International Students’ Perception on the Benefits and Challenges of Engineering Education in Malaysia

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Abstract: - Education has always been a key contributor for a nation’s development, especially in terms of social and economic growth. Providing quality engineering education that offers the necessary skills needed to compete in the global market whilst fostering innovation and creativity is crucial in ensuring that the profession remains relevant in the globalised economy. International student population has grown substantially in Malaysia in recent years, in tandem with the Malaysian government’s aspiration of becoming one of the leading players and the international hub of higher education in the region by the year 2020. This paper examines international students’ perception of the benefits and challenges of engineering education in Malaysia. Challenges that emerged from the research include financial, academic, language proficiency, social and cultural issues. In contrast, some of these issues can also be viewed as positive learning experiences, such as opportunities to mix with a wide range of other nationalities and learn about a new culture that may increase the students’ level of confidence as they experience personal development. The findings discussed in this paper are based on preliminary quantitative data using a questionnaire survey of middle-eastern students studying engineering and technology in an institution of higher learning in Malaysia. Preliminary analysis has shown that there are both positive learning experiences as well as challenges faced by international students when studying abroad; and these considerations may have significant implications for the stakeholders such as policy makers, administrators, academics as well as the institutions of higher learning offering the courses.

Key-Words: - International Students, Engineering Education, Malaysia

1 Introduction

In teaching, all Institutions of Higher Learning (IHL) aspire to provide their students with sufficient knowledge and ability related to their field of studies so as to enable them, later on upon graduation, to adequately perform in their work and industry (Mahbub, 2015). The Malaysian government has sustained high levels of investment in education throughout the 55 years of independence, and as early as 1980, the Malaysian government’s spending on primary and secondary education, as a percentage of Gross Domestic Product (GDP), was the highest in East Asia. In 2012, with an education budget of RM37 billion, the Malaysian government has continued to devote the largest proportion of its budget, i.e. 16% for education. (Ministry of Education, 2015)

Students usually choose to study in other countries due to several reasons; and receiving their education in a different setting allows international students to gain a deeper appreciation of the culture, values and beliefs of their host countries while making them cultural ambassadors of their home countries (Lee and Rice, 2007 and Evivie, 2009) In Malaysia, the number of international students attending institutions of higher learning has increased substantially in recent years, with a total enrolment of 86923 in 2010, comprising of mainly students from Iran, China and Indonesia (Project Atlas, 2015).

As engineering education is mostly technology and mathematically based, there are certain advantages to be gained by international students who lack the capability to learn or write in an unfamiliar language other than their mother tongue. Most universities in Malaysia use English as their medium of instruction, whilst some universities use both Malay and English. However, where there are international students enrolled in their courses, the main language of instruction would be English.

Traditionally, the flow of international students has been from the Asian continent to countries such as the United States, the United Kingdom, Germany, France, Australia and New Zealand. Recent geo-
political and financial events have however contributed to a decline in enrolments in these traditional destinations allowing the emergence of new players within Asia such as China, Singapore and Malaysia. (Singh, Schapper & Jack, 2014, Verbik & Lasanowski, 2007 and Altbach & Postiglione, 2006).

2 International Student’s Perception

The success of an international student’s adjustment to a new culture or country is related to the psychological and sociocultural aspects; with psychological relating to mental health and overall wellbeing whilst sociocultural adjustments are considered to be a function of sociodemographic variables, such as education level, academic performance, prior cross-cultural experience, host language proficiency, and family income (Swami et al, 2010)

The decision to study abroad often involves large personal, social and financial investments on the part of the student, their families and their employers (Evans and Stevenson, 2011) Differences are to be expected when studying abroad, especially in context of social and culture learning, but it is important to study how the students cope with these difference in order to minimize the negative effects on their studies.

2.1 Benefits

According to Khodabandelou, Karimi and Ehsani (2015), Malaysia is a popular destination for international students from the Middle-east as the IHLs offer well-structured higher education system at a competitive rate, it is an islamic developing country, a multiethic and multi-cultural society, a possibility of making international contacts and experiencing different cultures, wide use of english, a geographically safe environment situated in a zone free from most natural disasters, and it is a food paradise with a huge variety of cuisine available, including halal food.

The benefits are also reiterated by Singh, Schapper and Jack (2014), and international students from the middle-east chose Malaysia for the following reasons: 1) The state of the art facilities and the course structure that facilitated early completion for some IHLs in Malaysia, 2) Malaysia is a safe and peaceful place to study, which is important in context of students coming from politically unstable or with recent histories of war, 3)Sense of similarity between the students’ culture and Malaysia as a Muslim nation, with ready access to halal food, and 4) perceived reasonableness of the tuition fees and the low cost of living when compared with Western higher education providers such as America and European countries. The benefits under investigation in this research are as summarised in Diagram 1 below.

2.2 Challenges

Some considerations, that can be regarded as benefits can also be a challenge to some students, for example financial issues and social and cultural issues. Whilst Malaysia is an Islamic country and perceived with a sense of familiarity especially in context of religious obligations, there are cultural differences such as in terms of social relationships and power distance between lecturer-student and academic peers. Challenges for international students include:

2.2.1 Visa and Immigration Issues

Immigration rules and regulation pose a challenge to international students especially in terms of changes in policy or long procedures for visa extension that may incur time and costs.

2.2.2 Cultural Diversity and Social Relationships

Differences in culture between the international students and the host country can sometimes be a real challenge in the sense that the students may not perceive certain behaviour as inappropriate due to differences in culture. For example, in Malaysia, raising a point in class or disagreeing with a lecturer...
needs to be done in such a way that it is not seen as argumentative or “rude” to the lecturer.

2.2.3 Academic Engagement

In countries such as UK, the strong and friendly relationship that exists between lecturers and staff, autonomy of academic departments and powers that rest with course administrators are some elements that surprise international students. The informality that exists among academic staff even with new students is an unknown phenomenon for students who come from places where staff positions are hierarchical, formal and structured. (Ramachandran, 2011) In Malaysia, due to cultural differences, over-familiarity between academic staff and students may be deemed inappropriate or disrespectful.

2.2.4 University Administrative Procedures

There are numerous academic procedures in place that may be puzzling to international students, such as with regard to class attendance or examination regulations. Also for post-graduate research students, another challenge is in the lengthy process of graduation, where it may take a long period of time between submission of thesis and graduation. Certain academic notices, posted in an unfamiliar language, may also hinder understanding and absorption of information regarding academic procedures etc.

2.2.5 Language Proficiency

International students often have difficulty in coping with the language used in their host country, either in the use of English language in the classroom or as a medium of instruction, or in the use of Malay in social context. Difficulty can stem from differences in pace, accent, choice of words or even unfamiliarity with certain expressions.

2.2.6 Financial Issues

As international students are not allowed to work, some, especially those with young families, may face difficulty in terms of finance. This, however, is not an important consideration for the group under study, as all are given adequate allowances (under scholarship) and is in Malaysia without their families accompanying them.

2.2.7 Homesickness

As most of the group under study are here without their families, there are challenges in terms of homesickness and missing their family and friends back home. There is a tendency for these students to go back to their country even through short holiday periods, which can be disruptive to their studies due to non-attendance.

The challenges under investigation are as depicted in Diagram 2 below.

Diagram 2: Challenges

3 Research Methodology

This research uses a mixed method approach of gathering data, both quantitative and qualitative, by using a questionnaire survey and an interview schedule to investigate the international students’ perception on the benefits and challenges of engineering education in IHLs in Malaysia. For the quantitative analysis of the questionnaires data, numerical measures of location and variability using mean and standard deviation are applied for the analysis of interval variables in the demography section, whereas descriptive statistics in the forms of graphical presentation and tables (frequency distributions) are employed more extensively.

In the preliminary data collection, the case study is on a Malaysian university offering Diploma in Marine Technology and Electronic Communication (Marine), involving 80 middle-eastern students. The questionnaire was administered via a dedicated website, with a user-friendly point, click and submit interface to facilitate data entry and systematic data classification. The Diploma offered is a three-year
course, with the students spending a minimum of two and a half years in Malaysia. All the students in the sample group are sponsored by their government, and are provided with accommodation and related facilities during their stay in Malaysia.

As the research is on-going, for the purpose of this paper, only the preliminary results of the primary data from the questionnaire survey are discussed, supported by findings from the literature review.

4 Discussions on Findings

This research explores both the benefits and challenges in providing engineering education in Malaysia, from the perspective of international students. The questionnaire survey addresses the two main issues by providing the respondents with a list statements pertaining to the variables previously identified under literature review, and asking them to rate their perception on level of importance using a Likert scale of 1 to 5, with 1 being the least and 5 being the most important. The results of the quantitative analysis are as shown in Tables 1 and 2 below. The mean values are cross-referenced with the values of the median and mode for each variable, to ensure that the rankings correspond with all stated values.

Table 1 International Students’ Perspective on Benefits of Engineering Education: Summary of Analysis Results

<table>
<thead>
<tr>
<th>Variables</th>
<th>Rank</th>
<th>Mean</th>
<th>Mode</th>
<th>Median</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Well Structured Course and Education System</td>
<td>3</td>
<td>3.7</td>
<td>4</td>
<td>4</td>
<td>0.66</td>
</tr>
<tr>
<td>Financial Considerations</td>
<td>4</td>
<td>3.7</td>
<td>3</td>
<td>4</td>
<td>0.79</td>
</tr>
<tr>
<td>Safe and Stable Environment</td>
<td>2</td>
<td>3.7</td>
<td>5</td>
<td>4</td>
<td>1.23</td>
</tr>
<tr>
<td>Social and Cultural Familiarity</td>
<td>1</td>
<td>4.0</td>
<td>4</td>
<td>4</td>
<td>0.94</td>
</tr>
<tr>
<td>Availability of Halal and Middle-eastern Food</td>
<td>5</td>
<td>3.6</td>
<td>4</td>
<td>4</td>
<td>1.15</td>
</tr>
</tbody>
</table>

From the results, the students placed social and cultural familiarity as the most important benefit of studying engineering in Malaysia. This reflects on the importance of the sense of familiarity between the international students’ culture and Malaysia as a Muslim nation, in that there is a common platform in some elements especially in the context of religiously governed behaviour and social norms. The second and third ranked are a safe and stable environment and a well-structured course and education system. Being in a foreign country usually takes away the sense of belonging and security from an international student, thus a safe and stable environment is perceived as important. For the third ranked variable, this reflects the importance of the provision of quality education and if the students have confidence in the education system, other benefits can be perceived as less important, especially if there is an existing community of international students with the same background and shared values studying in the same university.

Table 2 International Students’ Perspective on Challenges of Engineering Education: Summary of Analysis Results

<table>
<thead>
<tr>
<th>Variables</th>
<th>Rank</th>
<th>Mean</th>
<th>Mode</th>
<th>Median</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visa and Immigration Issues</td>
<td>1</td>
<td>4.05</td>
<td>4</td>
<td>4</td>
<td>0.83</td>
</tr>
<tr>
<td>Cultural Diversity and Social Relationships</td>
<td>2</td>
<td>3.8</td>
<td>4</td>
<td>4</td>
<td>0.97</td>
</tr>
<tr>
<td>Academic Engagement</td>
<td>5</td>
<td>3.6</td>
<td>3/4</td>
<td>4</td>
<td>1.14</td>
</tr>
<tr>
<td>University Administrative Procedures</td>
<td>3</td>
<td>3.8</td>
<td>3/4</td>
<td>4</td>
<td>0.77</td>
</tr>
<tr>
<td>Language Proficiency</td>
<td>6</td>
<td>3.5</td>
<td>4</td>
<td>4</td>
<td>0.76</td>
</tr>
<tr>
<td>Financial Issues</td>
<td>4</td>
<td>3.8</td>
<td>3</td>
<td>4</td>
<td>0.79</td>
</tr>
<tr>
<td>Homesickness</td>
<td>7</td>
<td>3.0</td>
<td>3</td>
<td>3</td>
<td>0.69</td>
</tr>
</tbody>
</table>

The main challenges perceived by the students are visa and immigration issues, cultural diversity and social relationships, and university academic procedures which correspond to the ranking of 1 to 3 respectively. The procedure for visa extensions in Malaysia may take a long time, and the students usually have problems in terms of getting their visa and immigration issues settled within a shorter timeframe; which can hamper travel plans. Whilst Malaysia is an Islamic country and perceived with a sense of familiarity especially in context of religious obligations, there are cultural differences such as in terms of social relationships and power distance between lecturer-student and academic peers that can be a challenge for international students.

4 Conclusion

The provision of education at tertiary level for Institutions of Higher Learning comes with its own
challenges, especially for international students entering into a situation where the culture, language and social context are mostly unfamiliar to them. The findings discussed in this paper are based on preliminary quantitative data using a questionnaire survey of middle-eastern students studying engineering and technology in an institution of higher learning in Malaysia. Challenges that emerged from the research include financial, academic, language proficiency, social and cultural issues. In contrast, some of these issues can also be viewed as positive learning experiences, such as opportunities to mix with a wide range of other nationalities and learn about a new culture that may increase the students’ level of confidence as they experience personal development. The findings has shown that there are both positive learning experiences as well as challenges faced by international students when studying abroad; and these considerations may have significant implications for the stakeholders such as policy makers, administrators, academics as well as the institutions of higher learning offering the courses.

References: