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## Contents

Editorial	3
The effect of cultural background on the academic adjustment of first year dental students. <i>Teresa Burgess, Len Crocombe, Joan Kelly and Pi-Shen Seet</i>	5–14
Is comprehension or application the more important skill for first-year computer science students?. <i>Nickolas J G Falkner</i>	15–26
Cutting the cloth to fit new needs and communication preferences. <i>Helen Johnston, Andrea Duff and Diana Quinn</i>	27–38
Utilising <i>Facebook</i> : immersing Generation-Y students into first year university. <i>Joshua McCarthy</i>	39–50
Experiences with building intrinsic motivation through self-directed projects. <i>Cheryl Pope</i>	51–58
Doing it the WIMBA way: an initial evaluation of a voice tool for learning. <i>Richard Warner</i>	59–72

# The effect of cultural background on the academic adjustment of first year dental students

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## Abstract

Students from backgrounds that are culturally different from the dominant culture of the university potentially face additional challenges in adjusting to the academic environment. This research aimed to discover the positive or negative influences (called critical incidents) that differentially affect the academic adjustment and success of first year dental students with Australian and non-Australian background cultures.

A cross-sectional survey utilizing a self-completed questionnaire was undertaken of all first year Bachelor of Dental Surgery (BDS) and Bachelor of Oral Health (BOH) students who attended a Behavioural Science lecture in August 2007. The "critical incidents" which impacted on the learning of students of Australian and non-Australian self-defined cultural backgrounds were compared.

Of the 26 "critical incident" questions that impacted on the student's academic adjustment during the year, the vast majority (23) were similar between students of Australian compared to those of non-Australian cultural backgrounds. Being confident with library skills had a greater positive impact on learning for students with a non-Australian background than it did for Australian students. Lecturers and lectures were more likely to have a negative influence and less likely to have a positive impact on learning of non-Australian students. Essays as an assessment method were more likely to have a positive influence on learning for Australian students. Writing and oral presentation skills were the most frequently cited special issues for students from non-Australian backgrounds.

Thus, students from Australian and non-Australian background cultures, whether they be international or local students, identified similar learning issues and problems.

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## Introduction

Failure to meet the wide range of challenges faced by all students during the transition from secondary to tertiary education impacts on learning outcomes. Students from backgrounds that are culturally different from the dominant culture (whether they be international fee-paying students or local students) may face additional challenges in adjusting to the academic environment. This study aimed to explore any specific positive or negative influences (nominated as "critical incidents") which differentially affect the academic adjustment and success of first year dental students at the University of Adelaide with a non-Australian background culture.

Despite the significant advances in technology that have facilitated the movement and communication of people across cultures, studies have shown that cross-cultural barriers continue to be a major hurdle for most people (Geertz 1973; Hofstede 1980; Hampden-Turner & Trompenaars 2000). Difficulties (including adjustment issues) have been identified among students from backgrounds different to that of the dominant culture and these can be a source of frustration and disappointment for students, and a challenge for staff (Lin 1990). Robertson et al. (2000, p. 89) note that "recognising and demystifying the problems they face as learners in unfamiliar contexts is the critical first step towards improving the learning environments of international students". However, it has not often been recognised that many local students have non-Australian cultural and linguistic backgrounds, and so may share many of the frustrations and difficulties experienced by international students.

Robertson et al. (2000) focused on the perceptions of international undergraduate students and found that there were a number of areas in which international students encounter difficulties in new learning environments. These fell into the main areas of activities inside the university (expenses, stress, different learning styles, isolation); activities outside the university (colloquial language, racism, adjusting to culture, homesickness); and language related issues (verbal, comprehension, writing skills, understanding lecturers). Student adjustment in the first year of study at university has increasingly become recognised as vital to the overall success of all students (Friedlander et al. 2007; Rickinson & Rutherford 1996), and therefore it is important to separate out issues for all students from those that are specific to students facing cultural differences.

Ramsey et al. (1999, p. 129), defined academic adjustment as "the fit which students achieve with the academic context", and they interviewed a mixture of local and international commerce and management students at Griffith University, in Queensland, Australia. They asked students about their learning experiences in their first year as undergraduates, and identified a number of what they described as "key critical incidents" (being those activities or supports that impacted either positively or negatively on students' experiences of university life) and analysed the results to identify issues specific to international students. Whilst there were a number of factors that were identified by both groups as either positive (eg increasing critical thinking abilities) or negative (eg difficulties with specific lecturers) influences, there were some factors that were viewed differently eg tutorials were viewed as positive influences by local students, but negative experiences by international students.

For commencing undergraduate dental students, there is little evidence in the Australian context of the specific learning issues for students from different cultural backgrounds. Marino et al. (2004) investigated a large cohort of dental students for cultural consistency, and found that ethnicity was a trivial component relative to the unexplained variance in value orientation. They suggested that "behind an apparent ethnic diversity, a single distinctive value profile might exist to which the majority of dental students subscribe" (p.1178).

With the increasing internationalisation of the student body in Australian universities, we have undertaken a study to identify factors that specifically affect the academic integration and outcomes of dental students from non Australian cultural backgrounds in order to identify strategies that will improve learning and teaching outcomes.

## Methods

An anonymous cross-sectional survey utilising a self-completed questionnaire was undertaken of all first year Bachelor of Dental Surgery (BDS) and Bachelor of Oral Health (BOH) students who attended a Behavioural Science lecture in August 2007 (Table 1).

The students defined their own cultural background through a question which asked whether they considered themselves to be of Australian, Australian Aboriginal or other cultural background. If the student ticked 'other', they were asked to nominate their cultural background.

The survey asked demographic questions on age, sex, cultural background and length of time in Australia, and 26 questions on key critical incidents (drawn from the Ramsey et al. 1999 study) that impacted on the students' learning during the year. Of the 26 questions on critical incidents, eight were on students' personal attributes, seven were on course experiences and outcomes, four were on assessment styles, four were on university support, and three were catch-all questions for further comments (Table 1). The questions asked if the critical incident had a positive influence, no influence, a negative influence, or if they didn't know whether the incident influenced their learning. The ethical research guidelines of the University of Adelaide Human Ethics Committee were followed.

Students of Australian and non-Australian cultural backgrounds were compared. Students with a non-Australian cultural background were further sorted into those who had been in Australia for less than 2 years and those who had been in Australia for 2 years or more. "Don't know" responses were dropped from the analysis and the results were stratified for student age, sex and the course being undertaken.

The comments and text provided by the students helped to explain the quantitative data. Students were asked to provide comments in three separate areas: describing any special issues associated with their English skills, any learning experiences they thought had impacted on their learning (both positively and/or negatively), and general comments. Critical incidents were analysed considering cultural background and length of time in Australia (if appropriate). A thematic analysis was undertaken of comments, which were also analysed considering these elements.

## Results

Of a total of 106 first year BDS and BOH students 94 (90%) completed the survey, of whom 72% were 20 years of age or less and 6% were 26 years of age or older. Over half the students were female (59%). Seventy two percent of students were undertaking the BDS and 28% the BOH.

Forty nine percent of students had a self-assessed Australian cultural background and of the 51% identifying themselves with non-Australian cultural backgrounds, 37 had a wide range of Asian backgrounds, five had European backgrounds, four were Middle Eastern, and the others were from New Zealand and South Africa (Table 2). Of the respondents with a non-Australian cultural background, 40% had been in Australia for less than 2 years.

There was no statistically significant difference between the age groups of those students undertaking the BDS compared to students undertaking the BOH, nor was one identified between students of Australian and non-Australian cultural backgrounds. Similarly, there was not a statistically significant difference in the proportion of each sex between those of Australian to non-Australian cultural backgrounds, and between those students undertaking each course (BDS vs BOH). However, respondents undertaking the BDS (59%) were more likely to have non-Australian cultural backgrounds than students undertaking the BOH (31%,  $p=0.01$ ).

Unadjusted analysis showed that of the 26 "critical incident" questions that impacted on the student's academic adjustment during the year, the vast majority (23) were not significantly

different between students of Australian compared to those of non-Australian cultural backgrounds. Table 3 demonstrates the significant associations found in the three "critical incident" areas of library skills, lectures/lecturers and essays.

When using non-adjusted analysis to compare dental students of non-Australian cultural backgrounds who had been in Australia for less than 2 years compared to those who had been in Australia for 2 years or more, in only the 3 areas of library skills ( $p=0.01$ ), sense of achievement/growth/confidence ( $p=0.05$ ), and personal feedback ( $p=0.03$ ) were the results statistically significant (Table 4). Library skills were more likely to have a positive impact on learning of non-Australians who had been in Australia for less than 2 years. A sense of achievement/growth/confidence and personal feedback had a more positive impact for non-Australians who had been in Australia for 2 years or more.

Writing and oral presentation skills were the most frequently cited special issues for students from non-Australian backgrounds, whilst students who had been in Australia less than 12 months also noted that speaking and understanding could be an issue: "Writing for assignments; people not understanding what I say". Another student from a non-Australian background, but who had been in Australia for longer than ten years, noted that they felt "more inadequate of my writing skills". Australian background students identified paying attention and listening as issues for themselves: "better time management, effective study, absorbing verbal info" and "paying attention".

In terms of critical incidents, 34 students identified incidents not previously noted in the survey. These incidents exerted both positive and negative influences fairly equally; however, the majority of respondents were Australian and/or students who had been in Australia for longer than 5 years. Positive influences reported varied between Australian and non-Australian background students, with clinical experience being reported as useful by students from an Australian background and notes, lectures and textbooks noted by non-Australian background students: "reading textbooks and taking notes". Non-Australian background students also reported peer support and social interactions as positive influences: "student interaction and support from each other". The issue of workload was the strongest negative impact noted by Australian background students ("Work load too heavy") whilst difficulties with tutors were noted by students from non-Australian backgrounds: "Tutor that was discouraging and mean".

Twenty seven students made comments on the course, and five of these students had been in Australia for less than 2 years. Comments fell into two main groupings of 'language and learning' and 'workload'. A number of Australian background students commented on the difficulties for students for whom English was a second language, and one noted that this could interfere with other students' learning: "group work becomes very hard when there is a language barrier and makes a challenging environment". Australian background students noted that the workload was very high, while students from non-Australian cultural backgrounds were more likely to note the workload but identify a positive associated with it: "pretty full on but am still learning and coping". One student from a non-Australian background, who had been in Australia for 2-5 years, noted that "language and learning assistance should be more available for out of hours because the centre is only open some/few hours each day when we are in class". Another student in Australia for 1-2 years noted there were "difficulties for non speaking English, little support especially in assignments, clinics, tutors, also non consideration for background or culture".

## Discussion

This research provides a snapshot of the learning and teaching issues for first year dental students at the University of Adelaide, and indicates some important trends that merit further research. The finding that students from non-Australian background cultures, whether international or local students, identify similar issues and problems (such as a need for language support) points to a need to review how the University considers supports for first year students. Some supports aimed only at international students may be useful for Australian students from non-English speaking backgrounds, and there were a number of issues and difficulties identified which were consistent across all students

Also of note was the wide variety of countries from which students of an Asian background identified, and many of these students identified as having been in Australia 2-5 years or longer. This reinforces the importance of not considering students as 'Asian' and therefore having the same learning needs and styles, but rather identifying individual cultures and issues, as per the findings of Barron and Arcodia (2002).

The study findings differ from the findings by Marino et al. (2004) of a common value profile among dental students in that, among the dental students identifying with non-Australian cultural backgrounds, the value placed on 'library skills' was significantly higher than those who identified with Australian cultural backgrounds. This is more in line with research findings on international undergraduate students. For example, Nataowitz (1995) studied 18 articles on the topic between 1987 and 1993 and found a positive impact on library skills training and services to international students. In the Australian context, McSwiney (1994) also showed similar findings in a cross-disciplinary examination of literature between 1975 and 1992 that looked at non-English speaking students in Australian university libraries. Given that there is no known study on the impact of library skills among international dentistry students, this study's finding therefore implies that further research needs to be conducted so as to confirm whether dental undergraduates do actually differ from other undergraduates in this aspect and the reasons for this.

Another aspect that deserves greater attention is the difference between first year BOH and BDS students. This area has not been well researched, probably because the BOH is a new degree that combined previous shorter dental hygiene and dental therapy courses. The study found some differences in terms of the value of lectures/lecturers and essays. This is consistent with previous studies that identified a number of demographic factors that may affect students' psychological adjustment during medical training, eg academic year, gender, marital status and race (Coombs & Fawzy 1982; Zoccolillo et al. 1986; Hendrie et al. 1990; Parkerson et al. 1990). In addition, this seems to correlate with the Henning et al. (1998) study on medical, dental, nursing and pharmacy students that found that medical and dental students from minority backgrounds coped better in certain aspects than nursing and pharmacy students possibly due to the much higher admission standards and hence ability to cope with higher demands of stress and workload.

Another area requiring further research is that of group work. Some of the English speaking background students identified how difficult language based activities (such as presentations and group work) could be for non-English speaking background students. This finding reinforces the findings of a discussion paper by the Adelaide University Postgraduate Students' Association (AUPGSA 2007) which reported on the difficulties of working in culturally diverse groups, with local students complaining of international non-English speaking background (NESB) students "dragging down the final grades of all students in the

group". However, this study highlights that it may not just be international students, it may be any student from a non-English speaking background.

## Conclusions

Overall, this study points to the importance of understanding a variety of aspects regarding first year student cohorts, and not making assumptions about the cultural backgrounds, and needs of students, but taking the time to identify specific issues and needs where interventions can be targeted to improve student outcomes. It may be useful to consider that the services targeted at international students may in fact, be more useful if offered more generally to students, and that the transition to university should be addressed in the same way for all students. The research also suggests that there should be careful consideration of the assumptions about the needs of particular groups which underpin the sorts of services that are offered.

Further research is indicated, particularly in the area of transition to university for first year students from a non-Australian background (whether international or locally based) and differences between first year BOH and BDS students.

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Note: Tables follow on pp. 12-14.



## Tables

*Table 1: Critical incidents that affect the academic adjustment of international and local first year dental students*

### Survey Questions

#### Demographics

- A1. What is your age?  
20 yrs or younger. 21-25 yrs. 26-30 yrs.  
31-40 yrs. 41+ yrs
- A2. What is your sex?  
Male Female
- A3. What is your course?  
BDS BOH
- A4. How long have you lived in Australia?  
Less than one year 1-2 years 2-5 years  
5-10 years More than 10 years
- A5. What do you consider to be your cultural background?  
Australian, Australian Aboriginal Other  
Please indicate your cultural background:

**The following questions were all answered by students nominating one of the following options:**

**Positive influence No influence**

**Negative influence Don't know**

#### Personal attributes/factors impacting on learning

- B1. Organisational/time management skills?
- B2. Independence/responsibility/self-discipline?
- B3. English skills  
*Please specify any difficulties you may have experienced in this area: eg writing, listening, speaking, oral presentations:*  
.....
- B4. Support of your family?
- B5. Support of friends?
- B6. Library skills?
- B7. Computing skills?
- B8. Prior learning?

#### Course experiences and outcomes impacting on learning.

- C1. Tutors and Tutorials?
- C2. Dental Learning Packages?
- C3. Lectures and Lecturers?
- C4. Sense of achievement/growth/confidence?
- C5. Personal feedback?
- C6. Timing of feedback on assignments?
- C7. Relevance of the course to your future career?

#### Assessment styles impacting on learning.

- D1. Essays?
- D2. Group work?
- D3. Oral assessments?
- D4. Written examinations?

#### University support impacting on learning.

- E1. Language and Learning Assistance Service?
- E2. Accommodation Service?
- E3. Orientation Program?
- E4. international Student Centre?

F1. Please note **any other critical incidents or learning experiences** which have impacted on your learning this year that have not been already asked and indicate their influence.

G1. Would you like to make any further comments about your learning experience as a first year dental student?

Table 2: Self assessed non-Australian cultural backgrounds

Asia		Europe		Middle East		Other	
Asian	7	Ukrainian	1	Iraqi	2	New Zealand	2
Chinese	7	Italian	2	Iranian/ Persian	1	Canadian/ South African	1
Malaysian	6	Bosnian	1	Egyptian	1	<b>Total</b>	<b>3</b>
Indian	4	Polish	1	<b>Total</b>	<b>4</b>		
Sri Lankan	4	<b>Total</b>	<b>5</b>				
Vietnamese	4						
Korean	2						
Singapore	2						
Thai	1						
<b>Total</b>	<b>37</b>						

Table 3: All students and cultural background

		Aust. %	Non-Aust. %	<i>p</i>
<b>All students</b>		48.9	51.1	0.31
<b>Age</b>	Under 20 yrs	29.8	42.5	0.04
	21-25 yrs	13.8	7.4	
	Over 25 yrs	5.3	1.1	
<b>Sex</b>	Female	30.1	29.0	0.74
	Male	19.3	1.5	
<b>Library skills</b>	No or neg. infl.	34.1	24.7	0.03
	Pos. influence	14.1	27.1	
<b>Lectures/Lecturers</b>	No or neg. infl.	5.7	18.4	0.01
	Pos. influence	43.7	32.2	
<b>Essays</b>	Neg. influence	8.4	7.2	0.02
	No influence	14.5	30.1	
	Pos. influence	26.5	13.2	

*Table 4: Students with a self-perceived non-Australian cultural background*

		Less than 2 yrs.	2 yrs or more.	<i>p</i>
		%	%	
<b>Library skills</b>	No or neg. infl.	25.5	14.9	0.01
	Pos. influence	34.0	25.5	
<b>Achievement/Growth</b>	No or neg. infl.	15.2	23.9	0.01
	Pos. influence	43.5	17.4	
<b>Personal feedback</b>	Neg. influence	12.2	2.4	0.05
	No influence	19.5	14.6	
	Pos. influence	19.3	21.9	