## FIT FOR INTENDED USE—A MANUFACTURING METAPHOR APPLIED TO INTERNATIONAL BUSINESS STUDENTS AND LEARNING OUTCOMES

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The author uses a manufacturing analogy to highlight the difficulties facing academics in accounting who are now required to teach large groups of under-prepared international students. Employers are not embracing these graduates to fill skilled job vacancies indicating some form of system failure. She ends with some suggestions that might improve the process.

## INTRODUCTION

It is no secret that contemporary tertiary education in Australia is significantly reliant on international student fee income in a competitive market. Accordingly, the need to attract fee paying students involves strategies for increasing competitive advantage, new course structures, flexible learning initiatives and marketing. However Jackling<sup>1</sup> has found that employers are reluctant to employ graduate international students in the accounting field as they consider them to lack the skills required to effectively meet employment needs. This paper seeks to focus the spotlight on the role of academics/universities in ensuring that graduates have the skills necessary for employment as part of the education process.

The reluctance by employers to employ graduate international students suggests that as student diversity increases there is a greater need for strategies that ensure students have the capacity to attain the skills valued by employers. Glyn Davis, Vice-Chancellor of the University of Melbourne, in a discussion paper dated July 2005, asked: 'So what is a university for? The answer depends on time and circumstance'. He suggests that the 'postmodern university plays a mix of roles-education and knowledge transfer, development of new ideas, a place for scholarly work, intellectual training, social critique and community engagement, yet also a social portal for credentials, certification and access to careers'.<sup>2</sup>

Recognising that universities are 'for' a complex range of purposes this discussion paper concentrates on the latter part of Davis's statement, 'a social portal for credentials, certification and access to careers', with emphasis on the employability of graduating international business students'. While the agenda of universities has been significantly captured in recent decades by the vocational needs of the accounting (and other) profession(s), for international students this notion of capture has been reinforced by recent changes to migration rules. From September 2007 international students must have work experience in their nominated skilled occupation for at least twelve months before applying for permanent residency. Though Boyce suggests that not all accounting students end up working in the accounting profession or any form of accounting job<sup>3</sup> the need for discipline employment by international students before seeking permanent residency will no doubt reinforce the employability priorities for learning.

In-camera discussions with academic colleagues concerning the preparedness of international students for Australian postgraduate education indicate that those who teach generally bear the brunt of the consequences associated with rising numbers of international students. It is a reflective exercise to voice (print) some of my own impressions and those of many coneagues about this state of affairs. But it is with a degree of hesitation that I have used a process orientated 'fitness for purpose' paradigm to consider whether students are able to attain the characteristics valued by employers. The hesitation arises from the likely criticism that may ensue as a consequence of the dehumanisation of the education process. However, the manufacturing analogy seems to be appropriate to the higher education environment that has evolved in Australia over the last 10 years, particularly with the influx of international students.

The desire of universities to attract lucrative fee paying international students means that students can shop around for the blend of cost, quality and flexibility offered to suit their individual circumstances. Recent references to corporate universities, enterprise universities, degree factories, educational products, students as consumers, students as customers, academics 'delivering' material to students and employers recruiting the products of tertiary institutions<sup>4</sup> all create mental images of a manufacturing process.

Borrowing from Wolnizer's<sup>5</sup> use of manufacturing metaphors in an audit context. I have often wondered whether diversity in the characteristics of the 'raw material' of commencing postgraduate students damages the potential for transformation into 'useable product'. In manufacturing, design and output of manufacturing processes need to be carefully planned to ensure that all work is consistently accurate. Quality improvements are engineered by ensuring that parts and raw materials conform to specifications in a way that allows for mass production. Tight specification allows for deviations from standards to be identified as poor quality and also permits comparison of qualities across time periods to see if the qualities of outputs are maintained.

However, this may not be possible in

the context of post-graduate nigher education, as student entry requirements seem to embody increasingly clever mechanisms for admission and thus questionable entry standards. The influx of students from alternative pathways, recognition of prior learning, advanced standing (the granting of credit for previous studies that closely match subjects included in programs) and the recognition of growing numbers of undergraduate programs from around the world, all contribute to these questionable entry standards.

In the 1974 edition of Juran's *Quality Control Handbook*<sup>6</sup> the concept of 'fitness for use' was first introduced to describe the extent to which a product (or service) successfully served the purpose of the user. This concept introduced the notion that the user was the one who would judge or evaluate quality in any context. Quality is whatever the user perceives it to be and, 'fitness for use denotes the extent to which the product successfully serves the purposes of the user'.<sup>7</sup>

As Australian tertiary institutions expand into new markets, post-graduate students enter universities bringing with them a range of past pedagogical experiences, English language capacities and competencies associated with learning styles of source countries. Using the manufacturing analogy above, non-standard raw materials are unlikely to generate a quality product unless superior production processes are applied. This would recognise the entry-level deficiencies and deliberately aspire to rectify the deficiencies by applying superior processes. This places the burden on academics to rectify anomalies created by recruitment strategies so that students can attain the requisite skills for success.

## THE ACADEMIC ENVIRONMENT

As a front-line academic in a Business and Law Faculty with experience in both undergraduate and post-graduate subjects, it

is my experience that classes are dominated by international students, often around eighty per cent. Statistics from the Department of Education, Employment and Workplace Relations from 2000 to 2006, consistently show that the majority of international students will study management and commerce subjects and thus any changes in the markets of student origin have immediate consequences for business academics. Over the last ten years the origin of these students has changed from southeast Asian and Chinese students, to incorporate a growing proportion of students from central Asia, in particular India. This change in demographics has impacts on the learning environment.

For example, students from south-east Asian and Chinese backgrounds often have variable English competencies which, when combined with their culturally defined respect for the teacher, makes it very difficult to generate classroom discussion. The more recent expansion into the Indian market produces different challenges, which are more related to learning skills and a mistaken belief that cramming alone can generate successful outcomes. Failing postgraduate students have often told staff about their lack of appreciation for formative and progressive assessment practices because their prior learning experiences placed little emphasis on such strategies for learning. Discussions with colleagues from other universities indicate that such observations are not uncommon.

It has become clear that the difficulties students face are not just related to English competence. Birrell confirms that Indian students have reasonable English competencies and yet they still have difficulties gaining employment in Australia.<sup>8</sup> One explanation may be that many of the students taking accounting studies are drawn from those who have completed an undergraduate education in another discipline.

Students who seek permanent residency are able to gain additional points towards this goal if they undertake studies where there are identified skills shortages in Australia. Accounting falls into this category and, as many post-graduate business programs accept as part of their entry criteria degrees from any undergraduate discipline, post-graduate programs in Australia are populated by high numbers of students converting from a discipline of first choice, to a second discipline. Jones notes that: 'if the epistemology of a discipline affects the culture of the discipline in terms of scholarship, research and teaching as well as more tacit cultural mores, it may well also affect the understandings surrounding generic skills'.9 Some disciplines can be understood as linear and hierarchical with knowledge being sequentially built. Other disciplines may be qualitative, constructed and interpretive.10

Every semester over the last ten years I have commenced the period of study by verbally surveying the students in class asking them to share their country of origin, to state the time period they have been in Australia and the discipline of their undergraduate degree. This provides me with an indication of the level of base skills in the class to facilitate the most desirable teaching approach. The diversity of qualifications from different disciplines continues to increase. However, it should also be noted that the accounting discipline has recognised that a broader educational experience can bring other desired qualities to a profession. In particular, alternative pathways for the attainment of professional accounting qualifications for nonaccounting graduates (in both the United Kingdom and more recently by Deakin University in Australia through the Graduate Certificate of Chartered Accounting Foundations), is a means of valuing diversity in discipline foundations.

I do not question the validity of embracing diversity in this manner but question whether those students who embark on this path have any additional learning challenges in their journey to attain alternative discipline qualifications.

# Input to the post-graduate learning environment

Barrie refers to enabling and translation as a two-tiered approach to graduate attributes.<sup>11</sup> Enabling skills could perhaps be regarded as foundation skills that students have on entry to the university, and the conception of translation applies to the attainment of exit-level attributes by building upon the enabling skills. For postgraduate students who have already attained undergraduate qualifications the suggestion that they may need to revisit foundation generic skills in programs where they are moving from one discipline to another implies a judgement concerning their prior educational experiences.

In higher education class attendance is not compulsory and the less than desirable attendance levels at transition to university study and orientation programs provides evidence that students do not perceive a need to attend such skills development sessions (perhaps the cost of arriving earlier to be involved in such programs also contributes to poor attendance). Typically these sessions explain how to access, use and benefit from university resources and include essay and report writing skills, discussions about what is expected in certain assessment tasks, how to use the digital learning environments, explanations of plagiarism policies and how to use library resources.

Barrie points out that while these types of programs are valuable, they are insufficient on their own to provide the necessary foundation for translation and enabling graduate attributes.<sup>12</sup> This is partly a consequence of the voluntary nature of these mechanisms and also of pathway options that may mean students commence Australian studies at times that miss these scheduled pre-commencement workshops.

A significant factor impacting the ability of students to adapt to the Australian learning environment, particularly for south-east Asian and Chinese students, is that English language competency assessed by the International English Language Testing System (IELTS) is 'barely adequate'.13 The level of competency required is generally 6.5 for postgraduate studies and 6.0 for undergraduate studies. Jackson et al.<sup>14</sup> note that the English competency of many students, particularly international students, is an issue of concern for all stakeholdersemployers, academics, the profession and students. Jackson et al. also confirm that: 'academics lament the lack of control they currently have over the entry requirements in many of the courses they teach'.15

Post-graduate tertiary teaching environments in business studies are often not contemplative environments where there is a bubbling of discussion with many inquiring minds striving to share their views as cases and problems are debated. In reality, large classes with significant majorities of international students present a blend of the following challenges for students (domestic and international) and staff:

- Late enrolments necessitating repeated class time to provide introductory material—university policies permit this until the third week of semester with academic staff expected to make concessions and assist students to recover from missed material.
- Students who have not prepared for class (or do not come to class) and consequently are not able to contribute to any meaningful discussion—this is often because the need for progressive learning is not understood.

- Unwillingness to speak by the majority of class participants because of perceived language issues or cultural learning style disparities.
- Poor English comprehension often requiring repeated explanation.
- A tendency for students to cluster in cultural groupings for tutorial discussions thereby limiting exposure to alternative views.
- A general attitude that because students are paying for learning academics should be available at unreasonable times and for mini tutorials in office environments to repeat classroom examples.
- Culturally defined attitudes towards female staff, in particular attitudes that imply an expectation by male students that female academics should accede to requests (often voiced as demands).
- Conflicting evidence of competencies can be deduced from a variety of sources. For example, demonstrated poor English competencies in class and in the use of electronic correspondence, compared with high competence demonstrated in submitted assessments. Though this may be partially explained by software that assists with grammar and spelling and time available to carefully prepare tasks, a second source of conflicting evidence arises when students do not attempt examination questions for topics on which they have previously been assessed as very competent.
- Failure for any assessment is punctuated by demands for a second chance. Students cite visa conditions, family sacrifices made to enable study in Australia, family standing impacted by a student's failure as a form of pressure to secure desired assessment revisions.
- Expectations that digital and other communications are answered within hours.

- Poor computer skills evidenced by an inability to find resources that may require multiple level searching on WebCT, inability to resolve electronic lodgement requirements for assessments, expectations that academic staff should resolve personal software issues and expectations that computer difficulties create a blanket right to assignment extensions.
- unwillingness to accept tasks that require a self guided student-centred learning approach. It is not uncommon in digital learning environments for students to ask: 'why does tutor explain around a question ... why not just give answer' (sic).

### **Education processes**

At the coalface of academe, resource limitations mean that little can be done to ensure that the variable needs of students are addressed. In the current context of rising staff/ student ratios and increasing standardisation of education offerings (primarily for reasons associated with portability of credentials and professional accreditation) there is little scope for academics to vary course content or address the specific learning needs of all groups represented in the classroom. Issues of equity and the accepted ideals of student-centred learning and flexible education provide particular challenges for staff who may wish to re-engineer options.

In the Australian academic context equity policies require that all student groups receive the same learning experience within a standardised framework for the pedagogies employed. This is particularly true of multi-campus institutions granting common awards. The standardised approach presumes generic skills held on entry to higher education, creating what may be described as a 'one size fits all' approach as though students were a homogenous group. This presumes a standard raw material and that therefore the application of a standard process will achieve a desired outcome.

Equity concerns have often resulted in decisions that amount to a reduction to the lowest common denominator. For example, teachers tend to shy away from large theory questions in assessments for reasons of both ease and the time required to assess tasks and also because international students find theory more difficult and time consuming to interpret and answer (particularly in exams). International students who do require more time to comprehend and answer may be regarded as disadvantaged with a diminished opportunity to pass. There are also practical limitations impeding the use of certain assessment regimes. For example oral presentations that develop communication skills are difficult in high volume groups and create issues with perceived inequities for those with limited English competence.

A recent initiative that is likely to impact skills development is contained in amendments to the National Code of Practice 2007 for institutions providing education to international students by the Department of Education, Employment and Workplace Relations. While the previous policy approach precluded courses with a distance or online component, since July 2007 it is now possible for students to take up to twenty-five per cent of their courses via online or distance modes. It is acknowledged that online skills are also important for knowledge workers and that online learning is a feature integrated into many campus based courses of study. However, with time, it will be interesting to ascertain what impact this new policy has on the development of international students' communication skills.

In addition to rising class sizes academics are faced with the lack of homogeneity in learning styles. This has significant consequences for the processes an academic might employ to achieve desired learning outcomes. Eisner claims that:

Communication and multiple intelligence literature suggest that effective teaching involves reaching students, and that reaching students involves taking their frames of reference into account. Knowing where our students are coming from and meeting them there may increase the chance that students will absorb the information we seek to teach.<sup>16</sup>

Indeed, the arrival of technologies to supplement, enable, enrich and mediate learning experiences challenges traditional education pedagogies. It has also impacted on academic workloads by making them more elastic. Academics are required to engage in flexible delivery mechanisms, resulting in what Ling et al., in a (DEST) report, suggest:

[I]n most cases it makes additional demands on support services and academic staff time. The additional demands on the resource academic staff time are not usually reflected in additional budget allocations. The demands on academic staff time are satisfied in part at the cost of time spent on research and in part by staff working longer hours.<sup>17</sup>

Bretag confirms that academics are increasingly operating within challenging environments and becoming disillusioned. She notes that inadequate support mechanisms exist for international students, that there are pressures placed upon academics to pass students, that there are processes that impinge on academics' authority and that administrative burdens associated with reporting plagiarism, all represent factors with the capacity to damage learning environments. Anderson et al.<sup>18</sup> concur about the difficulties staff face in order to be 'all things to all people' as a consequence of in dealing with variable student competencies for learning, pressures to produce research output, expectations of attaining ravourable student evaluations and the need to develop new competencies as technologies develop.

Herein lies the manufacturing process failure. If raw materials are known to be variable then not to provide additional resourcing to compensate for this variability means that the likelihood of useable outcomes is diminished. Simon Marginson agrees that: 'Curriculum and teaching have changed only modestly since the advent of large-scale international education ... with a stronger focus on delivery than on education quality'.<sup>19</sup>

### Output from the education process

Using the manufacturing frame of reference, the output of higher education in a commodified education environment can be described as a product. It is also appropriate to presume that the product should be fit for the use intended by those who purchase the right to use it. In this value chain international students also expect to attain qualifications for the purposes of employment and to attain permanent residency.20 With reference to the employability of graduates, generic skills and discipline context skills are not easily defined or clearly understood<sup>21</sup> and employers have the right to expect that there is a nexus between qualifications and competencies.

As part of course accreditation, CPA Australia and the Institute of Chartered Accountants in Australia (ICAA) as the key professional accounting bodies in Australia, set out the generic skills that are considered appropriate for graduates completing university programs. Jackson et al. conclude that: 'forms of assessment which need to be used to determine the extent of student attainment of accounting generic skills frequently were not used by lecturers or, if used, were gradually abandoned, due to poor English skills of a large proportion of students in their classes'.<sup>22</sup> This reinforces the need for oral presentations and written assessments to build communication skills and yet the opportunity for students to acquire such skills is impacted by their lack of entry capabilities.

It is clear from collegiate discussions that academics do not hold high expectations that the generic attributes which universities say that graduates should have acquired have in fact been attained by many graduating international students. Thus, it is not surprising that employers show a reluctance to employ such graduates.

## INITIATIVES AND SUGGESTIONS

The manufacturing frame of reference indicates systemic failure and illuminates points where it may be possible to influence outcomes. A starting point for change would be to increase the IELTS score requirements for entry to Australian universities. However, this initiative alone does not address the other aspects of variable student learning capacities. The impact of variable foundation skills acquired in other learning environments and the consequences of this diversity for processes or the supply chains within academe also need to be addressed. Tracie Winch confirms that: 'Thankfully we are not dealing with a homogenous group anymore but strategies to cope with such diversity have been piecemeal and inadequate'.23

Students and academics are both challenged by increasing diversity. In consideration of this I make three suggestions, all with their own consequences, that may positively impact the manufacturing scenario described above. The first is simplistic, overdue and would do much to restore confidence in the tertiary academic environment. The provision of clear acknowledgment and resourcing by appropriately qualified staff to ensure that superior processes are employed in converting variable input into useable products, would do much to ensure graduate employability.

I ne second proposal with the capacity to positively impact input variability is to test the attributes of students on entry to post-graduate education. A sound knowledge of input attributes allows for academe to claim the difference between entry attributes and graduate exit attributes as their achievement in the learning/ education process. Without such detailed knowledge process effort may be misdirected and ineffective in inculcating the desired graduate attributes desired by employer groups. This form of testing perhaps harks back to the past when entrance exams were commonplace and is no doubt fraught with difficulties as international students would be unwilling to submit to such testing. Yet employers are increasingly using profiling tests to assess the capacities of candidates for employment in senior positions. At more junior levels of employment, employers have tended to rely on the education sector to provide generic skills. MacMahon Ball<sup>24</sup> suggests that the use of aptitude testing for admission to university courses is now being contemplated on a much wider scale as a consequence of a DEST-funded project with the Australian Council for Educational Research (ACER) to pilot a year 12 aptitude test known as uniTEST.

This follows the use of special admissions testing as currently used in engineering, medical and health sciences, medicine and other applications which involve aptitude tests to identify 'those who have the capacity for university study'. Though the tests are part of a suite of measures used to identify appropriate candidates for admission in their current use, there is scope to adapt this type of testing for general competency assessment. The Group of Eight (universities) in their 30 July 2008 submission to the Bradley Review, proposed a 'preparatory college' where those 'people seeking to prepare themselves for further learning can obtain customised services through a dedicated preparatory college'.<sup>25</sup>They also suggest usage of a uniTEST style of system to determine those who may find the preparatory college pathway to university study useful. These initiatives inherently acknowledge that there are issues with the preparedness of students for Australian tertiary education and suggest mechanisms which may improve the level of preparedness before entry to tertiary programs.

The third suggestion, which may be more palatable, is a requirement for an additional subject upon commencement of studies that develops competencies in the context of the discipline that students are entering. This was recommended by Jackson et al.<sup>26</sup> to build English competencies. Pathways options and credits granted for prior studies further complicate the issue of where to position this form of proposal within a program. These same complications unravelled an initially successful similar initiative in a Victorian university under-graduate program that commenced in 1995. International students were required to complete a subject called Communication Skills for University Business Studies as one of their first units of study in Australia. The subject was mandated but not compulsory and while it was found to build competencies, over a period of six years students began to resist taking the unit and issues associated with discrimination and equity meant they could not be compelled to do the subject. The reintroduction of this form of solution could blend English skills development with study skills development.

In essence, it is a blend of the first two alternatives that combines additional resources with aptitude testing. It does not prevent students from commencing studies and endeavours to provide a more capable 'input' or raw material into educational processes.

One output strategy that recognises

researcn snowing that a large number of these graduates lacked the level of proficiency in English language and business communication skills required by employers',<sup>27</sup> is an initiative of the Institute of Chartered Accountants, CPA Australia and the National Institute of Accountants. These groups have responded to a request from the Department of Immigration and Citizenship (DIAC) to call for the development a Skilled Migration Internship Program for Accounting (SMIPA). The program is for international accounting graduates wisning to apply for permanent residency. This program is directed towards those who are an output of the Australian education process and appears to recognise that the product is not yet 'fit for intended use' without further resource application. Such initiatives can go a long way to alleviating critical skills shortages in accounting and are a worthy development that starts to recognise the shortcomings of tertiary processes.

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