Approaches to study: A comparison of Malaysian and Australian students

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Abstract: This paper reports on an investigation into the learning styles adopted by Malaysian students studying on an Australian university campus in Malaysia and learning styles adopted by Australian students in Australia. It investigates whether Malaysian student approaches to learning can be distinguished from those of Australian nationals. The basic rationale for the study is that the provision of tertiary education to South East Asian students on Asian campuses of Australian universities and on Australian campuses will be more successful if the learning approaches adopted by students is taken into account in the design and delivery of courses. This investigation tests a conventional Australian view on Asian approaches to learning that portrays Asian students as adopting surface, rote learning strategies in their approaches to study (Ballard & Clanchy, 1997; Biggs, 1987). It also questions the assumption that teaching Asian students in Australia is the best preparation for staff teaching Asian students in their home contexts (Gribble & Ziguras, 2003).

Keywords: approaches to study; Asian students; deep and surface learning
Introduction

Background

In 2004 a paper authored by Ling, Arger, Pallant, Chua and Yin was presented at the HERDSA conference in Miri, Sarawak. That paper reported on the first phase of an investigation of the study approaches of Malaysian students undertaking higher education programs on a Malaysian campus and the study approaches of Australian students and Malaysian students undertaking higher education studies on an Australian campus. In the first phase of the study a questionnaire was applied to Malaysian students studying higher education programs and preparatory programs on the Swinburne University campus, Kuching, Sarawak. That study investigated the propensity of students to take a deep or a surface approach to study. The study also tested the proposition of Biggs (Biggs, Kember & Ling 2001) that students learn to adopt minimalist study strategies over a program of study. The findings of the first phase study were limited. The study indicated some difference in student approaches to study by discipline but did not indicate that study approaches of Malaysian students studying on a Malaysian campus differ significantly by year of study.

Topic

This paper reports on the second phase of the study and provides a comparison between approaches to learning and study adopted by Malaysian students undertaking higher education programs and pre-university year study on a Malaysian campus relative to the study approaches of Australian students undertaking higher education studies on an Australian campus. (Unfortunately there was insufficient response from Malaysian students studying in Australia to make a significant contribution to the comparative study.) The study distinguishes approaches by the students’ year of study. In the case of Malaysian students studying in Malaysia, the approach to study was also differentiated by ‘mother tongue’.

Rationale

Australian universities have increased their student numbers through the enrolment of international students – on Australian campuses, on campuses in their homelands and through use of media-based teaching. An issue that arises is how well Australian staff are prepared for the teaching of Asian students in Australia and abroad. That preparation can be informed by an understanding of Asian student approaches to learning.

The investigation reported here has the potential to test views widely held in Australia on the study approaches of international students, many of whom originate from South East Asia. The conventional Australian wisdom is derived from: Biggs’ and Kember’s investigations of student approaches to learning (Biggs, 1987; Biggs, Kember, & Leung, 2001; Kember & Gow, 1990); and Ballard and Clanchy’s (1991, 1997) investigation of study approaches of international students and the materials subsequently devised by study skills advisers. Asian students are presumed to bring with them learning experiences that favour ‘rote, reproductive, surface, teacher-centred and dependent approaches to learning’ (Ninnes, Aitchison, & Kalos, 1999; see also Ballard & Clanchy, 1997; Devos, 2003; Gribble & Ziguras, 2003). This stereotype of Asian international student approaches to study has been challenged on the grounds that it fails to recognise differences by country (Burns, 1991; Chalmers & Volet, 1997; Ninnes et al., 1999) and on the grounds that it involves a misunderstanding of Asian student approaches to study (Ramburuth & McCormick, 2001). This investigation continues the exploration of Asian student approaches to study in the light of this debate. Specifically, because Swinburne University has a campus in Sarawak, Malaysia, this paper investigates Malaysian students’ approaches to study with a view to informing approaches to Australian course design and delivery for both Malaysia and Australia.
Previous studies

Marton and Saljo (1976) distinguished surface and deep approaches to student learning in Sweden on the basis of motivations for learning and learning strategies adopted. Biggs, using his Student Process Questionnaire (Biggs, 1987), distinguished surface, deep and achieving approaches to both student motivation and study strategies (producing a six cell matrix). This study accommodated student approaches to learning that varied to suit the circumstances and their ends. What appeared to be surface strategies might be adopted to achieve deep learning outcomes – styled an ‘achieving’ approach. Kember and Gow (1990) and Kember, Wong and Leung (1999) in Hong Kong challenged the distinction between achieving and deep approaches and the reliability of the surface scale. Biggs subsequently devised a shortened version of the Student Process Questionnaire based on two factors (Biggs et al., 2001). Zeegers (2002) in an Australia study produced a two factors (surface and deep) scale. The present investigation was based on Zeegers’ model.

Understandings associated with the distinction

Approaches to learning are not viewed as inherent characteristics of particular students but are adopted by students in response to their learning circumstances. The approach adopted is a manifestation of the intention that the student possesses at the time (Shale & Trigwell, 2004). A deep approach to learning is associated with an intention to understand material for one’s self. Shale and Trigwell have described a deep approach as involving: vigorous and critical interaction with knowledge content; relating ideas to one’s previous knowledge and experience; discovering and using organizing principles to integrate ideas; relating evidence to conclusions; and examining the logic of arguments. They describe a surface approach – which is driven by an intention simply to reproduce parts of the content – as involving: accepting ideas and information passively; concentrating only on what is required for assessment; not reflecting on purpose or strategies; memorising facts and procedures routinely; and failing to distinguish guiding principles or patterns. The role of intention in this interpretation allows that students with a deep learning intent may from time to time adopt strategies associated with surface approaches simply because internalising some information using superficial learning techniques is seen as a useful or essential base for deeper understanding of the substance of the content.

While the tendency towards deep approaches has been found to increase with age (Biggs, 1987), within a particular course of study there is a tendency to move in the opposite direction – from deep approaches to surface approaches (Biggs, 1987; Biggs et al., 2001; Watkins & Hattie, 1985; Zeegers, 2001). The presumption is that students learn what they need to do to achieve the results they want and do no more (Biggs et al., 2001). The demographics of the present study allow exploration of this issue.

Distinction by student origin

In Australia – as mentioned above – distinctions have been made about approaches to study by student origin. In this, Asian students have at times been treated as a single group who have a tendency to take surface approaches to study (Ballard & Clanchy, 1997; Devos, 2003; Gribble & Ziguras, 2003). There are studies available that distinguish the approaches of Thai students and Indian students (Chalmers & Volet, 1997; Ninnes et al., 1999). Burns distinguished approaches of students from Malaysia, Singapore and Hong Kong but did not distinguish between ethnic groups within countries (Burns, 1991; Ninnes et al., 1999). In this study we focus specifically on Malaysian students resident in Sarawak. In doing so, we acknowledge multiple ethnic, language and cultural backgrounds. The study investigates, for Malaysian students, differences in study approaches by ‘mother tongue’. The authors acknowledge that the study approaches of students resident in Sarawak may well differ from those of other Asian students or even those of Malaysian students from other locations.
Application of the distinctions to educational development

Consequences for teaching of the distinctions between Asian and Australian students has been discussed by Ballard and Clanchy (1991). To maintain deep strategies requires intervention.

Gribble and Ziguras (2003) found that there is little systematic preparation of Australian university staff for teaching on Asian campuses. Most were informed by their own experiences in teaching Asian students in Australia and by the experiences of colleagues who had taught in international contexts. One potential value of the present investigation into a specific group of Asian students is to add—in terms of ethnicity and location—to information available on Asian student approaches to learning and so to inform approaches to teaching on international campuses. Gribble and Ziguras found that there is a need for academics to appreciate local cultural, social, economic and legal contexts if they are to improve the effectiveness of their teaching on international campuses. They noted, incidentally, that most academics would prefer to achieve this through mentoring or direct experience rather than through formal programs.

Methodology and the instrument employed

Derivation of the instrument

The present investigation employed a modified version of Zeegers’ Revised Student Process Questionnaire (Zeegers, 2002). The instrument employed to distinguish student’s approaches to learning was modified from Zeegers’ revised Study Process Questionnaires to substitute terms thought by the research team to be likely to be unfamiliar to the cohort surveyed with terms more familiar to them; for instance ‘…out of their interest to me’ was substituted for ‘…out of intrinsic interest.’ In some cases substitutions were made for the sake of providing a slant of more interest to the researchers and in these cases—about a quarter of the items—responses may have varied from those that would have been obtained using the original wording. In addition seven items were added to provide additional information of interest to the research team but the deep, surface and achieving factor analysis was not applied to these items.

Demographics and the version of the instrument employed

The instrument contained a demographic section that addressed: nationality; mother tongue; other spoken or written language(s); language(s) of primary schooling; language(s) of secondary schooling; location of schooling; location(s) of tertiary study; level of study; year of study; and area of study.

Figure 1. Level of study of participants in Malaysian and Australian samples
There were two samples. The first sample consisted of 219 Malaysian students studying in Kuching. Thirty-six percent of respondents were enrolled in foundation or pre-university year, 62% were undergraduate students and 2% were postgraduates. Sixteen percent of the students were in their first year, 32.3% in the second year, 17.1% in the third, and 3.2% in their fourth year. Half of the students (49.8%) were enrolled in Business, 42.3% in Engineering, 4.7% in Information Technology, and 3.3% in other areas. Mother tongue language of 73.9% of respondents was Chinese, 8.7% were of Malay origin, 6.3% of Iban, and 3.4% of respondents represented other languages.

The second sample consisted of 275 students studying in Australian University. Seventy-six percent were Australians, 6.5% were Malaysians, and 17.5% represented other nationalities. Only 0.7% were enrolled in foundation or pre-university year, 75.1% were undergraduate, and 24.2% were postgraduate students. Thirty-two percent of the students were in their first full time year, 24.9% in the second, 24.2% in the third, 11.7% in their fourth full time year, and 7.3% were studying part time for more than four years. Twenty-six percent of respondents were enrolled in Business, 12.4% in Engineering, 21.5% in IT, 19.3% in Social Science and psychology, 8.7% in Science, 5.1% in Art and Design, and 7% in other areas.
Findings

Surface and deep approaches

The 42 items of the Study Process Questionnaire (Zeegers, 2002) were analysed using confirmatory factor analysis (maximum likelihood method). The analysis was performed separately for Malaysian and Australian samples. The model having the best fit to the data was represented by two factors, a deep approach and surface approach. The loadings of the factors were similar to Zeegers’s two-factor model.

<table>
<thead>
<tr>
<th>Sample</th>
<th>Subscale</th>
<th>Number of items</th>
<th>Mean</th>
<th>Standard deviation</th>
<th>Range of scores</th>
<th>Cronbach alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malaysian</td>
<td>Deep</td>
<td>26</td>
<td>79.7</td>
<td>13.9</td>
<td>41-116</td>
<td>.83</td>
</tr>
<tr>
<td>Australian</td>
<td></td>
<td></td>
<td>81.6</td>
<td>14.9</td>
<td>38-116</td>
<td>.81</td>
</tr>
<tr>
<td>Malaysian</td>
<td>Surface</td>
<td>21</td>
<td>68.7</td>
<td>10.9</td>
<td>33-99</td>
<td>.83</td>
</tr>
<tr>
<td>Australian</td>
<td></td>
<td></td>
<td>65.3</td>
<td>11.9</td>
<td>30-96</td>
<td>.88</td>
</tr>
</tbody>
</table>

Table 1. Descriptive Statistics and Reliability Statistics for the Study Process Questionnaire subscales

Independent samples t-tests were conducted to compare the learning approaches scores for Malaysian and Australian samples. There was no significant difference in mean deep approach scores for Malaysian (M = 79.6, SD = 13.9) and Australian students (M = 81.6, SD = 14.9). The distribution of mean deep approach scores was very similar for both samples (see Figure 4). (The length of the box contains 50% of cases, the line across the inside of the box represents the median value, the whiskers protruding from the box go out to the smallest and largest values).

Exclusion of 18 Malaysian students from the Australian sample did not change the results. There was no significant difference between mean scores for Malaysian and Australian undergraduate students only. Also, there was no significant difference in mean Deep Approach scores for Malaysian students studying in Malaysia and Malaysian students studying in Australia.

There was significant difference in mean surface approach scores for Malaysian (M = 68.7, SD = 10.9) and Australian samples [M =65.3, SD = 11.9; t (468) =3.20, p < .01], however the magnitude of the difference was quite small (eta squared = .02) (see Figure 5 for the distribution of mean surface scores for Malaysian and Australian samples).

Exclusion of 18 Malaysian students from the Australian sample did not change the results. Comparison of only undergraduate students did not change the results either. There was no significant difference in mean Surface Approach scores for Malaysian students studying in Malaysia and Malaysian students studying in Australia.
Findings by level/sector of study: Surface and Deep approaches

Independent sample t-tests were conducted to compare the mean surface scores for: 1) undergraduate Malaysian and Australian students; 2) Malaysian vocational/TAFE/foundation students and Malaysian undergraduate students; and 3) Australian undergraduate and Australian postgraduate students.

The number of participants in Australian group for vocational/TAFE/foundation level and Malaysian group for postgraduate level was very small (two and four respectively). Therefore comparisons of Australian and Malaysian students studying at these levels has not been pursued.

The only significant difference found for the surface approach was between Australian undergraduate and Australian post-graduate students ($t(254) = 2.65, p < .01$, eta squared = .02). Similarly the only significant difference found for the deep approach was between mean deep scores for postgraduate and undergraduate Australian students ($t(257) = 2.52, p < .01$).

Findings by Field of study: Surface and Deep approaches

A two-way between-groups analysis of variance was conducted to explore the impact of group (Malaysian vs Australian students) and area of study (Engineering vs Business) on surface approach. There were no statistically significant main or interaction effects found.

Similar to finding for surface approach, there were no statistically significant main or interaction effects found for deep approach.

Results by mother tongue language

The results for the Malaysian sample where categorized into five mother tongue language groups: Malay, Chinese, Iban, English and other. Some distinctions showed up on both the tendency to take surface approaches and the tendency to take deep approaches but the differences were not significant. See Table 6.

Descriptive statistics are presented in Table 2.
Table 2. Surface and Deep Approaches by Level of Study

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Discussion and conclusion
The instrument employed to distinguish student approaches to learning is not strictly comparable to previously employed Study Process Questionnaires. No comparisons with previous findings could therefore be made.

Deep and surface approaches
While there was a tendency for Malaysian students studying in Sarawak to score significantly higher
on adopting a surface approach, the absolute difference between Malaysian and Australian students was small and any difference in the tendency to adopt a deep approach is insignificant. In addition, the difference in surface approach to learning found between Malaysian and Australian students is partially explained by a significant large positive correlation found between surface approach and deep approach scores ($r = .49, n = 457, p < .01$) with high levels of surface approach associated with higher levels of deep approach to learning in the Malaysian sample. Separate analysis for Malaysian and Australian samples revealed that for Malaysian students the correlation was much stronger ($r = .73, n = 207, p < .01$) than for Australian students ($r = .34, n = 250, p < .01$).

**The results by level of study and the ‘institutionalisation’ of learning**

The present study investigated student approaches to study by year of study to test the proposition of Biggs et al. (2001) that students learn to adopt minimalist study strategies. The findings of the study do not indicate that study approaches of Malaysian students studying on a Malaysian campus or of Australian students differ significantly by year of study within a program.

Student approaches to study do differ by level of the program of study with a tendency to take deep approaches being greater (but not significantly) for undergraduate than for pre-university students in the Malaysian sample and significantly greater for postgraduate than for undergraduate in the Australian sample. Correspondingly, the tendency to take surface approaches was significantly greater for undergraduate than for postgraduate in the Australian sample. These findings by level of program are in line with expectations.
<table>
<thead>
<tr>
<th>Surface Approach</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>All students</td>
<td>211</td>
<td>68.7</td>
<td>11.0</td>
</tr>
<tr>
<td>Mother Tongue Language</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Malay</td>
<td>18</td>
<td>73.6</td>
<td>11.3</td>
</tr>
<tr>
<td>Chinese</td>
<td>146</td>
<td>67.6</td>
<td>11.3</td>
</tr>
<tr>
<td>Iban</td>
<td>13</td>
<td>72.5</td>
<td>8.4</td>
</tr>
<tr>
<td>English</td>
<td>15</td>
<td>67.9</td>
<td>7.8</td>
</tr>
<tr>
<td>Other</td>
<td>7</td>
<td>72.9</td>
<td>8.8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Deep Approach</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>All students</td>
<td>210</td>
<td>79.6</td>
<td>13.9</td>
</tr>
<tr>
<td>Mother Tongue Language</td>
<td></td>
<td></td>
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<tr>
<td>Malay</td>
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</tr>
<tr>
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<td>146</td>
<td>78.4</td>
<td>13.9</td>
</tr>
<tr>
<td>Iban</td>
<td>13</td>
<td>82.6</td>
<td>17.3</td>
</tr>
<tr>
<td>English</td>
<td>16</td>
<td>79.4</td>
<td>13.7</td>
</tr>
<tr>
<td>Other</td>
<td>7</td>
<td>82.7</td>
<td>6.3</td>
</tr>
</tbody>
</table>

Table 3. Malaysian sample approach by mother tongue

**Conclusion**

This investigation was undertaken with a view to informing approaches to teaching Malaysian students in Australia and in Malaysia. It was undertaken in the context of a debate in Australia about whether or not Asian students in general have a tendency to adopt surface approaches to study. While the study indicated some support for the proposition that Asian students have a greater tendency to take surface approaches to study than do Australian students, this investigation of the approaches to study of Malaysian students indicates that any differences are small. In addition, focusing on the tendency to take deep approaches to study, Malaysian students are just as likely to take a deep approach as Australian students. It is therefore inappropriate to devise approaches to learning and teaching in Malaysia or in Australia on the presumption that Malaysian students in general take a surface approach to study.

There is potential for further study in this area. The present study indicated no significant difference in approaches to study between Malaysian students studying in Malaysia and Malaysian students studying in Australia but the number of Malaysian students studying in Australia responding was too small to reach conclusions. A study covering a larger number of Malaysian students studying in Australia would allow investigation of whether Malaysian students adopted significantly different approaches to
study in Australia compared with those adopted by Malaysian students studying in Malaysia. This has implications for how well teaching Malaysian students in Australia prepares academics for teaching Malaysian students in Malaysia. The investigation could also be replicated focusing on other groups of Asian higher education students.

References


Acknowledgements

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