Perceptions of Online Learning in an Australian University: An International Students' (Asian Region) Perspective – Quality of 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 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 109 international students at a university in Brisbane. A smaller group of 35 domestic 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 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 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, net gen, online learning, online learning environments, online learning environment survey (OLES), and quality of 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].

C. International Students: Cultural Differences and Learning Environments

Previous research [12], [13] reported significant differences between Asian international 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 the Asian Region countries who were enrolled at an Australian university. The students sample comprised 109 international students (n=109) 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 Quality of Learning category will be reported. In order to adequately address perceptions about quality of learning in an online learning environment, the students in the study were asked to complete the Personal Relevance (PR), Authentic Learning (AL), Student Autonomy (SA), and Evaluation & Assessments (EA). The collected data was analysed via ANOVA to investigate the differences between the Asian international and Australian students. The feedback on the open-ended questions were then analysed via thematic analysis.

III. ANALYSIS AND DISCUSSION

Table I shows there were no statistically significant differences at the (p<0.05) level in the means between the international and domestic students on the four scales associated with the Quality of Learning category: Personal Relevance, Authentic Learning, Student Autonomy, and Evaluation & Assessments Scales (Table I). The effect sizes were also small (less than 0.2) [15]. In the Quality of Learning category, Student Autonomy had the highest means (M=3.64 for International and M=3.60 for Domestic) and Evaluation & Assessments scale had the lowest means (M=3.30 for International and M=3.24 for Domestic).

TABLE I: MEAN AND STANDARD DEVIATIONS FOR THE PERSONAL RELEVANCE, AUTHENTIC LEARNING, STUDENT AUTONOMY, AND EVALUATION & ASSESSMENTS SCALES

OLES Scales	Descriptive Analysis						Differences		
	Mean		Standard Deviation		Valid Cases		Effect Size	F	p
	Intl	Dom	Intl	Dom	Intl	Dom			
PR	3.42	3.27	0.79	0.95	108	35	0.09	2.97	0.09
AL	3.47	3.23	0.85	0.93	106	35	0.13	1.23	0.27
SA	3.64	3.60	0.76	1.00	106	35	0.02	4.30	0.06
EA	3.30	3.24	0.65	0.62	102	35	0.05	0.00	0.99

Fig. 1 shows that there were approximately equal means for the five items in the Personal Relevance scale that fall under the "Quite Often" category. These scores indicate that both international and domestic students perceived that personal relevance was an important factor in their quality of learning. This finding is consistent with an empirical test in an accounting course [16] where the researchers found that course contents have a major influence on students' motivation when it comes to learning. In particular, they noted that if the topics had personal relevance to the students, then learning was enhanced.
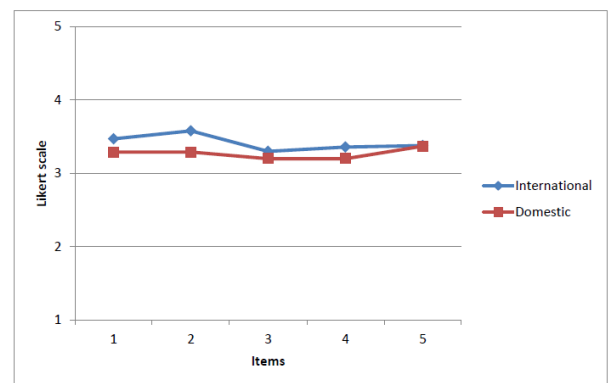

1 - I can relate what I learn to my life outside of this class.
2 - I am able to pursue topics that interest me.
3 - I apply my everyday experiences in class.
4 - I link class work to my life outside of this class.
5 - I learn things about the world outside of this class.
Fig. 1. Means of individual items in Personal Relevance (PR) scale.

Most individual items in the Authentic Learning scale also fell under the "Quite Often" category (Fig. 2). International students seemed to have scored higher in item one, agreeing

that they have studied real cases related to the class activities. On the other hand, the domestic students seemed to score the lowest in that particular item. This indicates that a substantial minority (*N*= 5 out of 35) of the domestic students perceived that they seldom studied real cases related to the class activities.
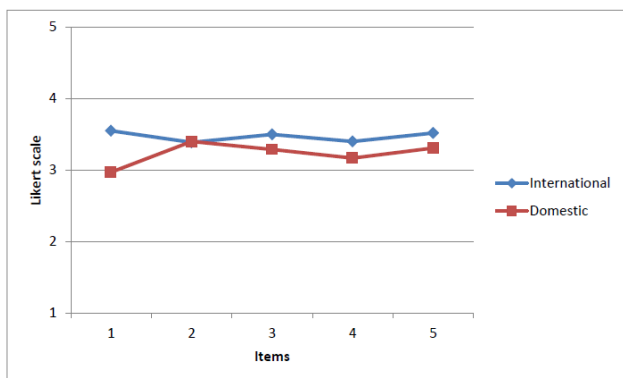
1 - I study real cases (real problems/situations in working environment) related to the class activities.
2 - I use real facts in class activities.
3 - I work on assignments that deal with real-world information.
4 - I work with real examples.
5 - I apply real world experience to the topic of study.
Fig. 2. Means of individual items in Authentic Learning (AL) scale.

All five items in the Student Autonomy scale fell in the "Frequently" category (see Fig. 3). This indicates that the students perceived that they were able to control their own learning in the online learning environment. Both international and domestic students scored equally high on item four and five, agreeing the students play important roles in their learning and that they approached learning in their own ways.
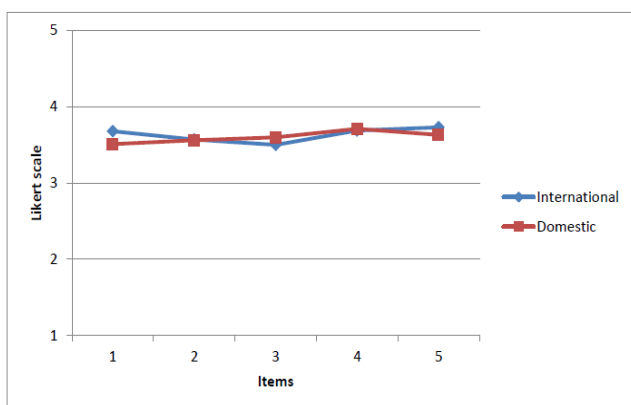

1 - I can make decisions about my learning.
2 - I work during times I find convenient.
3 - I am in control of my learning.
4 - I play an important role in my learning.
5 - I approach learning in my own way.
Fig. 3. Means of individual items in Student Autonomy (SA) scale.

These findings are consistent with the research findings [17], [18] who argued that within constructivist learning environments, students can become active learners who take responsibility for their own learning.

As encapsulated in Fig. 4, item one had the highest mean among all the items in the Evaluation & Assessments scale for both international and domestic students (*M*=3.79 for

International, *M*=3.63 for Domestic). It was noted in item three that both international and domestic students seemed to have negative perceptions about group assignments – this item had a much lower mean than any of the other items within this scale.
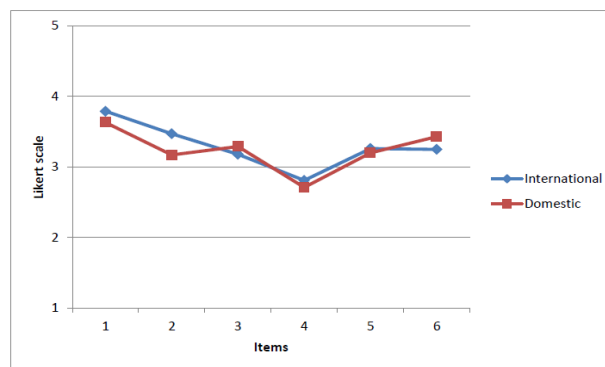
1 - I prefer individual assignments.
2 - I always approach my teacher for help in the individual assignments.
3 - I always approach my classmates for help in the individual assignments.
4 - I prefer group assignments.
5 - I always approach my teacher for help in the group assignments.
6 - I always approach my classmates for help in the group assignments.
Fig. 4. Means of individual items in Evaluation & Assessments (EA) scale.

This indicates that many of the students preferred individual assignments to group assignments. The two studies [19], [20], negative perceptions about group assignments include factors such as: bad group formation, difficulty in monitoring team progress, and group assessments being marked unfairly. As will be discussed later, many of these factors emerged during the qualitative analysis of the data from the open-ended questions.

Four themes emerged from the qualitative analysis from the Personal Relevance, Authentic Learning, Student Autonomy, and Evaluation & Assessments Scales. Three of these themes were positive: Satisfying Experience, Knowledge Ownership, and Application of Real-life Experiences/Examples. However, one negative theme with respect to the quality of learning emerged from the analysis-- Failure of Group Assignments.

A. Satisfying Experience

Many students expressed that they had found the experience with online learning satisfying because of its usefulness and interactivity.

The qualitative analysis of the open-ended question data also has indicated that the domestic Australian students perceived that online learning had given them more flexibility in learning. They could obtain information online without having to go through the hassles finding information from the library.

Accessibility of learning materials is important to students when it comes to online learning. An added advantage for online learning is that it is not necessary to be on campus to obtain learning materials [21] and be in touch with peers and lecturers [22]-[24]. The analysis of data from the open-ended questions revealed that only one of the students in this study

perceived that the accessibility of learning materials and online communication was a major factor contributing towards his quality of learning.

Online learning approaches have the potential to give students more flexibility to learn anywhere and anytime [25]. Most students' perceptions were consistent with this assertion. The students indicated that they liked online learning because it allowed them to learn anytime and anywhere.

Most students also indicated that online learning allowed them to access all the information they needed before they attended classes, allowing them to be better prepared before attending lecture classes.

B. Knowledge Ownership

The findings from the analysis of data from the open-ended question are consistent with the other two studies [17],[18] who stated out that constructivist learning allows students to control and be responsible for their own learning. The analysis revealed that many students perceived that their experiences in online learning had trained them to become independent learners and be responsible for their own learning. The students also perceived that it had helped them to take the initiative to look for their own learning materials and explore them to better understand the topic being studied. This, many students believed, helped them to better retain and promote knowledge ownership.

The online learning environment is referred as an environment where students learnt with a broad knowledge repository [26]. They added that both asynchronous and synchronous collaborations might cause confusion and obstacles to students, as they usually need to be more responsible and self-directed in their own learning. In a university, students are expected to take ownership for their own learning and they need to have the ability to learn independently. The findings clearly indicated that most students in this study had taken their own initiative to learn independently.

C. Application of Real-Life Experiences/Examples

According to a few researchers [27], [28], it is important for students to study real-life cases and have the opportunity to apply what they learnt in the real working environment particularly in the Education, Health Sciences, Business, and Information Technology fields. The use of technology can be used in setting up good authentic learning environments such as simulations, role-plays, and debates which can all be conducted online [29]. The findings indicated that students perceived that they had been exposed to real cases and work on assignments that dealt with real-world information in their learning. They also appear to have the perception that they were also able to apply real world experiences to their topic of study. The students stated that they were given case studies/current issues and were asked to engage in discussions to solve problems in real-life situations, understanding the problems and how it impacts on them.

Online learning has the capacity for interaction and is credited with promoting higher order thinking skills in students [30]. The findings in this study were consistent with the two reported research findings [30].

D. Failure of Group Assignments

One category of negative perceptions emerged from the analysis of data: Failure of Group Assignments. This negative perception emerged from the analysis of data from item four on the Evaluation and Assessment scale (Fig. 4 above). It had the lowest mean for both international and domestic students in the Evaluation & Assessments scale. This negative perception of group assignments was confirmed and elaborated upon by the outcomes from the analysis of qualitative data from the students' responses to the open-ended question at the end of this scale.

Perceptions of ineffective communications within groups were a major factor in why many of the international and domestic students had negative perceptions about group assignments.

In 2007, the two researchers [31] emphasised that "the development of the relationship between individual learning, group learning and membership of a learning community is an important aspect of student learning in higher education" (pp. 144). This finding indicated that this aspect of group learning (i.e., group assignments) was not accepted by many of the students in this study. These students somehow did not comprehend the importance of working in group assignments. Instead, they tended to focus on issues such as other group members not contributing towards the group assignments and yet sharing equal marks with them. Problems of communication with other group members in a group assignment were an issue for both international and domestic students.

Two researchers [13] asserted that there was a difference between Australian and Asian international students' perceptions towards group learning. They also found the Asian students were more collaborative when it comes to learning. The research findings in this study were not consistent with the reported findings [13]. Regardless of whether they were Australian domestic or international students, the students in this study still preferred individualistic learning.

Group assessments marked unfairly can be one of the reasons that lead to failure of group assignments [18], [19]. The findings from the analysis of qualitative data were consistent with the reported findings [19], [20]. Both international and domestic students raised this particular concern about unfair marking and unequal contribution to tasks.

Apart from these issues, different personalities and writing styles was another factor that some of the students indicated that contributed to their negative perceptions about group assignments.

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 international 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.

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