Australian and international mature students: the daily challenges

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In this paper, we explore the learning climate and possible obstacles faced by mature students enrolled in Australian universities. More specifically, using the Experience Sampling Method devised by Mihaly Csikszentmihalyi, we chart the daily activities of Australian and international students and examine these for factors which may facilitate or detract from their studies. Our sample comprised students who had taken mathematics as part of their first-year load. Most were thus enrolled in science and related courses. Multiple data gathering methods were used. These provided coherent synopses of the participants’ activities, lifestyles, motivations, and attitudes to study that allowed us to focus on individual as well as group experiences.

Introduction

Participation rates in mathematical studies, beyond the period of compulsory study, are not equitably distributed among groups within populations. The identification of disadvantaged groups appears to be context-dependent and can vary in type and extent from country to country. In Australia, gender, socio-economic status, Aboriginality, and ethnicity/cultural background—often characterized as non-English speaking backgrounds (NESB)—are common grouping categories of disadvantage (see Leder et al., 1996; Yates & Leder, 1996). In recent years, mature students—i.e., students who have not completed the formal academic prerequisites required for university entrance generally or for specific courses, or who have applied for entry some years after completing high school, and who are 21 or over on March 1 of the year of tertiary entry—have been returning to tertiary study for a variety of reasons (see, for example, Burns & Scott, 1990; Forgasz, 1996; West & Eaton, 1980). There has been government and institutional encouragement and support for this to happen (e.g. Hore & Barwood, 1989). Mature age is not a recognized category of disadvantage, yet the lives and responsibilities of mature students are often more complex than for their younger peers (e.g. Forgasz & Leder, 1998). With respect to international students—those who come from overseas to study at Australian tertiary institutions—it is often assumed that they are disadvantaged because many do not

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The findings reported in this article form part of a larger study of factors influencing students' educational motivations and pathways at university. In the first stage of the study, a questionnaire was administered to over 800 first-year students enrolled at five different universities. To limit the heterogeneity of the group involved in the study, and as a way of focusing on a tertiary area of study perceived to be unattractive to students, at the initial stage of the project the sample was restricted to students enrolled in a first-year mathematics subject. An analysis of the respondents revealed a large proportion of mature students and a large number of international students. The mature students, including international students, were the focus of later stages of the project. They were then typically enrolled in mathematics/science-related areas because of our choice of initial sample. Findings from the first stage of the study are reported in Forgasz and Leder (1998, 2000) and Leder and Forgasz (1998a). Here we report the findings from the final stage of the study for which a small group of mature students—local and international—agreed to participate in an intensive data gathering phase in which their daily lives were tracked. The specific aims of the study were: (1) to chart, for six days including a weekend, the daily activities of this group of mature students to obtain information about their activities and responsibilities related to study and more broadly, and their feelings about these; and (2) to examine whether there were any differences in these activities between local and international students which might (dis)advantage one or other group in terms of time and resources able to be directed at their studies.

Interesting similarities and differences were found in the daily lives of the two groups, in their perceptions of the learning climate, and in the effects of particular factors in apparently facilitating or inhibiting their studies.

**Previous research**

*Patterns of enrolment*

Policies put in place to encourage students to proceed to tertiary education, irrespective of chosen field, seem to have been of particular benefit to two groups: females and older students. Females substantially outnumber males at university, and in particular in humanities and social science subjects (Department of Employment, Education, Training and Youth Affairs (DEETYA), 1998). The greater flexibility shown by tertiary institutions has also resulted in increased enrolments of mature students. The pattern does not appear to have been uniform across different subjects or courses, however.

While national data are difficult to extract, an exploration of the data file for Australia-wide university enrolments in 1996 revealed that 35% of all students who commenced a bachelor's degree were aged 21 or over (Leder & Forgasz, 1998b). A smaller proportion of this age cohort appears to enrol in tertiary mathematics subjects. An analysis of data from three Australian universities revealed that, of 1072 (58% male) undergraduate mathematics students surveyed, 11% (15% of males; 5%
of females) were mature (Forgasz, 1998). Of the 35% (389 students) who regularly spoke a language other than English at home (one measure often used to define students as coming from a non-English speaking background), 68% (266 students or 25% of the sample of 1072) were born outside Australia.

Students' attitudes to tertiary studies, decisions to enrol in higher education courses, and level of achievement attained appear to be influenced by a range of social, cultural and affective factors, the desire to pursue academic interests, and to gain entry into an attractive career (McInnis et al., 1995; Ramsay et al., 1996). Course-related factors such as difficulty, pressures, expectations, poor teaching and boredom can also contribute to students' decisions to drop out of university (Abbott-Chapman et al., 1992). Impersonal and large class sizes, an ineffective tutorial system, lack of support, assistance and encouragement, and poor facilities were critical learning environment factors cited by withdrawing students. Pedagogical approaches, curricular content, the ethos of a mathematics department, and perceptions of discrimination have been given by mathematics students as reasons for their withdrawal (Rogers, 1990; Taylor, 1990; Forgasz, 1998). In earlier Australian studies (e.g. Hore & West, 1980) it was found that mature students were typically from lower SES origins than younger students and that parental expectations for daughters to pursue tertiary education were often low. Forgasz (1996) and Pierce (1995) found mature students to be highly motivated and success-oriented.

The research summarized in this section influenced our expectation of factors likely to be used, implicitly or explicitly, by our sample as descriptors of the learning climate.

The internationalization of education

Motivated at least in part by economic needs, Australian educational institutions—including higher educational institutions—have for well over a decade actively, and successfully, sought to attract international students to their courses (see, for example, DEETYA, 1998). Recent statistics (“International student numbers”, 2001) reveal a fourfold increase between 1992 and 2001 in the number of international students enrolled at Australian universities. Asia has been a particularly fruitful region for recruitment (DEETYA, 1993; Smart & Ang, 1995; Maslen, 1999). International student numbers reached record highs in 2000, 2001.

How effectively international students have acculturated has been examined in a number of studies. The case study approach used by Ninnes (1999) highlighted how lecturers' and institutions' awareness of, or lack of sensitivity to, the special needs of international students could respectively facilitate or hinder their adaptation to the new environment. Different approaches favoured by staff when teaching international students have been identified by Biggs (1999). Burns (1991) reported that international students had greater difficulties than local students in coping with academic demands. Volet and Tan-Quigley (1999) illustrated how cultural expectations can thwart reciprocal understandings between international students and university administrators and lead to unnecessary and unanticipated problems. Differing perceptions among international and local students were also identified by
Baker et al. (1996) in their survey of both groups. Many of the international students, they reported, perceived themselves as adjusting satisfactorily to the Australian lifestyle. Those enrolled in science, engineering, arts and education considered that they made friends readily, unlike those enrolled in economics, commerce and management. The international students themselves did not consider that they were particularly disadvantaged in their studies because of language deficiencies or difficulties in adjusting to the teaching styles they faced in Australia, even though their Australian peers voiced these concerns about them. Yet in a study which focused on the problems experienced by both international students and Australian students from a non-English speaking background (Batorowicz, 1999), both social and academic needs were identified. Communication problems (both groups), homesickness and difficulties in socializing with Australian students (international students), financial problems, and the learning environment at university (both groups) seemed of most concern.

Our expectations of experiences likely to be reported by our sample were inevitably also influenced by the research summarized in this section.

The study

In this article, we focus on the learning and broader experiences of two groups of mature students—students whose permanent residences were (1) within and (2) outside Australia—and examine the data for similarities and differences experienced by the two groups of students with respect to personal and situational factors likely to affect performance at university. A diverse set of data gathering approaches was used to capture fine-grained differences in students' experiences and contexts.

The participants

As discussed above, the first stage of this study involved the administration of a large-scale survey to first-year students enrolled in mathematics courses at five Australian universities. By restricting the initial sample to students enrolled in first-year mathematics courses we anticipated that the diversity of students' previous study background would be reduced. By gathering data at five different universities we further assumed that the confounding effects of single institutional-specific factors would be lessened.

Our initial data pool comprised 815 students of whom 494 (61%) were males, 99 (12%) were mature, and 304 (just over one-third) were from a non-English speaking background (NESB) (i.e. either students born outside Australia and whose permanent home is now in this country, or international students who had come to Australia specifically to embark on tertiary studies). A more detailed exploration of the sample data revealed that the mature age group contained more males than females (69% and 31% respectively) and approximately equal numbers of students from English and non-English speaking backgrounds.
Of the students who completed the survey questionnaire, 21 participated in most of the more intensive data gathering components described below. This number was consistent with our target of 20 students for this part of the study. In this article we focus on the five international students, aged between 21 and 26, and the eight Australian students in the same age group, each of whom participated in all aspects of the study. The composition of this group, and selected background details, are summarized in Table 1.

It can be seen from Table 1 that the group was gender-balanced. However, given the small sample size, we did not examine the data for possible gender differences. It can further be seen that our sample was spread across the five different universities involved in the study, with considerable overlap in the institutions attended by the international and local students. The overall sample size did not allow between-university differences to be explored. All but three of the students were studying full time. From our total data pool we knew that, apart from one student, all were enrolled in science or related courses which required a first-year mathematics subject as a prerequisite. Most students in this group were unmarried and only two (both male and Australian) had a child.

### Table 1. Brief description of the sample

<table>
<thead>
<tr>
<th>Name</th>
<th>Institution or Local</th>
<th>Age at enrolment</th>
<th>Marital Status (no. of children)</th>
<th>Mode of study: Full-time/Part-time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vera (F)(^{(a)})</td>
<td>International: (Shanghai P.R. China)</td>
<td>25</td>
<td>Yes</td>
<td>Full-time</td>
</tr>
<tr>
<td>Adam (M)</td>
<td>International: (Hong Kong)</td>
<td>23</td>
<td>No</td>
<td>Full-time</td>
</tr>
<tr>
<td>Bob (M)</td>
<td>International: (Taiwan)</td>
<td>21</td>
<td>No</td>
<td>Full-time</td>
</tr>
<tr>
<td>Wilma (F)</td>
<td>International: (Mauritius)</td>
<td>21</td>
<td>No</td>
<td>Full-time</td>
</tr>
<tr>
<td>Kim (M)</td>
<td>International: (Bombay India)</td>
<td>21</td>
<td>No</td>
<td>Full-time</td>
</tr>
<tr>
<td>Philip (M)</td>
<td>Local</td>
<td>26</td>
<td>Yes (1)</td>
<td>Part-time</td>
</tr>
<tr>
<td>Cate (F)</td>
<td>Local</td>
<td>26</td>
<td>No</td>
<td>Part-time</td>
</tr>
<tr>
<td>Harold (M)</td>
<td>Local</td>
<td>24</td>
<td>Yes (1)</td>
<td>Part-time</td>
</tr>
<tr>
<td>Greg (M)</td>
<td>Local</td>
<td>24</td>
<td>No</td>
<td>Full-time</td>
</tr>
<tr>
<td>Noreen (F)</td>
<td>Local</td>
<td>22</td>
<td>No</td>
<td>Full-time</td>
</tr>
<tr>
<td>Simon (M)</td>
<td>Local</td>
<td>21</td>
<td>No</td>
<td>Full-time</td>
</tr>
<tr>
<td>Janet (F)</td>
<td>Local</td>
<td>24</td>
<td>No</td>
<td>Full-time</td>
</tr>
<tr>
<td>Diane (F)</td>
<td>Local</td>
<td>24</td>
<td>Yes</td>
<td>Full-time</td>
</tr>
</tbody>
</table>

\(^{(a)}\) Pseudonyms have been used  
\(^{(b)}\) The five tertiary institutions are all located in the metropolitan area of Melbourne, Australia
Method and instruments

Five data gathering tools were used: a survey questionnaire, interviews, regular email (or snail mail) correspondence, 'tag for a day', and the Experience Sampling Method [ESM] (Csikszentmihalyi et al., 1993) or 'beeper-activated' schedule. Thus a mixture of quantitative and qualitative data gathering methods was used. In line with the limited size of the sample and nature of much of the data collected, analyses were confined to descriptive statistics and to careful and repeated interrogation of the interview and email data to determine and confirm common themes found in these open-ended responses.

A summary of the methods, with sample items, is shown in Table 2. The survey instruments described in Table 2 allowed group comparisons to be made. The fine-grained instruments allowed a focus on individual as well as group factors.

Briefly, the survey questionnaire and interviews covered biographical and background details, enrolment issues, affective dimensions, and perceptions of the learning environment. In the regular email and snail mail contacts, students were asked to reflect on various and varying aspects of their studies, special events, pressures experienced, special achievements attained, and personal triumphs or difficulties experienced. The 'tag for a day' period represented time spent with each of the students on campus to allow us to experience first-hand their learning and social environments. The Experience Sampling Method [ESM] was also used for data gathering. Since this instrument is less well known it warrants a more detailed description.

The Experience Sampling Method

The ESM was developed at the University of Chicago almost 30 years ago by Mihaly Csikszentmihalyi. Since then, more than 7000 respondents have used this technique to describe the pattern and quality of their daily life, by 'providing a virtual film strip of [their] daily activities and experiences' (Csikszentmihalyi, 1997, p. 15). Csikszentmihalyi (1997) claimed that peoples' activities could be traced from morning to night, day by day over a week, and that their mood swings in relation to what they did and who they were with could be followed. Thus, as well as gathering behavioural data, the ESM is able to capture how respondents feel as they engage in these various activities and thus allows unique insights into motivations, feelings and beliefs.

In response to signals from an electronic pager, participants chart the course of their daily lives and experiences by filling out detailed reports of their current activities, companions, thoughts and feelings on the specially designed Experience Sampling Form or ESF. In the present study six signals were sent on each of six consecutive days between the hours of 7 a.m. and 10 p.m. on weekdays and between 10 a.m. and 10 p.m. on weekend days. Completion of the ESFs was expected on receipt of each signal, or as close to this time as possible. Comparisons between the daily activities of our sample and those involved in the studies conducted by Csikszentmihalyi and his colleagues are included in the results section.
Table 2. Summary of data gathering methods

<table>
<thead>
<tr>
<th>Method/Contents</th>
<th>Selected Sample items</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Survey:</strong> Computer scorable and open-ended items. Four main clusters: 1. Biographical/ background details 2. Enrolment issues 3. Affective dimensions 4. Perceptions of mathematics learning environment</td>
<td>1a. Do you regularly speak a language other than English at home? (Yes/No) b. Parents' educational backgrounds (open) 2a. What degree/s are you studying? (open) b. Why are you studying mathematics? (check boxes from list provided) 3a. How good are you at mathematics? (1–5 rating)</td>
</tr>
<tr>
<td><strong>Interviews:</strong> semi-structured interview protocol (same issues as for survey)</td>
<td>b. Do you enjoy university mathematics? (Yes/No/Sometimes) 4. Re: University mathematics: • well taught (5-point Likert: SA-SD) • lecturers approachable (SA-SD) • assessment is fair (SA-SD)</td>
</tr>
<tr>
<td><strong>Email/Snailmail:</strong> monthly communications. Varied formats included open and closed items.</td>
<td>• Tell me about your life pathway that has led you to being enrolled in your current course. • Comment on university teaching: e.g. quality/ approachability of lecturers/tutors, level of support</td>
</tr>
<tr>
<td><strong>'Tag for a day':</strong> spend time with student on campus. Observations recorded in field notes.</td>
<td>May message: How have you usually felt during lectures over the past month? (Mark with an X as many words that apply): interested; relaxed; worried; successful; confused; clever; happy; bored; rushed; panicky. Write one or more words of your own. October message: What are your reactions to your studies at university this semester? [content of courses, lectures, tutorials, assignments, pressures on your life, etc.]</td>
</tr>
<tr>
<td><strong>'Experience Sampling Method [ESM]':</strong> for six consecutive days, students were paged six times daily. They recorded what they were doing and feeling at these times on prepared Experience Sampling Forms [ESFs]. Study, as well as other activities, were thus captured.</td>
<td>Observations of: • learning environment (to compare with student’s views) • behaviour in lectures, with other students, etc. Keep notes on conversation details</td>
</tr>
<tr>
<td></td>
<td>As you were ‘beeped’: • Where were you? .............. • What were you doing? .............. On 5-point scales (not at all–completely/very much) • Was this activity important to you? • Were you living up to your own expectations? • Were you satisfied with how you were doing? Mood: (semantic differential type; 5-point scale): irritable—cheerful; competitive—cooperative</td>
</tr>
</tbody>
</table>
When paged, participants could choose whether or not to complete an ESF. It might be argued that the data are thus readily biased in the direction of what participants decide that the researchers should learn about their activities. However, in our study the overall response rate (81%) exceeded our expectations, since we had informed students that completion of at least four of the six sheets each day would be quite acceptable. We interpreted the much higher response rate as indicative of the group’s strong commitment to the research project.

In the next section, we provide an overview of daily activities captured by the ESM. In line with Csikszentmihalyi et al.’s (1993) recommendation regarding usable rates of response, we intended excluding from our analyses participants who reacted to fewer than 15 signals. However, none was excluded on this basis. The response rate of international students ranged from 26 to 35 signals, with a mean of 32 signals. The corresponding response range for the local students was 15 to 36, with a mean of 27 signals. Collectively, the international students completed 158 ESFs; the local students 215.

Results

A summary of the activities in which the students were engaged when paged is shown in Figure 1. The information is clustered under activities that emerged as the data were analysed: in transit; in class or laboratory being given information (class/lab P); in class or laboratory actively interacting or participating (class/lab A); studying with peers (study P); studying alone (study A); paid work (paid work); relaxing with friends or family, watching TV (relax F); relaxing alone (relax A); maintenance, e.g., washing, cooking, cleaning, shopping (maintenance); sleeping or in bed (sleep/bed); and eating or drinking (eat/drink).

We calculated the mean frequencies for each activity category, as captured at the time of receipt of the signals, for all students, for the international students, and for local students (see Figure 1). When the mean frequencies were converted to
percentages, it can be inferred from the ESM profile data shown in Figure 1 that, on average, the students spent 35% of their waking time working or studying (compared with 20–45% for the American samples), 8% in transit (compared with 6–9%), 9% eating (compared with 5%), 19% relaxing, with friends or alone (compared with 20–43%), and 19% of their time doing housework and related activities (compared with 8–22% for the American samples). They were woken up by the signal or dozing in bed 10% of the time. Although it is inappropriate to generalize these data beyond our small sample, it is noteworthy that the frequencies of activities are in line with those reported by Csikszentmihalyi et al. (1993).

Similarities and differences in the daily lives of the international and local students, as represented by the activities captured by the ESM, are also discernible from Figure 1. Since the sample size was small, no statistical testing was undertaken. Trends in the data were examined by plotting separate bar graphs for each variable of interest to illustrate percentage responses to each of the activities categorized. As a group, it can be seen that the local students spent more time than the international students in transit and engaged in paid work. On average, the international students were in class or the laboratory slightly more often than the local students, and spent more time studying and relaxing (both with friends and alone), eating, or in bed. Time spent on maintenance activities was very similar for the two groups of students.

The difference between the two groups in time spent studying is particularly noteworthy. The international students were engaged in one or other studying activity some 35% of the time they were paged, compared with 23% for the local group of students. However, not all class or study time was spent functionally. For example, when paged during class time one international student indicated that ‘he was with his group partner at the laboratory for data communication, “trying to write a programme” as an assignment. He found it quite hard to concentrate and ... would prefer to have been “either playing some sport or reading a book” ’ (summary of ESF extract).

A local student who indicated that he was engaged in study when he received the signal elaborated that ‘he was with his fellow electronics students just chatting about lab sessions. He was thinking about study and an assignment he needed to finish ... He would have preferred to be with his friends, “writing music” ’ (summary of ESF extract). Such ambivalence about academic work is not unexpected, even among highly committed students. Just what had motivated our sample to return to study warranted further investigation.

Why go back to study?

For the local mature students, the main motivations for going back to study included: for interest, to fulfil degree/qualification ambitions, career advancement, and expected financial gain.

I guess the most important thing with me is to actually finally get this bloody degree after all the torment that it’s caused me ... (Interview extract)
Interviewer: What sort of things helped you keep motivated?
Student: The silver lining at the end.

Parental encouragement and pressure featured strongly among the explanations given by the international students for returning to study.

I was not doing well in my studies, so the only option, my mother was insisting ... you go abroad and study. (Interview extract)

Earlier unsuccessful educational experiences in their home country, implicit in the above quotation, were another recurring theme for the international group.

Overall, there were similarities and differences in the two groups' motivations to commence their studies. Members of both groups were grasping the opportunity to make good the lack of success, and lost or unfulfilled opportunities in their earlier educational experiences. However, the local students seemed more self-driven; the international students appeared more likely to be responding to parental pressures.

The varying levels of participation in paid work, captured by the ESM profiles, justified closer scrutiny of the financial circumstances of the two groups of students.

Financial circumstances

Compared to their Australian counterparts, the international mature students in our sample had a relatively secure financial status while studying in Australia. One international student occasionally tutored 'for a hobby' and another had a small regular part-time job. Most, however, were fully or partially supported by their parents or partner and did not work:

No, I don’t work. I’m a full-time overseas student and most of my money comes from my parents. (Interview extract)

The Australian students appeared to be more financially stretched. Only two of the local students did not work regularly. All of the others worked either full-time or part-time and still relied on their families for financial emergencies. Indeed, one of the distinctive features of the group of local mature students was their constant struggle to juggle demands for study and work time to meet their financial needs, even though the majority had carefully considered and planned for the financial requirements to return to study. However, it was also evident that most believed that their financial sacrifice to study was worthwhile and that they would reap their harvest from this special investment in the future. Whether such beliefs are more typical of students studying mathematics and related courses or also shared by students enrolled in humanities or social science courses could not be explored in our study.

I mean I’d love to study full-time but I just don’t have the money nor (am I) prepared to go into debt to do it. (Interview extract)

I find money issues coming up all the time. It is difficult on Austudy and the system won’t let you earn very much money outside Austudy [the form of government
financial support for students at the time data were gathered in this study]. (Email extract)

As discussed earlier, the analyses of the ESM data had revealed that local students spent more time than international students in transit and in paid work, findings that are consistent with the data discussed above about the students' financial circumstances. These confirmatory findings provided us with some validity for the interpretations drawn and confidence that the students had responded honestly on the ESFs, at interview and in their email correspondence.

As can be inferred from the data reported in the next section, the two groups differed in their perceptions of other factors they considered detrimental to their studies.

**Other obstacles experienced**

Language competence was cited as a substantial problem by some of the international students, as exemplified by the excerpts below.

I don't like going to lectures ... First year, first year may be language is more difficult ... I just study better by myself. (Interview extract)

Even the way I'm writing. Jump in my mind first is Chinese. I try to interpret it, but I can't find the word for that. So hard. (Interview extract)

Adjusting to a new environment was not unproblematic for some international students. Comments such as the following were not unusual:

Well I think basically the stress levels ..., the climate changes all the time. The body doesn't accept a climate change all of a sudden. (Interview extract)

Australian students, on the other hand, were far more likely to cite difficulties in balancing study and social activities/family life, juggling paid work and study demands—as exemplified by the next two quotations, experiencing a drop in motivation, and concerns that they lacked critical background knowledge and skills, reflected respectively in the last quotations included in this section

I thought ... I'd have a little bit more time to spend at home, but I haven't ... To me that hasn't been as big a problem as it has been to my partner ... I think I've got more caught up in the course than I ... expected. (Interview extract)

I've had to disappear from a few important (work) meetings which have gone over time so that I can go to class. At these times I have to be very assertive, to myself as well as others, about my priorities and expectations. (Email extract)

Since the end of exams for first semester, ... I've had an enormous amount of trouble motivating myself. I found it terribly difficult to get up in the morning and make it to all the 9 o'clock lectures. (Interview extract)

What I'm doing now, some of the subjects I still feel like that. I'm not interested, it seems a waste of time to me ... You don't enjoy doing it. Battle along because it's part of the course and you have to do it. (Interview extract)
I guess a lot of us didn't have the maths background either... I just find it really hard... and in a lot of lectures I had no idea what (the lecturer) was doing. Just was copying down notes and I just would have to go and teach myself from the book. 
(Interview extract)

The major factors identified as obstacles in the academic pursuits of the two groups of students appeared consistent with the differences in their home backgrounds and financial circumstances. The local students were concerned about achieving balance in their personal lives, work and studies. Whilst these factors were not identified by international students as critical in affecting their academic performance, social isolation and loneliness featured as strong factors in their lives away from home.

Loneliness

During the interviews, in the email messages, and on the ESFs, frequent reference was made by the international students to being lonely, having few friends, and finding it difficult to work fruitfully with others. Two such references, both taken from interviews, are shown below.

In this country, the culture is different from China ... Usually if I make friends, usually Asian people, come from same background, similar background. I just feel a little bit lonely. (Interview extract)

Sometimes I don't speak with other people for a week or so ... (Interview extract)

Detailed comments on the ESM profiles indicated that socializing and peer support came primarily from other international students. In contrast, many of the local students indicated that they often preferred to work alone. The reasons they gave included:

- they knew from previous experience that they work better alone
- they had been overactive in social activities during earlier studies to the detriment of their achievements,
- they felt no need to get involved with fellow students socially, except for selected study activities, because they had other support structures
- they did not like the behaviours of some of their fellow students, and
- they did not have time for socializing because of other responsibilities (e.g. work, family).

Did these differences particularly affect the students' academic performance? Were there other factors associated with the learning environments that also contributed?

Performance at university

The majority of international and local mature students do well at university (Pierce, 1995; Forgasz, 1996). For the duration of the study, the students in our sample reported succeeding in their coursework, with some reporting high grades. Given our assurances to maintain student anonymity, we took this information at face value.
Several of the international students commented on the different learning climate in Australia compared with conditions at home in which they had been unsuccessful, and optimistically asserted that they now expected to achieve.

Yeah, but the education here is different from Hong Kong. In Hong Kong you have to remember a lot of things. Here it's much better. Much better. (Interview extract)

Practical experience we don't have much (back home). (Here) we get to learn it from practical point of view, which is going to help us in industry ... But that's what I've got to learn here, that you have to be more practical ... (Interview extract)

The international students appeared to suffer from a lack of familiarity with the academic milieu and in not having an immediate and responsive support network. In contrast, local students often cited, with appreciative comments, practical support from family and friends that facilitated their study opportunities:

Actually mum is fantastic. She cooks for me and does my washing. It's amazing what mothers can do. (Interview extract)

Yeah, I was very lucky. There are quite a few people back there (at work), good at mathematics, they can help me out. (Interview extract)

Conclusions

The findings presented in this article reveal a consistency across the various data sources that enable several conclusions to be drawn with relative confidence. Our aim in this study was to compare the daily lives and broad learning experiences of two groups of mature students—permanent Australian residents and international students whose main residence was outside Australia—who had commenced tertiary courses that included mathematics as a subject in their first year of study.

Different factors appeared to underpin the motivations of the international and local students to enrol in tertiary courses as mature students. While local students appeared self-motivated to meet their own personal goals that may have been thwarted by their earlier educational experiences, the international students were more likely to be succumbing to parental pressures to overcome educational failures in their home settings.

The findings reveal differing sets of pressures in the daily lives of the two groups of students that might affect their studies. On some dimensions, one group appears to be favoured over the other. For example, differences in financial circumstances appeared to favour international students. The consequence was that, unlike local students, they spent less valuable time travelling and in paid work. The apparent advantage presented to them with respect to available study time (and they did spend more time studying) was counteracted by their struggles with the English language and in having to cope with other, unfamiliar factors in their environmental circumstances away from home, e.g. climate and lack of friends. Loneliness was clearly a problem for some international students. It appeared that as a result they spent more time than local students in bed, eating, and relaxing. Familiarity with the
processes associated with the academic environment and the security and availability of a support network appeared to favour local students.

The results of this study have provided an in-depth overview of the lives and circumstances surrounding the academic endeavours of local and international mature students. All had studied mathematics in their first year of tertiary study and all but one were enrolled in mathematics and science-related degree courses. Although it cannot be assumed that the findings will be replicated for students engaged in other academic areas, the data presented suggest additional university support services that could fruitfully be put in place, centrally and at departmental level, to improve the learning climate for the two groups of students. For example, university staff could be encouraged to explore whether the learning climate and expectations in their classes matched or differed substantially from those prevalent in the home countries of the international students with whom they work and to provide explanations and support when those factors differed substantially. International students might also be helped by promoting more social interactions with local students. This could be done through the existing international student support organizations which now more often focus on bringing international students in contact with each other. University counselling services may need to address issues of loneliness proactively. Language support services, already firmly in place in Australian universities, may need to address oral as well as written language skills. For local students, identifying and addressing needed prerequisite skills early in their studies may bridge the deficiencies some students perceive in their educational backgrounds.

Financial difficulties experienced by many tertiary students have received much media attention in recent times. In many cases, mature students have more extensive financial requirements than their younger classmates. Meeting these demands appears to detract from their study time. Surprisingly, many students appear ill-informed about loan schemes and other means of financial support that might be available to them through university channels.

While it remains important to monitor equity issues on a large scale, studies such as the one reported here provide insights into the effects of factors that cannot readily be included in large-scale research designs. In particular, using a more individually focused approach, we have shown that different students within particular groups may well experience common obstacles but may be affected by them to different degrees. The findings serve to highlight the importance of exploring beyond the broad categories often used to cluster students so that contributing factors that can impact on tertiary level participation and individual achievement can be identified more readily and accurately.

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References


