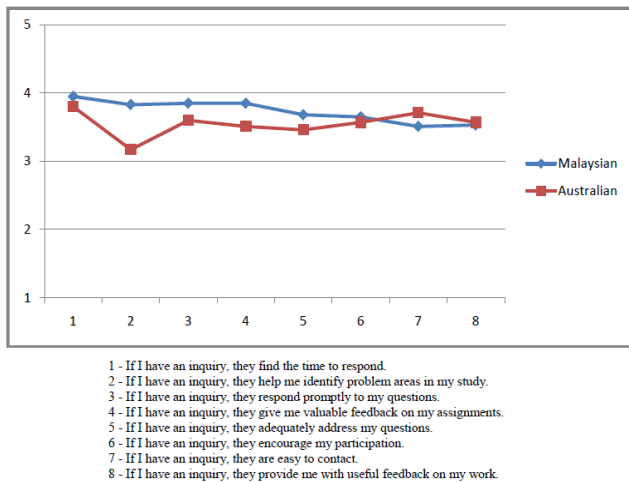


Fig. 2. Means of individual items in lecturer support (LS) scale.

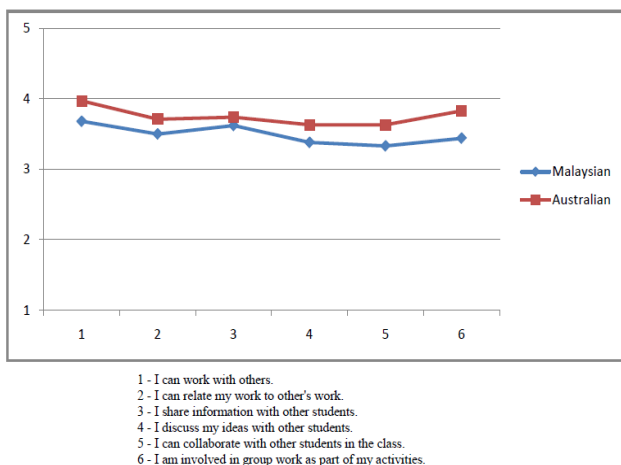


Fig. 3. Means of individual items in student interaction & collaboration (SIC) scale.

The Australian students scored almost the same mean values in all the items in the Student Interaction & Collaboration scale (Fig. 3). Generally, the Australian students scored higher compared to the Malaysian students in all items in this scale. However, the differences between Australian and Malaysian students' means were not

statistically significant at the ($p < 0.05$) level. Most of the students' responses to the items in the scale fell under the "Frequently" category. This indicates that most of the students had positive perceptions about the support for learning provided by their interactions and collaboration with other students in the online learning environments.

On the Equity scale (see Fig. 4), most individual items fell above the "Quite Often" category. In particular, there were almost equal means in item three (I am treated the same as other students in this class), item four (I receive the same encouragement from the lecturer as other students do), and item five (I get the same opportunity to contribute to class discussions as other students). This reflected to a certain extent, that the students perceived that they were being treated fairly by the lecturers. The students were also given encouragement and equal opportunities to contribute in class discussions (Fig. 4). However, item six (My work receives as much praise as other students' work) had the lowest mean (3.20 for Malaysian, 3.43 for Australian) among all the items on the scale. This indicated the possibility that some students perceived that their work did not receive as much praise as other student's work.

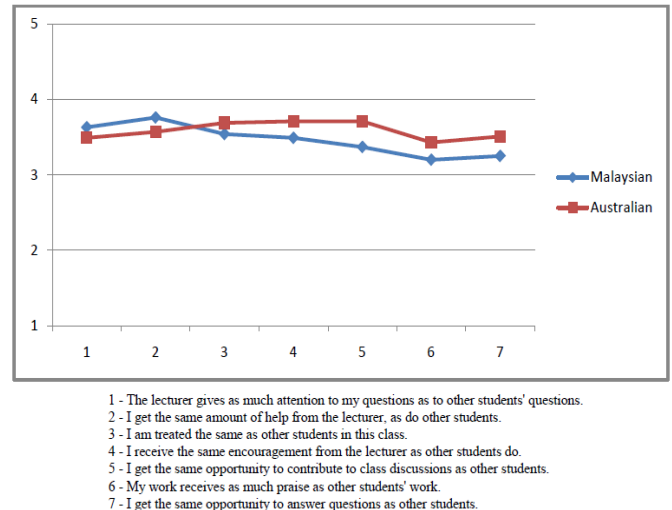


Fig. 4. Means of individual items in equity (EQ) scale.

Overall, the findings from the quantitative analysis of the data from the Likert items within the Support for Learning Scales indicate that both the Malaysian and Australian students generally had positive perceptions about the support for learning they received. These findings tended to be confirmed by the qualitative analysis of the data from the open-ended questions focusing on students' perception of support for learning appended at the end of the Computer Usage, Lecturer Support, Student Interaction & Collaboration, and Equity Scales.

Six themes emerged from the qualitative analysis of this data. Three of these themes were positive with respect to the students' perceptions about the support for learning that they received in the online learning environments: Positive Lecturer Attitude towards Students' Learning, Easier Communication, and Information Sharing. However, three themes that emerged from the analysis (Technical Issues, Online Collaboration Issues, and Different Cultural Background) indicating perceived limitations about the support for learning provided to the students.

A. Lecturer's Positive Attitude towards Students' Learning

Several researches asserted that positive attitudes on the lecturers/tutors' part towards their students' learning was an important component found in the support for learning provided in educationally effective online learning environments [21], [22]. It is important that the students are given equal treatment and sufficient encouragement from their lecturers to keep them motivated to learn in a new learning environment. Students find learning enjoyable when their doubts and problems are adequately addressed by their lecturers/tutors.

In this study, it was found that the students perceived that this positive attitude towards learning was manifested in the following ways:

- 1) Concern about students' progress;
- 2) Lecturers' participation in the online learning environment; and
- 3) Lecturers' patience and encouragement.

1) Lecturer's concern about students' progress

The qualitative analysis of the open-ended question data indicated that both the Malaysian and Australian students perceived that their lecturers were concerned about the students' progress in their studies. The students felt that the lecturer/tutors provided adequate assistance when they approached them. The students also indicated felt that encouragement they received from the lecturers was important and motivated them greatly in their learning.

2) Lecturers' participation in the online learning environment

Thornton and colleagues asserted that online learning is a tool that can improve teaching and learning skills, but its effectiveness depends on how the tool is used [23]. In this study, the students seemed to perceive that their lecturers and tutors used the tool effectively. Many students commented that their lecturers/tutors facilitated learning by fully participating in the online discussion forums, promptly responding to emails, providing feedback on students' postings, and following up key issues in face-to-face contact sessions.

3) Lecturer's patience and encouragement

The findings from the analysis of the open-ended questions reflected that students perceived that their lecturers/tutors had encouraged and treated them fairly, regardless whether they were Malaysian and Australian students. The Australian students also indicated they felt that the lecturers/tutors did their best to answer their questions when they approached them. They too perceived the lecturers/tutors have given equal treatment to everyone.

B. Easier Communication

Many of the students also perceived that the online learning environments made communication and collaboration between students easier than in face-to-face learning environments. This finding is consistent with what Black had reported [24].

C. Information Sharing

The students also perceived that online discussion, by

serving as a platform for information sharing, did much to support their learning. The convenience of obtaining updated information regarding on their assignments was often mentioned by the students. Many students also mentioned enabling them to access the postings as often and as conveniently as they wanted as a major support for their learning.

Despite all the positive perceptions about the support for learning provided by the online learning environments, the students also presented perceptions about the limitations of the online learning environments' support for learning. These negative perceptions can be categorized under the following three themes: Technical Issues, Issues with Online Collaboration, and Issues with Different Cultural Backgrounds.

D. Technical Issues

Technical problems which impacted on their learning were a common issue brought up by the students in their responses to the open-ended questions about support for learning. This finding concurs with Zhao who reported that technical problems, including bandwidth limitations and browser limitations could result in learning difficulties for students in an online learning environment [25]. Amongst the technical issues that negatively impacted on the learning of both Malaysian and Australian students were:

- 1) Audio and video files failing to load;
- 2) Issues with different internet browsers;
- 3) Blackboard jamming during peak hours; and
- 4) Slow computer Start-Up.

1) Audio and video files failing to load

The qualitative analysis of the open-ended question data indicated that the students relied heavily on audio and video files, especially the recorded lecture or extra reference materials. Unfortunately, many students experienced problems in loading the teaching video files.

2) Issues with different internet browsers

Another technical issue that emerged as an impediment to learning from the analysis of data from the open-ended questions was differences with Internet browsers. Both the Malaysian and Australian students vented their frustrations with this issue.

3) Blackboard jamming up during peak hours

The analysis of data from the open-ended questions revealed that both the Malaysian and Australian students perceived the frequent jamming of Blackboard during peak hours caused them worries such as whether or not their assignments were being delivered to their lecturers successfully online.

4) Computers start-up were slow in the university

Another technical issue emerged from the analysis of data from the open-ended questions was that the university's computers' start-up times were slow regardless whether they were in the computer laboratories or the library.

E. Online Collaboration Issues

Apart from technical issues highlighted by the students, online collaboration issues also emerged from the analysis of data from the open-ended questions as another impediment to

online learning.

F. Online Discussion Were Difficult and Boring

The analysis of data from the open-ended questions revealed that some of the students did not embrace online collaboration because they found it difficult and boring. The student's comments could possibly be explained by the fact that students from Malaysia might be conditioned to having face-to-face discussions in their prior education experiences and thus would tend to feel uncomfortable engaging in online learning.

G. Poor Online Forum Layout

Another limitation noted by the students was poor online forum layout. A minority of the Malaysian students stated that they avoided participating in the online collaboration due to the poor layout of discussion forums. Comments such as these from some of the Malaysian students clearly indicate the need for improvements to be made to the layout of the discussion forum. In Section 3.3, it was noted that the students perceived that online forums assisted them in their learning. Improvements to the layout of the discussion forum thus would contribute greatly to enhancing the quality of learning by the students.

H. Issues with Different Cultural Backgrounds

Several researchers have reported that cultural and language differences can effect online interactions and communications between students from different cultural backgrounds [26], [27]. In this study, the qualitative analysis of the open-ended question data indicated that this was so for only a minority of the Malaysian students. This minority of Malaysian students perceived that Australian students were more proactive whereas Malaysian students were more passive learners. Because of this, this minority of Malaysian students indicated that they still preferred face-to-face discussions. This perception of this minority of Malaysian students can in part be explained by findings from Ikhsan and Rowland who found that the absence of cultural practice for knowledge sharing in a student's experiences could be a drawback when students are required to collaborate effectively with other students online [28].

Holloway and Valentine stated that online communication could help reduce stereotypes, bias, and misunderstandings that one perceived people in other countries [29]. Little evidence of this emerged from the analysis of the qualitative data derived from the students' responses to the open-ended questions. In the case of the minority of students who identified cultural differences as an impediment to online learning, rather than having all the positive effects suggested by Holloway and Valentine, online communication was perceived by them to have caused misunderstanding among peers and lecturers/tutors.

IV. 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 international Asian and domestic Australian students based on cultural-background factors.

This study found only a few differences in perceptions between the Malaysian 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.

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