

# A case study in the globalization of medical education: assisting overseas-born students at the University of Melbourne

LESLEYANNE HAWTHORNE, I. HARRY MINAS & BRUCE SINGH

*Faculty of Medicine, Dentistry and Health Sciences, University of Melbourne, Australia*

**SUMMARY** *Over the past decade there has been a remarkable increase in ethnic diversity among Australian medical students. This phenomenon has been driven by two forces: the disproportionate school-level academic success achieved by first-generation migrant and refugee-origin youth, and the rapid globalization of Australia's tertiary education system, in a context where reduced government funding has accelerated the development of 'academic capitalism' (Slaughter & Leslie, 1997). This paper briefly examines each trend, prior to exploring select pedagogical implications of these changes for the University of Melbourne, the destination of choice by 2001 for 30% of all international students electing to study medicine in Australia. Two key questions are addressed: (1) What are the potential problems in delivering Western-style medical education to culturally and linguistically disparate groups?; (2) What model of international student support has been developed by the Faculty of Medicine, Dentistry and Health Sciences at the University of Melbourne? The paper suggests the model may have potential relevance for other universities, in the context of the accelerating globalization of medical education.*

## Impact of migration and international education on Australian medical schools

By 1991 40% of Australia's medical workforce was overseas born, with Asian source countries (in particular Malaysia, India, China and Hong Kong) predominating after the UK/Ireland (Birrell & Hawthorne, 1997). By 1996 the Australian Census confirmed the presence of 24,223 overseas-born doctors in Australia, with medical migration continuing unabated despite the severe accreditation barriers encountered by non-English speaking background (NESB) medical residents, and the introduction of a range of restrictive measures (HREOC, 1992; AMCI, 1993, 1994; Hawthorne & Toth, 1996; Birrell & Hawthorne, 1997, 1999; Hawthorne & Birrell, 2002).

Replicating these adult migration trends, by the mid-1990s 40% of all permanent resident students enrolled in Australian medical courses were overseas born, including very substantial numbers derived from relatively recent migration. A striking 24% of these students were Asia-born (six times the Asia-born proportion in the overall population) with 14.6% of students from Southeast Asia, 6.5% from Northeast Asia and 2.8% from South Asia, compared with just 7% derived in total from Europe, the UK/Ireland and the former USSR/Baltic States (see Table 1). Analysing the changing demography of Australian medical schools,

Betts (1994) confirmed that:

In general, immigrant groups are very well represented in medical studies. The participation rate for all overseas-born Australians who are permanent residents is more than three times that of the Australia-born... (R)esidents from [Malaysia, Vietnam and Hong Kong] are five to ten times more likely to be studying medicine than the Australia-born (all origins). The Vietnamese achievement is particularly noteworthy, given that the community from which these students are drawn is one of the most depressed in Australia, at least as judged by the level of unemployment and the extent of adult dependence on low-paid unskilled work.

These Asia-born medical student enrolments represent an outstanding example of the disproportionate academic success achieved by relatively recent migrant and refugee groups—one of the major achievements of Australia's postwar mass migration program (Dobson, 1997, 1998). Migration, however, accounts for just half the extraordinary linguistic and cultural diversity now characteristic of Australian medical schools. Temporary entrant international fee-paying students make up the balance.

In *The Enterprise University: Power, Governance and Reinvention in Australia*, Marginson & Considine (2000) map the impact of the recent diminution of Commonwealth government funding on Australia's higher education sector, including the loss in real terms of 26% of funds from 1996 to 2000 (Lawnham & Illing, 2000). To compensate for this revenue reduction, Australian universities have accelerated their transformation from 'academy to global business', in part through increased recruitment of international fee-paying students (Dobson *et al.*, 1997; Dobson *et al.*, 1998; Marginson & Considine, 2000; Slaughter & Leslie, 1997). According to Marginson & Considine (Marginson & Considine, 2000, p. 48):

(U)niversities are the site of one of the growing global markets, a market that is people centred and culturally based... Throughout the world there are now about two million students who travel abroad each year to study. In Australian universities international student numbers have grown very

---

*Correspondence:* Assoc. Professor Lesleyanne Hawthorne, Faculty International Unit (Medicine, Dentistry and Health Sciences), University of Melbourne, Level 5, 207 Bouverie Street, Parkville, Victoria, Australia 3050. Tel: 61383449132; fax: 61393481827; email: lhawt@unimelb.edu.au

**Table 1.** Participation rates of permanent resident undergraduate medical students in Australia aged 15 to 24 by select country of birth: 1993.

Country of birth	Base population (15–24 years)	No. of medical students	*Participation rate (%)
Malaysia	22,672	478	21.1
Hong Kong	20,487	295	14.4
Vietnam	33,736	347	10.2
UK & Ireland	76,402	307	4.0
Greece	3,844	7	1.8
Lebanon	11,164	22	2.0
Philippines	11,761	4143	1.8
Australia	2,336,377	4143	1.8
All overseas born	409,781	2787	6.8

Source: Betts (1994, p. 26).

Note: Participation rate\* is the number of students per 1000 base population, based on Australian Bureau of Statistics and Department of Employment Education and Training data.

rapidly, reaching 72,183 in 1998, 4% of the global market. Australia's share has doubled in the last decade, and its number of enrolled international students has tripled. These students are generating 1 billion dollars in direct revenues each year, and as yet unmapped changes in curricula and university cultures. As this suggests, most Australian universities now operate as global businesses.

Similar processes are under way in comparable international student destinations such as the UK, Canada and New Zealand—enhanced student recruitment being one of a range of strategies employed by public universities in each of these nations as they “try to compensate for diminished government revenues through liaisons with business and industry, through partnerships focused on innovative product development (e.g. biotechnology), and through the marketing of educational and business services” (Slaughter and Leslie, 1997, p. 8). In terms of teaching, the result has been a growing “channeling of students and resources into curricula that meet the needs of a global marketplace, preparing more students for the postindustrial workplace at lower costs, and managing faculty and institutional work more effectively and efficiently” (Slaughter and Leslie, 1997, pp. 1, 55, 57).

By 2002, 150,000 international students were enrolled in Australian university courses: two-thirds in Australia and one-third offshore (IDP Education Australia Conference, 2002). Some 85% were derived from Asian source countries—ensuring any analysis of ‘international students’ in the Australian literature in fact means students of Asian origin (primarily ethnic Chinese). Since the genesis of Australia's international education industry in the 1950s, applied linguistics and educational psychologists have debated the degree of linguistic, cultural and academic support such students require (Bochner, 1972; Ballard & Clanchy, 1984, 1997; Williams, 1989; Biggs, 1991; Renshaw & Volet, 1995; Shu & Hawthorne, 1995, 1996; Watkins & Biggs, 1996; Volet & Ang, 1998; Ryan & Zuber-Skerritt, 1999), including significantly different approaches to learning and the main-

tenance versus dilution of academic standards. In 1984, for instance, Ballard & Clanchy prefaced a seminal Australian text (*Study Abroad: A Manual for Asian Students*) with the advice that Asian students “almost invariably” have trouble with written English, and that “significant shifts” were typically required in approaches to study and learning style, including ways “of developing arguments and presenting ideas”. Asian students, as in the UK, the USA and Canada, were observed to bring “different purposes to their thinking and learning”, leading to a frequent incapacity to fulfil a foundation requirement of Western tertiary education—critical thinking (Ballard & Clanchy, 1984, 1997; Aspland, 1999; Cryer & Okorochoa, 1999; Denicolo & Pope, 1999; Frost, 1999; Knight, 1999). Reluctance to participate in tutorial discussion was a frequently noted limitation. In 1995 Renshaw & Volet summarized findings from the overall Australian literature as follows:

Chinese students are often described by Western academics as receptive, quiet and compliant learners who do not participate in tutorial discussions... (Students) are respectful of the lecturer's authority; they are diligent notetakers; they are preoccupied with fulfilling the expectations of lecturers; they are uncritical of the information presented in the textbook and by the lecturers; and they seldom ask questions or volunteer to contribute to tutorial discussions... (They are) excessively focused on learning isolated facts and details ... as reproductive and surface learners who use memorisation strategies to cope with assessment tasks... (They are) seen as having an excessive regard for authority ... perceived as interested only in finding out the correct answer either by consulting the text or the lecturer, rather than engaging in critical analysis and independent inquiry. (Renshaw and Volet, 1995)

#### Asia-born students in Australian medical courses

Should learning differences such as the above be true, they have the potential to be particularly problematic in disciplines such as medicine, in the context of a worldwide shift to communication-based pedagogies such as problem-based learning (PBL), and a growing emphasis on effective and empathetic doctor–patient interaction in Western settings (processes by definition culturally and linguistically mediated) (Lloyd & Bar, 1996). By 2001, 1190 international fee-paying students from around 60 source countries were enrolled in Australian medical courses (Table 2), 70% of whom were Asia-born (Department of Education, Science and Training, 2002). The Faculty of Medicine, Dentistry and Health Sciences at the University of Melbourne attracted close to a third, followed by the University of New South Wales and the University of Adelaide (16% each), and the University of Sydney (10%) (Table 3). Primary countries of origin for international MBBS students at the University of Melbourne were Malaysia (167 enrolments), Singapore (78) and Indonesia (23), followed by significant additional flows from Hong Kong, Mauritius, Botswana, Brunei and Taiwan. Enrolments rose further between March 2001 (456 enrolments) to March 2003 (619), supplementing the 35% of ‘local’ medical students who were first-generation migrants

or refugees, once again predominantly of Asian origin.<sup>1</sup> The impact of globalization on medical education was becoming an inescapable pedagogical issue for the University of Melbourne, necessitating the development of new and innovative institutional responses.

Despite the impressive year 12 success of overseas-born students, in line with the literature, many such students appeared to encounter substantial difficulties in Western medical learning settings, in particular relatively recent arrivals. In 1997, when the Faculty of Medicine, Dentistry and Health Sciences undertook a cultural diversity audit, compelling evidence of linguistic and culturally based disadvantage emerged. In terms of academic results, medical student performance could be ranked in descending order as follows: Australia-born females, Australia-born males, overseas-born females, overseas-born males (notwithstanding the stellar success of many individual overseas-born students). Academic barriers were reportedly more severe in clinical than campus-based sites, with effective English and cross-cultural skills described by one clinical dean as “the absolute foundation of appropriate medical care”. A lack of appropriate communicative style could jeopardize international students’ grades, while significantly straining the tolerance of academics, clinicians and patients.<sup>2</sup> Within hospitals cultural differences could reportedly be exacerbated by marked student accents, an inability to understand Australian patient speech, idioms and communicative norms, as well as a perceived incapacity to respond in ‘culturally appropriate’ ways to select patient emotional states and/or health situations. Barriers such as these could heighten the risk of negative reaction from staff and patients—including (in the case of the latter) the potential incidence of racism.

From 1997 to 2003 three studies conducted at the University of Melbourne confirmed anecdotal evidence of international student disadvantage, in particular those of Asian origin. A study of 110 fourth-year medical students by Klimidis *et al.* (1997) found substantial cultural variation between Asian (48% of sample) and Anglophone (44%) students, with Asian students characterized by significantly less confidence in interacting with patients (including knowledge of the governing cultural rules), a greater need for “clarity, guidance and organization in the medical course as taught in Australia” (to allow them “to succeed without excessive effort”), and greater overall difficulty with their medical studies. Based on this study the authors concluded that:

Enculturation into a homogeneous professional identity had not occurred up to the time of the fourth year of medical training, at least not to the extent that cultural differences are removed... Cultural factors appear to influence a wide range of medical training behaviours and situations and may contribute to whether or not the training endeavour is a success, or at least, it occurs without

<sup>1</sup>Malaysia, Singapore, Hong Kong and Vietnam were the primary source countries for overseas-born ‘local’ medical students enrolled in the faculty.

<sup>2</sup>The cultural and linguistic diversity of the Australian population is a further source of complexity for medical students of all origins, with any ‘match’ between student and patient ethnicity serendipitous. Together with Toronto, the city of Melbourne has the most ethnically diverse population in the world: 208 nationalities by 1998. Within this context international as well as Australia-born medical students require skills in cross-cultural clinical assessment and the capacity to work with the assistance of interpreters.

**Table 2.** Source countries of international students enrolled in Australian medical/medical science courses: 1999 cf. 2001.

International medical students by major region and country of origin	1999 (no. of students)	2001 (no. of students)
Commonwealth-Asia	777	691
Malaysia	497	447
Singapore	190	148
Hong Kong/Macau	54	62
Sri Lanka	22	18
India	10	10
Pakistan	1	2
Commonwealth Asia other	3	4
Non-Commonwealth Asia	137	134
Indonesia	32	45
South Korea	27	13
Taiwan	17	27
Brunei	15	14
Japan	10	7
Thailand	8	9
Vietnam and Laos	7	8
China	6	8
Philippines	2	2
Non-Commonwealth Asia other	13	1
North America	121	162
USA	92	93
Canada	29	69
Europe	52	89
Norway	33	63
UK & Ireland	9	16
Germany	3	1
Netherlands	2	0
Sweden	2	1
Former USSR	1	2
Portugal	1	0
Spain	1	1
Europe other	0	5
Africa/Middle East	26	65
Africa other	15	52
South Africa	6	5
Kenya	5	8
Oceania	52	17
Fiji	13	4
Papua New Guinea	8	2
New Zealand	4	7
Oceania other	27	4
Total (including all other sources)	1176	1190

Source: Statistics provided to the authors by the Department of Employment Education Training and Youth Affairs (2000), and the Department of Education, Science and Training (2002), Canberra.

difficulty and disadvantage for the overseas medical student. (Klimidis *et al.*, 1997)

Second, five successive analyses undertaken for the faculty by the University of Melbourne Language Testing and Research Centre (1999–2003) confirmed the relative

**Table 3.** International student enrolments in Australian undergraduate and graduate entry medical courses, by number and percentage, top seven institutions, 1996–2001.

1996 Enrolments by institution	1996 (%)	1999 Enrolments by institution	1999 (%)	2001 Enrolments by institution	2001 (%)
Melbourne (204)	21	Melbourne (268)	26	Melbourne (352)	30
Adelaide (174)	18	Adelaide (196)	19	New South Wales (188)	16
New South Wales (170)	18	New South Wales (160)	16	Adelaide (193)	16
Sydney (140)	15	Sydney (109)	11	Sydney (117)	10
Queensland (62)	6	Flinders (76)	7	Flinders (99)	8
Monash (61)	6	Tasmania (53)	5	Newcastle (79)	7
Tasmania (61)	6	Newcastle (51)	5	Monash (66)	6

Source: Statistics provided to the authors by the Department of Education Science and Training (2002), Canberra.

weakness of first-year faculty international student intakes in terms of English language ability, with 24–29% of all commencing medical students judged to be at academic risk on this score ('overwhelmingly international students'), and significant further disadvantage also being found in select overseas-born permanent resident students.<sup>3</sup>

Finally, a study of 650 students by Dodds & Hoskin (2001) correlated English language scores at point of entry with academic achievement in Semesters One to Five of the MBBS programme, a third of the sample being international students. Those ranked lowest in terms of English-language ability secured the poorest Semester One subject scores, their initial academic disadvantage persisting to some degree to Semesters 3 and 5 of the MBBS programme.

#### **A faculty-specific student support model: the International Student Support Program**

In response to such evidence, and as part of its commitment to quality assurance in an age of global education, since 1997 the Faculty of Medicine, Dentistry and Health Sciences at the University of Melbourne has progressively developed and implemented a unique faculty-specific concurrent support programme, designed to ensure that all overseas-born students (permanent resident or international fee-paying origin) are provided with an exceptional level of linguistic and cross-cultural support. Delivered by nine academic staff, including three wholly based in clinical teaching settings, the International Student Support Program (ISSP) is based on a model which differs significantly from the

generic models prevailing in the majority of global universities, despite the existence of a comprehensive range of such support services at the University of Melbourne (Farquhar, 1999). Nine key strategies are involved:

- (1) *Identification* of NESB students at potential risk, on a proactive as well as a reactive basis.
- (2) *Analysis* of students' specific ESL and cross-cultural support needs, based on clear understanding of implicit as well as explicit subject and/or course requirements.
- (3) *Research* into students' actual academic performance—for instance their degree of engagement with the faculty's new problem-based learning medical curriculum.
- (4) *Provision of timely and targeted support*, in particular at critical academic transition points (such as course commencement, pre-examination and supplementary examination preparation, the start of clinical and specialist rotations etc).
- (5) *Location* of this support at students' actual learning sites—extending beyond campus to a wide range of clinically based teaching settings.
- (6) *Individualization* of this support wherever required to address entrenched individual problems (e.g. poor pronunciation, inadequate writing or oral presentation skills).
- (7) *Monitoring* of NESB student outcomes throughout course completion, in combination with relevant academic staff and the Faculty Education Unit (particularly students defined as being at serious academic risk).
- (8) *Provision of information and/or methodological support* to teaching staff in these diverse sites, backed by subject-specific materials development.
- (9) *Pre-departure internship support* for exiting international students, recognizing the desire of many not to be restricted to country of origin but to enter the global medical labour market.<sup>4</sup>

<sup>3</sup> Since 1999 the Faculty of Medicine, Dentistry and Health Sciences has screened the ESL ability of all commencing MBBS students, including the Australia born (to avoid any perception of stigmatization). Two measures are used: a short pen-and-paper grammatical and idiomatic assessment, followed (for those achieving below a defined threshold) by four separate diagnostic tests of speaking, listening, reading and writing ability within a health/medical context. Results are reported in five unpublished papers. Language Testing and Research Centre (1999–2003) Report on the health sciences test of communication skills (screening test, DELA and oral interview). Language Testing and Research Centre (Melbourne, University of Melbourne).

<sup>4</sup> By 2002 around 30% of graduating international MBBS students from the University of Melbourne successfully sought Australian internships, with substantial numbers of Malay-Chinese seeking junior doctor positions in Singapore and a range of Western nations.

The section below briefly describes a number of ISSP initiatives in action.

#### *Identification of students at potential risk*

From 1999 the faculty introduced mandatory English as a Second Language testing for all commencing undergraduate students, not as a condition of entry but for diagnostic purposes. To avoid stigmatization, and to ensure all students at risk were identified, no exemptions from stage one of this process were allowed. Preliminary screening consists of a brief pen-and-paper test, which from the start proved extraordinarily accurate in identifying potential academic under-achievers. For students achieving below-average scores,<sup>5</sup> a second more detailed battery of tests is applied, assessing reading, writing, listening and oral communication skills in health-related contexts. Students are individually and confidentially notified of results, a process leading to private appointments with ISSP staff, and immediate offers of targeted small-group training to remedy specific weaknesses.

#### *Analysis of students' specific ESL and cross-cultural support needs*

To ensure that the ISSP is based on an appropriate empirical foundation, research represents an integral aspect of the programme. The first major research project concerned analysis of the impact of the new problem-based learning medical curriculum on linguistically and culturally diverse students enrolled within the faculty, with 120 hours of tutorial observation completed. The rationale was as follows. The international literature concerning PBL, with few exceptions (Dixon *et al.*, 1997; Whitehill *et al.*, 1997), has largely ignored the methodology's potential impact on linguistically and culturally diverse students. Yet, given its evolution in Western educational paradigms, PBL differs radically from traditional Asian methods of education in which "students learn isolated batches of knowledge that are stored up, to be applied to practical problems at some indeterminate date in the future", instead of becoming "active and independent learners, creative and divergent thinkers and good communicators" (Dixon *et al.*, 1997, p. 2). Problem-based learning in Western medical schools is exceptionally interactive, based on a capacity for lateral thinking and critical reasoning (Barrows, 1986; Colby, 1986; Newble & Clarke, 1986; Kaufman *et al.*, 1989; Nash *et al.*, 1991; Patel *et al.*, 1991). The foundation of the method is small-group tutorial settings, where students are rewarded less for what they know than for their willingness to push from certainty to uncertainty, trying to solve a series of medical puzzles by first identifying, then testing in sequence a range of medical

hypotheses. These are precisely the skills Asia-born students have typically been noted to lack in Australian learning settings, or to be reticent in using.

Further, the international literature on PBL confirms students are required to use a very sophisticated range of ESL and speech functions,<sup>6</sup> demonstrating a capacity to:

- effectively analyse clinical and theoretical data;
- develop and refine hypotheses, perform smooth turn-taking, and accept creative silence;
- support views by reference to existing (even if limited) knowledge;
- verbally synthesize the range of perspectives represented by group members, while identifying topics where personal/group knowledge is weak or inadequate;
- practise the process of clinical reasoning, presenting a 'working conceptualization' and elaboration of the target problem;
- define and undertake further learning, requesting additional information from a range of student, academic and clinically based sources;
- suggest possible next steps in the clinical encounter, reaching diagnosis and formulating a plan of management;
- provide critical feedback on tutors' performance.

Within this context, the faculty considered it essential to analyse the impact of the PBL method on Asia-born students studying outside their linguistic and cultural 'comfort' zones. Analysing the performance of University of Hong Kong medical students in 1997, Dixon *et al.* (1997, p. 2) had confirmed there was indeed a potential problem:

... (W)hen faced with undifferentiated medical problems (Hong Kong students are) ... generally unable to translate the theory learned in earlier parts of the medical school curriculum into effective patient strategies. They are able to recite facts from memory, but are unable to deal with unfamiliar situations. They are reluctant to use communication skills in order to establish effective working relationships with patients. They display little curiosity, and show little ability to critically appraise research data for themselves, relying instead on the opinions provided by the last expert they listened to. In group learning situations they are silent, and reluctant to speak unless spoken to. Spontaneous conversation is rare, and attempts to encourage debate result in general discomfort, and stilted responses. Students appear unable to reflect on their experiences, and rather than being introspective, they try to guess the answer that the teacher wants. They are reluctant to take risks, to identify gaps in their knowledge, or to actively seek out new information. Their over-riding concern seems to be getting through the clerkship, and to proceed to the next part of the curriculum.

When problem-based learning was introduced to the Hong Kong medical students of Dixon *et al.* over a five-week

<sup>5</sup> Over the past five years up to 30% of commencing medical students have been identified by this process as having inadequate English as a Second Language, despite all having previously scored sufficiently well on the IELTS or TOEFL language tests to satisfy University of Melbourne entry requirements. Around 86% of those at risk have been international students, with an additional 14% being overseas-born permanent residents (primarily recent arrivals, often of Vietnamese origin). Within this context the faculty extended mandatory English language testing from 2002 to all commencing post-graduate international students, facilitating proactive outreach to at-risk students from point of course commencement, a process enhancing opportunity for effective remediation.

<sup>6</sup> In the field of applied linguistics, speech functions are defined as students' capacity to manipulate speech for specific pragmatic purposes, e.g. to apologise, to seek information etc.

period, few behavioural changes were noted. Tutor speech dominated in 56 of the 58 observed tutorials. Tutors typically spoke before and after students, with student-to-student speech occurring in only 2.5% of exchanges. Eye contact with tutors was largely avoided. Such patterns existed whether English or Cantonese was the medium of instruction, with a mere 3% of exchanges initiated by students in Cantonese-medium tutorials, compared with 1.9% in English-medium tutorials. Moreover these limited interactions occurred in culturally homogeneous learning contexts, where a high degree of mutual understanding could be presumed to exist. By contrast, the ISSP research conducted at the University of Melbourne confirmed PBL classes in Australia to be extraordinarily interactive and student driven, with local students averaging around 80 utterances per two-hour tutorial, within highly heterogeneous cultural settings.

The University of Melbourne's PBL study findings (based on 120 hours observation of international versus local students' performance in problem-based learning tutorials correlated with academic assessment results<sup>7</sup>) demonstrated the following patterns:

- While no significant differences in PBL performance or science knowledge were observed between Australia-born and Asia-born permanent resident students, international students (36% of the research sample) were at significant overall academic disadvantage, achieving lower results than either local cohort in terms of PBL communication ability ( $F = 5.93$ ,  $df = 2,56$ ,  $p < 0.01$ , Tukey HSD:  $1, 2 \rightarrow 3$ ), PBL knowledge ( $F = 4.49$ ,  $df = 2,56$ ,  $p = 0.02$ , Tukey HSD:  $2 \rightarrow 3$ ), and understanding of the principles of biomedical science ( $F = 4.79$ ,  $df = 2,56$ ,  $p = 0.01$ , Tukey HSD:  $1, 2 \rightarrow 3$ ).
- Tutorial participation analysis (Tukey HSD), confirming the overall Australian literature findings, demonstrated that international students took fewer PBL tutorial roles, and performed significantly worse in terms of communicative effectiveness than either of the local groups, with 27% of variation in tutorial participation ( $r^2 = 0.27$ ,  $F = 21.35$ ,  $p < 0.01$ ), 10% of biomedical marks ( $r^2 = 0.10$ ,  $F = 6.38$ ,  $p = 0.01$ ), and 23% of the level of participation ( $r^2 = 0.23$ ,  $F = 17.47$ ,  $p < 0.01$ ) attributable to student status. Further, when regressed by participation and status, 28% of biomedical marks were associated with level of participation ( $r^2 = 0.28$ ,  $F = 10.98$ ,  $p < 0.01$ ).
- Further statistical analysis revealed that international students who were low tutorial participants were twice as likely to obtain biomedical marks in the lower 50% than overseas-born Australian-education students.

This ISSP PBL research had been designed with four outcomes in mind, each being of immediate potential benefit

to NESB students within the undergraduate medical teaching program:<sup>8</sup>

- (1) accurate identification of the performance style and any barriers to participation of overseas-born students learning within PBL settings;
- (2) provision of tailored concurrent student support for those having difficulty adapting to the new methodology;
- (3) development of a range of ISSP materials designed to enhance student PBL participation and performance;
- (4) provision of feedback to PBL tutor training, to ensure academic staff develop greater awareness of potential problems for NESB students, and a greater skills repertoire for handling these problems.

These processes have since been implemented, with new research projects correlating point of entry English and science scores with all assessment outcomes for local and international student intakes from 1999 to 2003 within the MBBS course, and evaluating the level of student and academic staff satisfaction with the ISSP programme.<sup>9</sup>

#### *Provision of timely and targeted support at critical academic transition points*

A major aim of the International Student Support Program is to provide specialist student support at key academic transition points, most notably when students shift to new subject areas, from campus to clinically based learning settings, and into specialist clinical rotations (such as paediatrics or psychiatry). Within clinical contexts, in particular, training in linguistically and culturally appropriate communication skills has been found to be critical for overseas-born students—their lack jeopardizing academic achievement, in situations where both students and clinicians may find it hard to articulate 'what's wrong' if student or patient-doctor communication does not work.<sup>10</sup> Important insights on this issue are available from the literature related to cultural literacy and applied linguistics—fields with which clinicians and overseas-born medical students by definition may be unfamiliar.

Within the intimate communicative contexts characteristic of medicine (e.g. eliciting detail on patients' sexual or psychiatric histories, bowel movements, substance-abuse patterns, appropriate responses to expression of pain or grief), overseas-born students may be at disproportionate risk of 'failing' to communicate 'in the right spirit'. Anecdotal evidence suggests many may be perceived as judgemental or overly formal or insufficiently empathic—an issue defined by cultural theorists as 'habitus' (a 'feel for the game' of communication in everyday life). The problem is not that one person is right and another wrong, but rather the degree

<sup>7</sup> Sixty students enrolled in six MBBS tutorial groups were observed for semester-length periods (half in Year 1, half in Year 2, with 47% of students Australia-born and 53% overseas born, and 41% of the total sample Asia-born). Data related to speech frequency and complexity were collected for one in every three consecutive tutorials, together with data on the PBL roles undertaken, and triggers for tutorial participation. The assessment scores analysed were for the two major subjects undertaken by all Year 1 and Year 2 MBBS students: Problem Based Learning and the Principles of Biomedical Science. The resulting paper, 'The Experience of Linguistically and Culturally Diverse Students in Problem Based Learning Medicine at the University of Melbourne', will be completed for journal review by L. Hawthorne, I. Rischin & G. Hawthorne, 2004.

<sup>8</sup> The findings from this study, as previously noted, demonstrate very different performance and participation styles to be characteristic of overseas-born cf. local permanent resident students in PBL settings. In general, international students were shown to be characterized by far less verbal participation, including one to two profoundly silent students in each PBL class.

<sup>9</sup> These research findings will be published in subsequent papers.

<sup>10</sup> There is no intention to suggest that all overseas-born students experience these difficulties, or that all Australia-born students communicate well in clinical settings. Neither stereotype is true. Anecdotal evidence suggests, however, that overseas-born students of select origins may be perceived as having disproportionate problems in achieving effective clinical communication.

of match between student and a specific medical communicative environment (Schirato & Yell, 2000, pp. 42–45, 48):

Habitus operates at a level which is at least partly unconscious ... (and) is, in a sense, entirely arbitrary. (T)here is nothing natural or essential about the values we hold, the desires we pursue, or the practices we engage in.... But in order for a particular habitus to function smoothly and effectively, each person ... must normally think that the possibilities from which s/he chooses are in fact necessities, common sense, natural or inevitable.... (Habitus) ... naturalises itself and the cultural rules, agendas and values that make it possible.... (All interactions take place) within the framework of a shared cultural literacy and set of generic rules. However, these rules can never really be acknowledged, because if they were acknowledged the spontaneity would disappear. (A)s members of a culture we are able to anticipate broadly the types of communication practices which will take place within a context. We are able to respond to texts actively and appropriately to the extent that we are familiar with their contexts.

Rules such as these may be unknown to international students operating in Australian clinical settings, or call for a dexterity beyond their linguistic range. Within recent decades, analysts such as de Saussure, Bourdieu and Volosinov (Volosinov, 1986; de Saussure, 1989; Bourdieu, 1990; Schirato & Yell, 2000) have confirmed the extent to which any oral message is inherently unstable, with meaning derived from context as well as receipt of intended and unintended signals, and speakers having minimal control over their conveyed message. What happens in an act of communication will inevitably be mediated by the highly differential 'cultural trajectories' that individuals bring to bear on the task, with people responding to new situations by recourse to rules rooted in past practice, which are perceived as natural and automatically used, particularly in situations of stress.

According to Schirato & Yell (Schirato & Yell, 2000; see also Hofstede, 1986), "One of the defining characteristics of cultural literacy is an ability to recognise the rules that apply in a particular context, and to negotiate them". (For a comprehensive analysis of intercultural communication theory see Callan & Gallois [1997].) For international students in clinical medical settings (and other communicative contexts), the following knowledge may need to be explicitly taught:

- *genre*: an understanding of the informal social rules governing verbal interaction in Western contexts (e.g. strategies for conveying bad news, expressing pain or grief, reticence or stoicism);
- *power*: recognition of the relative degree of status versus equality between participants, including the manner in which this may be verbally expressed;
- *tenor*: awareness of the expected roles and status among participants;
- *social distance*: agreed understanding of the degree of intimacy between participants;
- *narrative style*: a recognition of the manner and stages in which individual stories are likely to unfold (a fundamental

issue in effectively presenting and 'reading' medical dialogues);

- *intertextuality*: awareness of the degree to which students and patients may share established cultural references (for example, in the case of an elderly veteran, reference to 'the war') etc. (Schirato & Yell, 2000).

Further, to make medical conversations 'work', there must be a recognition that "each sphere in which language is used develops its own relatively stable types of utterances" (Bakhtin, 1986), and that communication needs to be mutually beneficial. Indeed, "(A) participant in a conversation has to balance their own purposes against those of other participant/s. In order to get what you want, you have to give the other person enough of what they want to keep the conversation going" (Schirato & Yell, 2000, p. 60). Such perspectives may initially be alien to many overseas-born students practising in Australia—particularly those characterized by relatively recent arrival and/or a high degree of cultural enclosure.<sup>11</sup>

#### *Location of ISSP support at students' actual learning sites (including clinical settings)*

The clinically based ISSP programme, developed to address problems such as those outlined above, involves lecturer auditing of the range of clinical settings in which students perform, including analysis of their linguistic and cross-cultural effectiveness. This auditing process extends to accompanying clinicians and students on bedside ward rounds, allowing systematic observation of interactions with and examination of patients, leading to constant and individualized feedback (e.g. concerning how to take an appropriate sexual history from an HIV-positive youth, how to withhold judgementalism, how to pose questions sensitively and negotiate transitions within the clinical encounter, without triggering patient withdrawal). The teaching materials developed to support this ISSP process are highly specialized—for instance combining the linguistic, cultural and medical content required for conducting an effective cranial nerve examination (neurology), or a case presentation on the gastrointestinal system.

The lecturers recruited for this challenging work bring to the task 20 years' experience preparing overseas qualified doctors to work in Australian clinical settings. They are particularly well placed to synthesize communicative teaching with specialist medical vocabulary and clinical process. In a range of instances, ISSP clinical interventions have had a capacity to transform students' academic failure into success. A number of specialist subject modules have also been developed for provision in clinical sites, such as:

- Since 1998, all Year 4 medical students entering full-time clinical programmes have received Orientation lectures from the ISSP lecturer assigned to their clinical teaching site, outlining the small-group and individual academic support available *in situ*. This service currently covers six major teaching hospitals in medicine, with additional

<sup>11</sup> By definition, such knowledge will be equally important to Australian medical students preparing for international medical practice. A range of ISSP teaching programmes focused on intercultural communication are designed to cater to all students, recognizing that all may need to adapt situationally, given that no individuals are culturally neutral.

services provided to incoming NESB students at dental science and physiotherapy clinical sites.

- Since 1999, a range of specialist clinical programmes have been trialled and incorporated into core curricula, for NESB students making the transition into challenging specialist rotations. Key initiatives include provision of:

- (1) Team-taught 'Introduction to Clinical Communication Skills' programmes for all Year 4 medical students (local and overseas-born): two lectures plus three intensive team-taught tutorials, followed by one-to-one or small-group support for those with particular needs.
- (2) Half-day 'Clinical Communication in Psychiatry' programmes for all Year 5 medical students commencing their specialist placements, focusing on the complex issues of communication in mental health settings.
- (3) Specialist communication skills training to support paediatric, obstetric and gynaecological and rural rotations (combining field vocabulary with training in cultural strategies: e.g. how to take a case history from a non-compliant Australian child).

A formal evaluation of the Year 4 clinical communication course, based on analysis of trial OSCE scores for 64 students (55% of East or South East Asian origin) demonstrated that:

... students who had completed (the) communication skills module performed much better than their colleagues at an OSCE station designed to elicit sensitive personal information and give appropriate lifestyle choice, but there was no difference between the two groups at a second station which primarily assessed ability to elicit physical symptoms and risks for cerebro-vascular disease. These results suggest our students derived considerable short term benefit from the small group tutorials and video review which made up the latter part of the module. This benefit was most evident in students of East or South East Asian origin. (Crotty *et al.*, 2000)

Additional measures of the effectiveness of the clinical ISSP programme include contrastive pre and post scores for international students required to sit supplementary clinical examinations after initial failure, with improvements in the order of 10–25% frequently occurring following intensive ISSP interventions.<sup>12</sup>

#### *Individualization of this support where required*

By definition, a number of overseas-born medical students grapple with entrenched individual barriers. In relation to pronunciation, for instance, select students may be judged by patients and/or clinicians as verbally incomprehensible—an issue with profound potential significance for assessment. An ISSP lecturer with particular expertise in this area works individually with such students for an hour each per week, video-taping the mechanics of speech, and literally re-teaching where necessary tooth, tongue and lip positioning

in order to achieve lucidity. For such students this type of teaching may long have been needed, but always glossed over. ('Too hard.') In terms of passing the medical course, however, and securing appropriate employment in global English-speaking medical labour markets, the benefits of such teaching may be incalculable. Similar intensive interventions are provided for students at academic risk, for instance those preparing to sit supplementary clinical examinations.<sup>13</sup>

#### *Additional ISSP examples*

*Monitoring NESB student outcomes throughout course completion.* Throughout the medical programme, the results of overseas-born students of all origins are systematically monitored by the Faculty Education Unit, with ISSP staff alerted to any individual experiencing undue academic risk (e.g. through the PBL tutorial, clinical rotation or formal examination processes). Such alerts result in an immediate outreach to the student concerned, including individual counselling regarding further specialist training options.

*Provision of information and/or methodological support to teaching staff.* A growing range of ISSP initiatives now target the reverse side of the cultural diversity equation: the imperative for faculty academic staff (including clinicians) to have access to appropriate information and/or support as they attempt to teach increasingly diverse groups of students effectively. In the past staff preparedness has been assumed rather than proactively facilitated. Sustained resourcing of this important area will be an essential future development.

*Pre-departure internship support for exiting international students.* Finally, given the growing number of international students now exiting the faculty, a major ISSP initiative has been allocation of an administrative staff member to assist international students to undertake the appropriate networking and research activity to secure satisfactory internship positions. This support process is based on recognition that many students desire to enter global rather than country of origin medical labour markets, and includes the following steps:

- development of an extremely comprehensive database outlining all known internship options available in Australasia, Asia, the UK, USA, Canada etc. (recognizing that these students have aspirations that are broad);
- delivery of individualized information to final-year international students, six months prior to course completion, supported by regular website maintenance;
- provision of group information sessions at each of the major clinical schools, followed by individual meetings with each student (to establish priorities, proactive strategies), with follow-up meetings scheduled four months later to check progress;
- provision of assistance at the end of the academic year, to any students still unable to secure internships.

#### **Conclusion**

Despite initial concerns that overseas-born students might feel stigmatized by the International Student Support Program,

<sup>12</sup>According to Crotty *et al.* (2000), initial clinical failure is often due to students' inability to obtain confidential information in an appropriate way, or to ask a patient to undress for a physical examination, with verbal and non-verbal cues often missed or misinterpreted. (For example, "one student sought permission to examine the inguinal region by saying 'I want to feel your groin'".)

<sup>13</sup>In a range of instances, student scores following intensive individual training have changed from a fail to up to 75%.



the ISSP from the start has been characterized by an extraordinary level of participation (around 350 students per week), as well as by sustained academic staff appreciation. In consequence the programme has expanded rapidly since 1997—in terms of lecturers growing from one to nine appointments, based on a steady elaboration of the ISSP's subject-area range and specialist focus.

As stated at the start of this paper, the Faculty of Medicine, Dentistry and Health Sciences views provision of such faculty-specific support as a vital extension to universities' centralized (and necessarily generic) English as a Second Language and learning skills programmes. The paper argues that the performance of international students should be systematically monitored from point of entry relative to local students, to define potential areas of academic risk. Any impact of inferior English-language ability on academic outcomes should be assessed initially and over time, for proactive diagnostic and remediation purposes. Special skills tutorials should be designed to enhance international students' capacity to cope not merely with subject-specific but with methodology-specific academic requirements (for example in relation to effective participation in problem-based learning in medicine). The challenges inherent in effective intercultural transition to Western clinical teaching sites should be recognized and strategically addressed—a critical process, it is argued, to facilitating the extension of international students' communicative skills repertoire, and minimizing any risk of patient or staff rejection. Where necessary, individualized training should also be offered, in order to tackle entrenched difficulties such as incomprehensible pronunciation or inappropriate cultural style. Parallel outreach should be provided to academic and clinical staff as they grapple to adapt and respond appropriately to unprecedented levels of student diversity. Additional factors beyond the scope of the current paper should also be addressed—for example the imperative to modify select aspects of the medical curriculum in recognition of the breadth of students' ultimate employment destinations, and to develop intensive academic bridging programmes for select international student cohorts.<sup>14</sup>

The University of Melbourne's International Student Support Program is currently unique in Australia, but is a model that is relevant to many medical faculties in an age of globalized medical education. As Western institutions respond to and profit from the growing momentum of 'academic capitalism', there is a genuine risk of the needs of individual international students being lost, with linguistic and cultural differences negatively impacting on academic performance. On equity as well as quality assurance grounds, we believe it is imperative to address this.

#### Notes on contributors

LESLEYANNE HAWTHORNE is Associate Professor and Assistant Dean (International) and Director of the Faculty International Unit, in the Faculty of Medicine, Dentistry and Health Sciences at the University of Melbourne.

I. HARRY MINAS is Associate Professor and Director of the Centre for International Mental Health in the Faculty of Medicine, Dentistry and Health Sciences at the University of Melbourne.

BRUCE SINGH is Professor and Associate Dean (International) as well as Head of the Psychiatry Department in the Faculty of Medicine, Dentistry and Health Sciences at the University of Melbourne.

#### References

- ASPLAND, T. (1999) You learn round and I learn square: Mei's story, in: Y. RYAN & O. ZUBER-SKERRITT (Eds) *Supervising Postgraduates from Non-English Speaking Backgrounds* (UK & USA, Society for Research into Higher Education and Open University Press).
- AUSTRALIAN MEDICAL COUNCIL INCORPORATED (AMCI) (1993) *Annual Report, 1991–92* (Canberra, Australian Medical Council Incorporated).
- AUSTRALIAN MEDICAL COUNCIL INCORPORATED (AMCI) (1994) *Annual Report, 1993–94* (Canberra, Australian Medical Council Incorporated).
- BAKHTIN, M. (1986) The problem of speech genres, in C. EMERSON & M. HOLQUIST (Eds) *Speech Genres and Other Late Essays*, p. 60 (Austin, University of Texas Press).
- BALLARD, B. & CLANCHY, J. (1984) *Study Abroad: A Manual for Asian Students* (Malaysia, Longman).
- BALLARD, B. & CLANCHY, J. (1997) *Teaching International Students: A Brief Guide for Lecturers and Supervisors* (Canberra, IDP Education Australia).
- BARROWS, H.S. (1986) A taxonomy of problem-based learning methods, *Medical Education*, 20, pp. 481–486.
- BETTS, C. (1994) Medical students and the changing make up of the Australian medical workforce, *People and Place*, 2(2), pp. 24–27.
- BIGGS, J. (1991) Approaches to learning in secondary and tertiary students in Hong Kong: some comparative studies, *Educational Research Journal*, 6, pp. 27–39.
- BIRRELL, R. & HAWTHORNE, L. (1997) *Immigrants and the Professions in Australia* (Melbourne, Monash University).
- BIRRELL, R. & HAWTHORNE, L. (1999) Skilled migration outcomes as of 1996: a contribution to the review of the independent and skilled-Australian linked categories being conducted by the Department of Immigration and Multicultural Affairs, in: *Review of the Independent and Skilled-Australian Linked Categories* (Canberra, Department of Immigration and Multicultural Affairs).
- BOCHNER, S. (1972) Problems in culture learning, in: S. BOCHNER & P. WICKS (Eds) *Overseas Students in Australia* (Sydney, University of New South Wales Press).
- BOURDIEU, P. (1990) *The Logic of Practice* (trans. R. Nice) (Cambridge, Polity Press).
- CALLAN, C. & GALLOIS, V. (1997) *Communication and Culture: A Guide for Practice* (Brisbane, Wiley).
- COLBY, K.K. (1986) Problem-based learning of social sciences and humanities by fourth-year medical students, *Journal of Medical Education*, 61, May, pp. 413–415.
- CROTTY, B., GOSS, B., ROBERTS, A., THOMPSON, C. & HAWTHORNE, L. (2000) Do medical students benefit from communication skills teaching?, paper delivered at the Australia and New Zealand Association for Medical Education Conference, Perth Australia.
- CRYER, P. & OKOROCHA, E. (1999) Avoiding potential pitfalls in the supervision of NESWB students, in Y. RYAN & O. ZUBER-SKERRITT (Eds) *Supervising Postgraduates from Non-English Speaking Backgrounds* (UK & USA, Society for Research into Higher Education and Open University Press).
- DENICOLA, P. & POPE, M. (1999) Supervision and the overseas student, in: Y. RYAN & O. ZUBER-SKERRITT (Eds) *Supervising Postgraduates from Non-English Speaking Backgrounds* (UK & USA, Society for Research into Higher Education and Open University Press).
- DEPARTMENT OF EDUCATION, SCIENCE and TRAINING (2002) *Statistics on the Totality of International Students Enrolled in Australian University Courses in 2001, by Discipline, Level of Enrolment and Country of Origin* (Canberra, Department of Education, Science and Training).
- DE SAUSSURE, F. (1989) *Course in General Linguistics* (trans. R. Harris) (London, Open Court).

<sup>14</sup> By 2003 the Faculty of Medicine Dentistry and Health Sciences was developing four academic bridging programmes (lasting from one to six weeks), designed to address the transitional needs of special medical student intakes: for example Universitas Indonesia third-year medical students coming to Melbourne to undertake an intensive research B. Medical Science year.

- DIXON, A., LAM, C., LAM, T. & HO, R. (1997) Hong Kong students cope with small-group problem-based learning, in: J. CONWAY, R. FISHER, L. SHERIDAN-BURNS & G. RYAN (Eds) *Research and Development in Problem-Based Learning*, Australian Problem-Based Learning Network, 4.
- DOBSON, I. (1997) The Vietnamese presence in Australian higher education, paper presented at Maribyrnong Hoi Conference, Melbourne, 6 February.
- DOBSON, I. (1998) Overseas students in Australian higher education: trends to 1996, *People and Place*, 5(1), pp. 24–29.
- DOBSON, I., BIRRELL, R. & RAPSON, V. (1997) The participation of non-English speaking background persons in higher education, *People and Place*, 4(1), pp. 6–54.
- DOBSON, I., HAWTHORNE, L. & BIRRELL, R. (1998) The impact of the Hanson effect and the Asian currency crisis on education exports, *People and Place*, 6(1), pp. 44–52.
- DODDS, A. & HOSKIN, K. (2001) Report on the performance of international students, semester one, three and five, unpublished paper, Faculty Education Unit, Faculty of Medicine Dentistry and Health Sciences, University of Melbourne.
- FARQUHAR, M. (1999) Third places and teaching English for research purposes, in: Y. RYAN & O. ZUBER-SKERRITT (Eds) *Supervising Postgraduates from Non-English Speaking Backgrounds* (UK & USA, Society for Research into Higher Education and Open University Press).
- FROST, A. (1999) Supervision of NESB postgraduate students in science-based disciplines, in: Y. RYAN & O. ZUBER-SKERRITT (Eds) *Supervising Postgraduates from Non-English Speaking Backgrounds* (UK & USA, Society for Research into Higher Education and Open University Press).
- HAWTHORNE, L. & BIRRELL, R. (2002) Doctor shortages and their impact on the quality of medical care in Australia, *People & Place*, 10(3), pp. 55–68.
- HAWTHORNE, L. & TOTH, J. (1996) The impact of language testing on the registration of immigrant doctors, *People & Place*, 4(3), pp. 47–54.
- HOFSTEDE, G. (1986) Cultural differences in teaching and learning, *International Journal of Intercultural Relations*, 10, pp. 301–320.
- HUMAN RIGHTS AND EQUAL OPPORTUNITY COMMISSION (HREOC) (1992) *The Experience of Overseas Medical Practitioners in Australia: An Analysis in the Light of the Racial Discrimination Act 1975* (Sydney, Human Rights and Equal Opportunity Commission, Sydney).
- IDP EDUCATION AUSTRALIA CONFERENCE (2002) Unpublished data provided at Seventeenth Australian International Education Conference, Hobart.
- KAUFMAN, A., MENIN, S., WATERMAN, R., DUBAN, S., HANSBARGER, C., SILVERBLATT, H., OBENSHAIN, S., KANTROWITZ, M., BECKER, T., SAMET, J. & WIESE, W. (1989) The New Mexico experiment: educational innovation and institutional change, *Academic Medicine*, June (Suppl.), pp. 285–294.
- KLIMIDIS, S., MINAS, I.H., STUART, G. & HAYES, C. (1997) Cultural diversity in Australian medical education, *Medical Education*, 31(3), pp. 65–67.
- KNIGHT, N. (1999) Responsibilities and limits in the supervision of NESB research students in the social sciences and humanities, in: Y. RYAN & O. ZUBER-SKERRITT (Eds) *Supervising Postgraduates from Non-English Speaking Backgrounds* (UK & USA, Society for Research into Higher Education and Open University Press).
- LAWNHAM, P. & ILLING, D. (2000) Business to act on universities, *The Australian*, 6–7 May, p. 4.
- LLOYD, M. & BAR, R. (1996) *Communication Skills for Medicine* (Edinburgh, Churchill Livingstone).
- MARGINSON, S. & CONSIDINE, M. (2000) *The Enterprise University: Power, Governance and Reinvention in Australia* (Cambridge University Press, Melbourne).
- NASH, P.P., SCHWARTZ, R.W., MIDDLETON, J.L., WITTE, F.M. & YOUNG, B. (1991) A student-centered, problem-based surgery clerkship, *Academic Medicine*, 66(7), pp. 415–417.
- NEWBLE, D.I. & CLARKE, R.M. (1986) The approaches to learning of students in a traditional and in an innovative problem-based medical school, *Medical Education*, 20, pp. 267–273.
- PATEL, V.L., GROEN, G.J. & NORMAN, G.R. (1991) Effects of conventional and problem-based medical curricula on problem solving, *Academic Medicine*, 66(7), July, pp. 380–389.
- RENSHAW, P. & VOLET, S. (1995) South East Asian students at Australian universities: a reappraisal of their tutorial participation and approaches to study, *Australian Education Research*, 22(2), pp. 85–106.
- RYAN, Y. & ZUBER-SKERRITT, O. (Ed) (1999) *Supervising Postgraduates from Non-English Speaking Backgrounds* (UK & USA, Society for Research into Higher Education and Open University Press).
- SCHIRATO, T. & YELL, S. (2000) *Communication and Cultural Literacy: An Introduction* (Allen & Unwin, New South Wales).
- SHU, J. & HAWTHORNE, L. (1995) Asian female students in Australia: temporary movements and student migration, *Journal of the Australian Population*, 12(2), pp. 113–130.
- SHU, J. & HAWTHORNE, L. (1996) Asian student migration to Australia, *International Migration Review*, XXXIV (1), pp. 65–96.
- SLAUGHTER, S. & LESLIE, L. (1997) *Academic Capitalism: Politics, Policies and the Entrepreneurial University* (Baltimore, Johns Hopkins University Press).
- VOLET, S. & ANG, G. (1998) Culturally mixed groups on campuses: an opportunity for inter-cultural learning, *Higher Education Research and Development*, 17(1), pp. 5–23.
- VOLOSINOV, V.N. (1986) *Marxism and the Philosophy of Language* (trans. L. Matejka & I. Titunik) (Cambridge, MA, Harvard University Press).
- WATKINS, D. & BIGGS, J. (Eds) (1996) *The Chinese Learner: Cultural, Psychological and Contextual Influences*, (Hong Kong and Melbourne, Comparative Education Research Centre and Australian Council for Educational Research).
- WHITEHILL, T., STOKES, S. & MACKINNON, M. (1997) Problem based learning and the Chinese learner, in: R. MURRAY-HARVEY & H. SILLINS (Eds) *Learning and Teaching in Higher Education: Advancing International Perspectives* (Adelaide, Flinders Press).
- WILLIAMS, B. (Ed.) (1989) *Overseas Students in Australia: Policy and Practice* (Canberra, International Development Program of Australian Universities and Colleges).