Challenges to supervision of undergraduate ESL (English as a Second Language) Asian students in the Bachelor of Medical Science

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Abstract

Background: Undergraduate research is a challenging environment for supervisors and students and the current climate of cultural diversity in higher education and medical faculties means supervisors may have responsibility for English as Second Language (ESL) Asian students. The Bachelor of Medical Science (BMedSci) is a well-established context for undergraduate research projects and is the context in this study for examining the challenges for supervisors.

Methods: Semi-structured interviews with twenty-seven academics in an Australian university with experience of supervising Indonesian medical students, gathered supervisor perceptions of the challenges of supervising International students as compared to supervising their Australian peers.

Results: Interviews and data analysis generated themes regarding culture and the individual, comprehension and feedback, disciplinary differences, developing knowledge, language and conceptual clarity, education and critical analysis.

Discussion: Academic supervisors hold a nuanced view of the challenges to and benefits of supervising International ESL students compared to their Australian peers. Supervisor experience, funding and purpose of the year remain issues to be investigated in future studies.

Keywords: supervision, undergraduate, medical education, educational exchange, international

Introduction

Bachelor of (Medical) Science (BMedSci) degrees ‘intercalated’ between pre-clinical and clinical studies are a frequent complement to five year medical degrees in the United Kingdom, Canada, and Australia (Morrison 2004). The degree enrols predominantly lab-based and clinical research projects although humanities and social science projects are also possible (e.g. Cossart, Pegler, Givney 1996).
Many intercalating students develop an appreciation for medical research and subsequently take up academic medicine (Moffat et al. 2004). There is also some evidence that such degrees may promote deep learning in students (McManus, Richards, & Winter 1999). In experimental and clinical projects the clinical perspective of medical students can lead them to outperform their non-medical science peers, such as science honours students (Johnston & Cartright 2005). In addition to encouraging students to consider academic medicine as a career, the degree aims to consolidate the critical appraisal skills students require for evidence-based medicine (Agha & Singh 2003; Greenhalgh & Wong 2003; Leung 2001). Primary health care projects, in particular, including clinical placements and a research project, consolidate skills for general practice as opposed to science (Jones, Lloyd & Meakin 2001; Jones, Singh & Lloyd 2005). These differentiated aims, outcomes and characteristics of the degree are true for this Australian study setting.

Notwithstanding the significance of the intercalated year, no study has examined supervision of the BMedSci year or supervision of ESL students. More generally, as L’Anson & Smith (2000) observe, few studies have been conducted on the undergraduate projects and supervision. In addition to this gap in the literature, a faculty evaluation of the BMedSci year identified different student and supervisor perceptions of what is involved or expected with supervision, and considerable variability in quality of supervision (Farish 2002). The following section reviews the key issues in undergraduate supervision and relevant contexts of medical education.

While there are similarities between postgraduate and undergraduate supervision, the scope, timeframe and limited background and experience of students make undergraduate projects particularly challenging (Wisker 2004). According to Todd, Smith & Bannister (2006) supervisor expectations about their roles and those of students in the undergraduate project vary. In addition, it has been claimed that female supervisors may be more reflective about supervision roles and responsibilities than males (Hammick & Acker 1998). Such differences, however, may vary with levels of experience, with novice supervisors typically more reflective than their expert counterparts (e.g. McMichael 1993). Students also have expectations of the independence and autonomy undergraduate research should provide and these can conflict with supervisor perceptions (Armstrong and Shankar 1983; Stefani and Tariq 1997). Students also find independently managing the constraints of the project challenging (Todd, Bannister & Clegg 2004). As a result, some writers have suggested supervisors should establish student-supervisor contracts to manage the educational and pastoral roles they take up (Cook 1980).

ESL Asian students may bring unfamiliar learning approaches and behaviours to research, requiring different supervision strategies (Sillitoe, 2001). Please note since becoming compulsory in 2001 the BMedSci as part of the MBBS curriculum has been designated Advanced Medical Science (AMS).
Crosling, Webb, & Vance 2002; Whiteley 2004; Wisker 1999). Thus, McClure (2005) argues that Asian ESL students may require different dependency relationships and autonomy in supervision. In addition to differences in learning approaches, such students can have difficulty accessing peer and academic cultures and their reticence in raising these issues with authority figures complicates treatment of the problem (Deem & Brehony 2000). Their social dislocation from home also can mean increased stress and a potential added burden on the supervisor to cater for pastoral and personal issues (Burns 1991). The circumstances and writing needs of these students may require greater intervention and direction by supervisors than is familiar in Western contexts (Angelova & Riazantseva 1999; Cadman 1997, 2002; Dong 1996). Thus, Cadman (2000), Wisker (2004) and Biggs (2003) argue that greater transparency in teaching academic conventions and student academic acculturation is required to responsibly address the multicultural internationalized environment of higher education. Wisker (2004) also cautions against treating the ESL learner as inherently problematic as it may prejudice expectations and outcomes, including the supervision relationship.

Given the existing cultural diversity of Australian enrolled students, overseas ESL students are not the only source of cultural and linguistic diversity in faculties of medicine. The student body of medical faculties in Australia, including the site of this study, show that local and ESL background students differ in terms of learning approaches and motivations (Klimidis, Minas, Stuart, & Hayes 1997). In academic medicine and clinical practice, the language competency of ESL students can also compromise their success (Chur-Hansen 1997; Chur-Hansen & Vernon-Roberts 1998). For overseas ESL students, in particular, completing a project and graduating with a BMedSci from an Australian research-intensive university is a highly regarded complement to their existing studies. However, it has been noted that such students can experience difficulties in transferring the knowledge and practices they gain to their home location (Chur-Hansen 2004). The issues raised in the existing literature on undergraduate projects, supervision, and ESL students all proved relevant to the responses of participants in this study. The themes which emerged address the concerns raised and also additional themes. Given word limitations, some potentially relevant themes are identified for future study in the discussion section below.

**Methods and Setting**

In this study the BMedSci is a compulsory two-semester research year for Australian MBBS (Bachelor of Medicine and Bachelor of Surgery) students. Since 2003 cohorts of ESL Asian students have enrolled into the degree and their participation has entailed added support and responsibilities for research supervision. The faculty has a well-established support program for International students (Hawthorne et al. 2004) and the author has provided language and academic skills support to three cohorts (Melles 2005); the author’s in depth knowledge of the program, the students, and supervisors proved critical for access to and enrolling interview participants.
Table 1: Interviewee profiles

<table>
<thead>
<tr>
<th>Code</th>
<th>Field / Focus</th>
<th>Role</th>
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<tbody>
<tr>
<td>01</td>
<td>M General Practice / Community Health</td>
<td>Supervisor</td>
</tr>
<tr>
<td>02</td>
<td>F General Practice / Community Health</td>
<td>Supervisor</td>
</tr>
<tr>
<td>03</td>
<td>M Epidemiological / Sexual Health</td>
<td>Supervisor</td>
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<td>04</td>
<td>F Population Health / Women’s Health</td>
<td>Coordinator</td>
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<td>05</td>
<td>M Clinical / Emergency Medicine</td>
<td>Supervisor</td>
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<tr>
<td>06</td>
<td>M Experimental / Malaria</td>
<td>Supervisor</td>
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<tr>
<td>07</td>
<td>F Dermatology / Occupational</td>
<td>Associate</td>
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<tr>
<td>08</td>
<td>M Clinical / Oncology Pediatrics</td>
<td>Supervisor</td>
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<td>09</td>
<td>M Clinical &amp; Epidemiology Pediatrics</td>
<td>Supervisor</td>
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<td>10</td>
<td>M Lab-based Cancer Research</td>
<td>Supervisor</td>
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<tr>
<td>11</td>
<td>F Clinical Emergency Medicine</td>
<td>Coordinator</td>
</tr>
<tr>
<td>12</td>
<td>F Clinical Emergency Medicine</td>
<td>Associate</td>
</tr>
<tr>
<td>13</td>
<td>F General Practice (PhD Candidate)</td>
<td>Associate</td>
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<tr>
<td>14</td>
<td>M Clinical paediatric pharmacology</td>
<td>Supervisor</td>
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<tr>
<td>15</td>
<td>M Lab-based Perinatal Medicine</td>
<td>Supervisor</td>
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<tr>
<td>16</td>
<td>M Lab-based Perinatal Medicine</td>
<td>Supervisor</td>
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<td>17</td>
<td>F Population Health / Breastfeeding</td>
<td>Supervisor</td>
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<td>18</td>
<td>M Clinical &amp; lab-based / bone health</td>
<td>Supervisor</td>
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<td>19</td>
<td>M Clinical &amp; lab based / epilepsy</td>
<td>Supervisor</td>
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<td>20</td>
<td>M Lab-based / diabetes</td>
<td>Supervisor</td>
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<tr>
<td>21</td>
<td>F General Practice / maternity care</td>
<td>Coordinator</td>
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<td>22</td>
<td>M Statistician</td>
<td>Coordinator</td>
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<tr>
<td>23</td>
<td>M Clinical / Cancer research</td>
<td>Coordinator</td>
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<td>24</td>
<td>F Population Health / Reproductive Health</td>
<td>Supervisor</td>
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<tr>
<td>25</td>
<td>M Clinical / Emergency Medicine</td>
<td>Supervisor</td>
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<tr>
<td>26</td>
<td>F Population Health / Women’s Health</td>
<td>Supervisor</td>
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<tr>
<td>27</td>
<td>M Emergency Medicine (clinician non-researcher)</td>
<td>Associate</td>
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Qualitative interviewing favours unstructured and semi-structured formats. As Bryman (2004) notes, the flexibility in the interview is intentional and aims to respond ‘to the direction in which interviewees take the interview and perhaps adjusting the emphases in the research as a result of significant issues that emerge in the course of the interview’ (p.320). In 2004 I interviewed twenty-seven supervisors of a cohort of thirty-five International BMedSci medical research students regarding their experience of supervision. Following a brief outline of the researchers’ current focus and field, the interviews were structured around three prompts regarding the general challenges to students during the year, specific challenges to International students, and recommendations for change.

In the table below the gender, general field and focus, and supervisory role of participants is noted. In terms of role, ‘associate’ refers to a lower level academic (sometimes PhD candidate or clinical non-researcher) with a potentially significant pastoral or social role in the student project. ‘Supervisor’ refers to a research active academic with responsibility for a single International student during the study, although s/he could also have had responsibility simultaneously for other research students. ‘Coordinator’ refers to an academic with responsibility for supervision of an International student’s project but who is also responsible for coordinating supervision of multiple students in a research or clinical site. In their comparisons of International and Australian students, some supervisors drew on direct experience of past and current supervision of such students. In other cases, particularly with those in associate roles, comparison with local students was based on other exposure to these students, such as teaching experience in the MBBS curriculum, conversations and observations of such students in the supervisor’s environment.

The management of the data analysis was facilitated with qualitative data analysis software (NUD*ISt 4.0). The open-ended nature of the interview questions encouraged interviewees to develop issues they saw as relevant and these emergent themes were coded as the data was transcribed. Further reference to the developing themes emerged as additional transcripts were examined and definitions for coded themes were modified to account for the particularities of newly encoded text. Text searches of the interview corpus were used for phrases such as ‘critical thinking’, which were encoded to themes.

**Results:**

**Interview themes and analysis**

Below, narrative summaries under thematic headings refer to ideas which were distributed across the transcripts. The spread of responses is not quantified in percentages but general quantifiers, such as ‘all’, ‘some’, ‘several’, are used. Selective quotation is used to illustrate the scope and breadth of particular themes. Given space limitations not all themes are addressed but some emerging issues for future work are mentioned in the discussion.

**Culture, capacity and the individual students**

As noted above, cultural and language diversity is prevalent in undergraduate medicine cohorts in Australia. A number of interviewees alluded to this fact.
of working with students from other cultures, and therefore that research and writing practices of International ESL students could not be easily distinguished from their Australian born counterparts. The current distribution of cultural diversity across the faculty and not limited to International ESL students, provided some rationale for resisting potential stereotypical characterizations.

Again it’s hard to say I mean you can’t just talk about the culture ‘cause I mean previously we’ve had students second language students from different cultural backgrounds and again they may well be down to the individual and how they manage … I’m sure that there are students - home based students who have quite different cultural norms and might have far more challenges in terms of how they deal with university life than someone who is an International student who may be quite used to flitting from one place to another and adjusting themselves to whatever circumstances they find themselves in. (02)

In particular, a number of supervisors had strategies for remediation of language issues and did not see language problems as a reflection of either intellectual capability or project quality and commitment of students.

And both of the students have been very good. [student name] last year yeah was exceptional in terms of his intelligence and his work ethic and his what he was able to achieve in a year … Now his language skills were not as good and that was so when it came to writing up his report it required a lot of input from the second language unit and also from myself in terms of a lot more than I would have for an average Australian student. But having said that all his concepts in the report were there. What he needed help with was with English expression. (19)

Another frequent resistance to broad cultural generalizations was a preference for personality or other individual student’s characteristic, as a key differentiating factor, as the following quote illustrates.

I don’t have a really strong understanding of what the cultural issues are. I think it was strongly a personality issue. I think one thing that was driving her is that she had a very good academic record. And for her failure in a research project would have been getting something like a B or something you know or a 2A - equivalent to a failure for her. (10)

**Comprehension, production and response to feedback**

Language competency is an issue for ESL medical students. Most supervisors commented favourably on the conversational competence of ESL students but noted that this did not correlate with a capacity to manage spoken academic discourse in contexts such as departmental seminars. According to several supervisors, for example, some students found it difficult to clearly articulate what their work was about and respond to questions regarding their work in departmental seminars. This was despite explicit coaching by staff.

The capacity to write using written academic conventions was not exclusively an International student
issue and favourable comparisons were made between several International ESL students and their local peers, such as the following example,

Yeah and she had a very clear and concise writing style as well and that I was very impressed and surprised at how well - I mean there were clear grammatical errors that you would expect from someone approaching it from a second language. But nevertheless the prose was clear, with short sentences. (09)

However, follow up on supervisor guidance and direction with reading and writing is essential to a successful outcome. This was a problem for a significant number of students and several supervisors described disappointment and irritation with the lack of revision in writing by the ESL students following feedback sessions. This had as a consequence a heavy revision load falling to academics prior to submission. Several potentially intervening issues were proffered for this. Supervisors tended to speculate on the lack of understanding as being a question of misunderstanding, culture, emotional confidence, motivational or linguistic.

I saw it in the outcomes. I saw it in terms of either communicating to do something and it wouldn't be done. And I suspect some of it was lack of initiative but some of it was probably language. (08)

On the other hand, in some contexts the ESL Asian cohort students did show some capacity to follow explicit instructions for summarizing. The commitment ESL students show to supervisors as authority and expert figures can pay benefits, as one supervisor observed:

They do absolutely anything you mention should be done. They go away and do it. They are so reliable. Compared to the local students - they go away and do something else - you'll say make a table of the articles you've read and put your comments about that article beside it and we'll have a discussion about that. (21)

Disciplinary difference, comparisons and expectations

Project structure, research designs, and outcomes vary across disciplines and departments. Some projects require a systematic review following a semester of coursework; others demand clinical interaction with patients, and some projects expect the production of international peer-reviewed journal publications, especially lab-based and clinical research sites. The rationale for limiting the project to the ‘pretty sophisticated research skills’ of a review was explained thus by a coordinating supervisor in population health,

I think in our centre the practice has been that students probably aren't in a position at the beginning of an AMS year to frame a research proposal, write an ethics application, collect original data, analyse it and write it up. So to date the AMS students with whom I've been involved have been encouraged to do systematic surveys of the literature. (26)

In general, the view that the holistic independent skills to manage all aspects of a project is too difficult for students is a view held by all supervisors but the response in other clinical and experimental fields and environments is
to not expect the student to cope with all stages of the research.

A tension emerged in interviews about qualitative projects – a designation commonly used to cover any project that was not lab-based or clinical research - compared to clinical, epidemiological and experimental studies. The following response by a coordinating supervisor typifies a tension across research sites.

_They get very upset when they see somebody who does qualitative health research and who for some reason they know only goes into the office two days a week. .. And I believe that part of this is due to something that’s been around for years. Anything that’s quantitative it’s reasonably easy to identify things that are wrong. You do a maths test you can get nought - you can get everything wrong_ (21)

Three interviewees, in particular, claimed that it was common practice to assign ‘easy’ qualitative projects to International students, a claim that was not, however, substantiated by project enrolments. The accumulated experience of three cohorts of students at the time of writing has shown that projects requiring an understanding of local Australian social and clinical contexts of health and medical practice proved particularly problematic for students. The burden of dealing with these socio-cultural issues in a short timeframe appears to be excessive for the ESL Asian students on overseas exchange.

**Developing and demonstrating knowledge**

All students arrive with limited understanding of the specific knowledge and research practices of the setting for their research project, and students experience some discomfort in developing new knowledge, as the following supervisor acknowledges:

_They don’t understand for example the all the biochemical abnormalities in diabetes - they may be studying one pathway but may not have just to give you an example may not have knowledge of related pathways. So they may have difficulty in interpreting their data. And you can’t get around that - that’s just and they get better as the year progresses_ (20)

As implied in this quote and alluded to by another respondent, students have to ‘get their head around’ (22) the relevant research culture prior to making sense of the literature. Supervisors mentioned a range of strategies, including journal clubs, coursework, and giving students journal review articles, for helping students achieve comprehension in parallel with research.

In all the non-laboratory based projects – with one exception – questions were raised about the quality of the educational background of ESL International students. In a clinical (hospital) context where medical knowledge could need to be used in a public setting, lack of knowledge exacerbated by linguistic limitations and potentially emotional, e.g. confidence, issues could produce problems for students:

_I don’t know the medical system they’re training in but my impression was that their knowledge was much more superficial and cursory in terms of and I think that in my experience, that lead the student to become very inhibited very early in terms of coming to things to learn._
He was - I got the impression he was embarrassed that about his lack of knowledge and therefore he wouldn't come to outpatients for example, because he didn't want to be asked questions. (08)

A potential difficulty for some International students that several supervisors alluded to was their (student’s) limited ability to accurately read or interpret research data.

And in her understanding of and her analysis of the question she had a question that was across the five focus groups of GPs and four of women. There was one common question and she analysed that question. And it was - I mean some of what she wrote was quite inaccurate with regard to what actually did happen. It was a [so unable to analyse] well an interesting use of the - it wasn't correct. (13)

Knowledge gaps were potentially more challenging for the International ESL students, since they may lack a culture of scepticism and question, as the following supervisor suggests:

So, and the conceptual ... thinking through issues from a conceptual point of view for some of the International students. Is it more than the local ones? I think probably a little it is. But it's not unique to them that they struggle with these sort of discussions about conceptual issues to do with whatever they're researching. But they aren't they aren't used to it (21).

In cases where the project is situated in the student's country, mutual ignorance of student and supervisor could produce an additional complication for supervisors

But there's also I think it's not just a second language if they've come from another country or another culture - there's things that you don't always know even that they're differences. So I know some things like their medical system is different from here and with this questionnaire we sent to Indonesia. And so I'm limited because I don't know what the medical system's really like there. And she is in the very early stages so she really doesn't have that much of an idea. (21)

Concepts, language and clarity

It was noted that conceptual limitations could be due to cultural gaps in knowledge about women's health:

Now I've got a student at the moment who is from Zambia and her Master's degree was done in English, her coursework degree, her Master's degree which was done in the United States. She still struggles with the very abstract concepts. And maybe she doesn't actually have those concepts, there isn't a linguistic equivalent of the concepts that we're wanting to talk about. (26)

Conceptual and linguistic clarity intersect, particularly, where supervisors have to judge whether vague textual meaning was due to students’ limited medical and clinical knowledge compared to their Australian peers. Language competency was also mentioned by several respondents as a potential barrier to students not having the concepts ‘right in her head’:
It's all the grammar - it's trying to work out what she's trying to say, and whether she's got it right in her head. And then okay, yes if she's got it right in her head how do we say that correctly on the paper? (07)

**Culture, education and critical analysis**

Although it often remained implicit, critical analysis as central to research and challenging for students was a common theme. One respondent suggested that the practice is somewhat ambiguous and challenging for supervisors to teach:

> And then the supervisor asks you to be critical about it well where do you start [laughter] with your criticism? What do you mean? And I think it's that constant – but I think that's universal really for all postgraduate students. Teaching them how to argue through their report - that there is an argument and they are writing against that argument. (04)

Despite the explicit inclusion of critical appraisal in the pre-clinical curriculum, many supervisors suggest Australian students are not exposed to critical analysis in their pre-clinical curriculum. Thus, several supervisors questioned the capacity of the problem-based learning (PBL) integrated curriculum approach to encourage medical and scientific knowledge and develop critical appraisal skills. The following supervisor in general practice saw little evidence of the capacity of Australian students to search and appraise the literature:

> They don't exhibit a great deal of skill in even looking anything up, or searching the literature … So this concept that PBL was going to have these students that would be you know figuring things out from the ground up, I don't really see that exhibited in the skills they come with. (21)

The 'textbook' rote learning of the curriculum and critical analysis in research constitute two different 'vocabularies' (04), which for International ESL students may be compounded by limited language proficiency:

> And not having a textbook and having to critically analyse a piece of work is a great challenge. It's a different vocabulary for them. So and if you're an International student then you have the added problem of not understanding the language so you have constantly to have a look at the dictionary. (04)

The argument of a significant group of supervisors was that ESL students could not critically evaluate research due to their educational background. In three cases these limitations were linked to fundamental cultural and political differences, as in the following quote:

> So I think the bigger problem that some people face is if the culture they come from is one where they just accept what they're told and they're not taught to critically evaluate the comments and say why did you say that? What's your evidence for that? Why are you? which is a characteristic I think of Malaysian and Indonesian people as a whole. Okay, well big brother said that's the way it is, so that must be the way it is. (03)
**Supervisor input, workload and reputation**

In some projects writing was strongly directed by the supervisor. Thus, the quality of submissions in the experimental projects, where there was a culture of extensive co-writing, tended to be significantly better than in other projects. This intervention was alluded to by several supervisors and is illustrated by (17):

> So we find that for the first few weeks or whatever of writing their thesis we have to do it quite intensively but as they get the hang of what they’re supposed to do by the end of it they’re actually we don’t actually have to do much work because they’ve understood what’s expected of their writing skills and they hone them (17).

A range of strategies were used in the laboratory-based studies to ensure the quality of ESL (and Australian) theses, including in-house correction by supervisor and postdocs (20). One rationale for writing input was the short timeframe of the project:

> Frankly in our group people we’ve always done this in house. I mean I me or one of my postdocs corrects the English. We don’t go to another but if the student wants to I don’t know if the students want to improve their English writing its not clear whether there’s time or whether it’s too late by the time they have to write. I mean you don’t pick up these skills overnight. (20)

Awareness of the co-writing practice in other non-laboratory sites was contentious and seen as a fundamental inequality for student outcomes, according to one supervisor (04). In some projects coursework through the first semester, changes to topics, and limited directed supervision on writing qualitative analysis or literature reviews delayed the sustained focus on a narrowly defined topic that was possible in experimental and some clinical projects.

More than one interviewee admitted to extensive rewriting of the final thesis submission, given the pressures for student completion and the difficulty in explaining issues. Acknowledging that he felt uncomfortable with the practice, one supervisor admitted:

> I don’t know, you could argue this but it became very frustrating at the end. To be honest, in order to get the written report in on time it became clear to me I needed to just rewrite the sections for him. And again I think that meant he lacked some of the learning experience. And the reason I had to do that was unlike a local student I couldn’t tell him he didn’t have the grammatical knowledge (08)

In one case an extensive rewrite by a supervisor – in a laboratory-based setting – aimed among other things to protect the public reputation of the faculty member and his centre. The exercise brought an added burden in that the faculty member felt obliged to retain the student’s voice sufficiently in the text, resulting in a difficult text for the examiners:

> The way it was originally written it was unacceptable as a thesis. [It couldn’t go out.] It couldn’t go out in that format in that form and I had
to basically rewrite it for her. But I didn’t want it to be my thesis so I had to try and keep it as her thesis. So there was that added burden on me. (15)

Discussion

This study contributes to a clarification of issues in medical undergraduate research supervision with International ESL students. Qualitative analysis of interview data from supervisors provides a particular perspective on the challenges to supervising International ESL students. Rowley (2004) suggests much closer attention must be paid to undergraduate projects and supervision in general. In comparison to a modestly robust literature on clinical and nursing supervision (e.g. Kilminster & Jolly 2000; Marland & Lytle 2003) undergraduate research projects and supervision in medicine have remained out of focus.

More broadly, following Atkinson & Pugley (2005), more holistic in-depth case studies and ethnographic approaches to medical education, incorporating student perspectives and document analysis, would help clarify the complexities of undergraduate medical research in cross-cultural environments. Studies in institutions with similar intercalated programs would also help provide a broader set of case studies from which to draw more general conclusions. A more holistic ethnographic exploration of medical research writing by another cohort of students is in preparation. Future research could also explore student cohort follow up studies such as that implemented by Chur-Hansen (2004) to evaluate the transfer of learning to the overseas student environment.

Students must develop and demonstrate a complex set of academic research practices to complete undergraduate research in medicine, including developing specialised knowledge of the topic, showing commitment in completing the project, learning to write in a concise academic register appropriate to the conventions of the discipline, and interacting in the social environment of the project whether this involves patients, other students, or laboratory peers. Disciplinary differences between research practices in laboratory, clinical and other settings appear more or less conducive to successful student outcomes, and these differences need to be acknowledged, in addition to student profiles, in any account of undergraduate supervision.

Supervisors have had a range of exposure to ESL students and some are clinicians and higher degree students themselves, with limited research activity. Expertise as a factor influencing supervision was alluded to in this study and future studies in this area should look more closely at associations between expertise and the accounts supervisors give of their interaction with ESL medical students. In a number of cases the performance, motivation, and outcomes of the ESL students were viewed as superior to that of their local peers, including in a few cases in the area of academic writing. However, a significant number claimed ESL students found it problematic to interact with and critique research experts, including their supervisors.

It was generally noted that supervision in the BMedSci year involved an increased workload compared to the supervision of doctoral students and, in some cases, ESL Asian students
added to this workload. The fact that the institution gives little or no recognition to the supervision of honours students compared to PhD and Masters candidates contributed to the frustration that such supervisors felt. In addition, some tensions existed across research sites, centres and departments regarding different expectations and outcomes of the year. The issues of accessing academic cultures, dependency and autonomy, social dislocation and stress, and writing needs mentioned above were raised by interviewees in this study. Many also had in place strategies, e.g. coursework, to make conventions transparent although these were not always successful.

This study suggests that supervision is not easily dichotomized into a set of issues around ESL Asian versus native-speaking English students. Supervisors show sensitivity to the nuances of project demands and also appreciate the intellectual capacity and commitment of students in particular sites. Several respondents made explicit mention of the contribution the students brought to the department and to the social and cultural ‘mix’ of research sites. On a practical level, the study suggests that some research sites may be more conducive to overseas student exchanges and that greater structure and direction, appropriately supported by faculty, may be beneficial for many students. From a more ideological perspective, greater transparency between the institution and the sites of projects regarding shared purposes and responsibilities may contribute to supervisor commitment and understanding of internationalization as more than a financial exchange.

Many interviewees questioned the comparison between the Australian and International groups – even those that had high achievers - given inherent differences between their backgrounds and language competency. Some advocated a modified program for the International ESL students with limited writing requirements and more structured guidance. This was not, however, generally approved and would if implemented devalue the degree. As several interviewees noted, the full fee paying status of these students raised doubts about the purposes of the exchange and the role of the university in encouraging such exchanges. These are also questions to consider in the future and of general relevance to Australia’s involvement in such exchanges (e.g. Clark & Underwood 2001).

References


Biggs J (2003) Teaching for quality learning at university: what the


