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When a pass is not a pass

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Following the establishment of an Academic Enabling and Support Centre in January 2010, collegial interactions focused on issues around student performance in their core discipline-specific literacy units, and the University of Notre Dame's (Fremantle campus) support mechanisms, both proactive and reactive. To begin the process of examining the potential relationship between performance in an academic literacy unit and course-work progress, a case study of student performance in, and beyond, a core literacy competency unit in the School of Health Sciences was undertaken. Results revealed that low performance in a core literacy unit was related to poor course progress; however, the use of ATAR scores as predictors of student success was problematic. This case study led to immediate actions which changed practices within the University, and these are more broadly applicable and of interest to the higher education sector. The results in this study are the beginning of parallel studies at this University, and will become the basis for a longitudinal study on the target group identified. Finally, this study provides a shared commitment to the importance of academic literacies for their capacity to shape how students learn, and how students achieve success.

Key words: academic literacies, academic support, core discipline-specific literacy units, academic success.

1. Introduction

1.1. Academic literacies essential for undergraduate success

To be successful at undergraduate university studies, students require a repertoire of academic literacies (Henderson & Hirst, 2006). As further noted by Henderson and Hirst (2006):

> Indeed, the term "academic literacy" tends to restrict us to a singular view of literacy – a particular set of practices. When academic literacy is considered in the plural, as academic literacies, and these literacies are viewed as sets of practices, the focus turns to ways in which students learn to participate and make meaning. (p. 2)

Academic literacies include personal organisation, thinking and reasoning skills, information technology skills, electronic data retrieval skills, reading skills to tackle academic texts, and skills in academic writing (Candy, Crebert, & O'Leary, 1994). Academic literacies are both generic and discipline-specific. In their first year at university, students need to be trained in the particular competencies that will be required for study success (Breivik, 2000). For example, science students will need to be able to write laboratory reports; education students will need to deliver tutorial presentations to their peers; biomedical technology students will need to be able to comprehend technical texts. Academic literacies require all students to be able to read and write using and understanding the conventions and genres of academic writing. Academic literacies are synonymous with knowing how to learn in effective ways (Levy & Murray, 2005).

1.2. The changing university cohort

As university students have become more heterogeneous over time (Coaldrake, 2001), their needs have expanded. Traditionally, university students came predominantly from "tertiary orientated" school exit pathways, with academically challenging upper school subjects leading to external examinations and marks being awarded on a ranking scale. Various programs (e.g. medicine) have instituted testing programs and interview processes to identify "suitable" applicants, over and above academic entry scores alone. The term "alternative entry pathways" is outmoded, though still used, as virtually all Australian universities promote non-traditional entry points to various courses. Many mature age students enter courses through the Special Tertiary Admittance Test (STAT), and TAFE awarded Certificate IV courses (and higher) can be used to enter a range of courses at various institutions, in many cases, including significant advanced standing options. A number of Australian universities offer "portfolio" entry, where a student is able to present their prior knowledge and experience as consideration for meeting entry requirements. Bridging courses are offered by a large number of universities, which allow for an entry pathway through courses focused specifically on the necessary academic literacies.

There is a traditional assumption that higher entry points are linked to higher levels of academic success. Entry qualifications have a direct relationship to academic success at university; the higher the entry standard, the higher the success rate (Johnston, 1998). However, in the lower score ranges, entry qualifications based on the Australian Tertiary Admissions Rank (ATAR) scores are more problematic to use to predict student success. For example, Murphy, Papanicolau, and McDowell (2001) completed a three year study (within engineering and sciences programs) and found no correlation between entrance scores between 40 and 80 in subsequent academic achievement.

Students from alternative entry pathways are frequently flagged as needing additional academic support to make sound progress with their university studies. Huxham (2006) also notes that one way to identify students who will be potentially at risk is by profiling, and entry point qualifications are central to identification of students who may require additional support. Profiling involves looking at those variables which may be risk factors, as identified in the research; an alternative pathway entry point, such as a Certificate IV background could be a potential risk factor (Marks, 2009; Huxham, 2006). For example, Certificate IV courses are often undertaken by students who have chosen a non-tertiary bound upper school pathway. Certificate IV courses are competency based and many do not require academic literacies to achieve competency. Many Certificate IV courses are vocationally directed and the assessments focus on work-ready skill demonstrations.

Profiling students and looking at the range of factors that are likely to be of influence has clear benefits over the use of any one measure (e.g. meeting minimum entry requirements) alone. It is likely that low academic literacies will be evident in students from a range of entry point backgrounds. Equally, entry point background alone is not an assurance of high academic literacies.

1.3. Background to this case study

The University of Notre Dame is an Australian university with over 9,000 students spread across metropolitan campuses in Fremantle and Sydney, and a small regional campus located in Broome in the north west of Western Australia. In 2010, a newly created centre, the *Academic Enabling and Support Centre*, was established to bring together and expand current offerings and options with regard to a range of support structures, one aspect being the development of academic literacies. The University of Notre Dame is committed to a data-driven, evidence based approach which focuses on the collation of information to drive academic support and referral programs. Schools within the University offer discipline-based courses to develop academic literacy for all students in their first semester of study. For example, Education students undertake ED1611 *Foundations of Literacy* and Arts and Sciences students complete AL100 *Communication*. More specific courses are also offered, such as a supplementary

academic writing course for Nursing students, delivered in the week prior to their first semester commencing, with those skills enhanced by a core discipline-based unit.

The University "Objects" (rather like a vision statement) articulate that the institution has a deep commitment to excellence in teaching and learning and to the pastoral care of students. These beliefs are underpinned by a focus on providing diverse entry point options for students, and a commitment to ensuring that students are successful within their courses. This focus on retention and success is further underpinned by programs of support and structures which facilitate the identification of needs and options for skill development.

CO115, *Academic Research and Writing in Health Sciences*, is a foundation literacy unit offered in the School of Health Sciences at the University of Notre Dame, Fremantle, Western Australia. All students enrolled in degrees of *Health and Physical Education, Preventive Health, Exercise and Sport Science, Biomedical Science,* and *Outdoor Recreation* must undertake CO115 in their first semester of study as part of their course requirements. The unit runs for 13 weeks and is offered in both Semester 1 and 2.

The CO115 unit outline describes the unit as follows:

> Information literacy is the capacity to know when you need information, what sort you need, where to find it, and how to evaluate and organise it. This unit is designed to provide the concepts and skills needed to obtain and use information effectively. The emphasis is on the location and use of information in the field of Health, but the strategies learned can be used in any subject area. Major information sources covered include the library, electronic databases and the Internet. The second half of the unit focuses on computing, academic writing, and study and research skills essential for university students. The unit will provide knowledge and skills to complete the tasks required for academic writing and research.

The purpose of CO115 is to provide first-year Health Science students with the chance to develop fundamental skills relating to academic literacies, including the capacity to use a range of information type and sources, referencing and paraphrasing skills, and the correct use of genres in academic writing. From a university perspective and overall significance of all foundation literacy units, it is expected that the fundamental skills related to academic literacies will lead students to the capacity for higher order thinking, critical thinking and a sense of academic intellectual rigor; and enable a student to engage with content that is challenging and diverse. It is anticipated at the completion of this unit, a student will be able to understand the types of information available and when each should be used; the major information sources in Health and related subject areas; and the purpose of referencing and the meaning of plagiarism. A student should be able to:

- analyse an assignment topic and determine the information required;
- formulate a search strategy;
- identify and obtain relevant sources of information;
- use relevant databases and the Internet effectively;
- evaluate the information sources found and reference the sources used in the required APA (American Psychological Association) style;
- demonstrate sound academic writing, referencing and paraphrasing skills.

The lecture and tutorial content of CO115 are structured to relate to the outcomes of the unit overall. Typically, the content progresses from the development of basic knowledge and skills across the first three weeks of the unit, to application of these skills in assessment tasks from Week 6 to Week 12 of Semester.

The lecture content initially examines accessing information and searching for evidence at a university level. This involves using the library, through the Notre Dame web page; accessing specific health databases that can be used; and formulating search strategies

for assignment topics in looking for research evidence when writing assignments. Evaluating information sources and using the Internet is also part of this lecture series. Content also includes a focus on academic writing at university. Within these lectures, students are informed about the basics of academic writing (organisation, sentence structure, paraphrasing), referencing, plagiarism and assignment presentation, and the writing of research reports and literature reviews.

The tutorials for CO115 are closely linked with the lectures. After each lecture, the tutorial classes that follow have students practically engage with content that was covered in the lecture. Examples of tutorial sessions include having students complete tasks that involve using the University web page and library portal, searching databases such as EBSCO and using search strategies, and applying academic writing and paraphrasing exercises. A strong focus in tutorial activities is being able to develop the student's ability to work both independently and interdependently. Group work skills are articulated and developed through specific activities.

1.4. Focus questions for this study

As outlined, the development of academic literacies provides a strong foundation for success in undergraduate university studies. The development of these literacies and ensuing course progress provide the foundation for the current case study. This study explored the relationship between lower level achievement in a core Health Sciences literacy unit and general academic progress. The focus questions were:

- Is there a basis to the assumption that low literacy skills impact negatively on course progress?
- Is there a relationship between a low level pass in CO115 and general academic progress in the first year of Health Sciences study?
- Are there patterns, linked to entry points, for students who achieve a low level pass in CO115?
- Are particular students, or students from particular pathways, over-represented in lower bands of achievement in CO115?
- Does this case study indicate other areas that warrant further investigation and research?

2. Case study investigation

The current case investigation was a descriptive study designed to examine lower level performance in a core Health Science literacy unit and then academic course progress. The sample for the case study comprised first-year University of Notre Dame students enrolled in Health and Physical Education, Exercise and Sport Science, Preventive Health, Outdoor Recreation and Biomedical Science degrees. Quantitative data was obtained through analysis of the sample's final grades in a core health unit and their results in all units completed in 2009.

The results of the lowest performing students in CO115, from Semester 1, 2009 were analysed in relation to course progress. There were a total of 176 students enrolled in Semester 1, 2009, and their grade distribution is given in Table 1. The mean score for this unit was 62.9. The lowest performing students were taken to be those to achieve a mark under 60%. From the total of 176, 45 students (25.6%) were represented in the lowest achievement band, though four of the six students who failed the course were excluded from this analysis as those four students failed to participate in any part of the assessments for the unit. Of the 41 students thus included in the study, 39 (95%) passed CO115, while 2 (5%) failed.

Table 1. Summarised overall grade distribution for CO115.

Grade	High Distinction	Distinction	Credit	Pass	Fail
# of students	4	44	83	39	6
%	2.3	25	47.1	22.2	3.4

The gender balance of the 41 students included in this study was 12 (29%) female and 29 (71%) male. Of all students enrolled in CO115, the gender balance was 85 (48.3%) female and 91 (51.7%) male. The higher percentage of male students in the identified group warrants further exploration.

Of the 41 students in the lowest achievement group, their course performance was then classified under three broad bands. Firstly, those students who were classed as making solid progress with their course had grades which were predominantly credits, with at least one distinction. Secondly, students with a number of credit and pass grades were classified as making satisfactory progress. Students with all their marks not higher than a pass, and/or some failed units, were classified as making low course progress (see Table 2).

Table 2. Progress band for the lowest achievement group (n = 41) in CO115.

Progress band	Percentage of students
Solid	10%
Satisfactory	20%
Low	70%

It is of immediate concern that the majority of students who made limited progress with CO115 show low progress with their ongoing course work. Whilst these students had completed a differing number of units, most had continued with a full time course load over 2009. Of these 41 students, 39% had failed a significant number of units within their first year of studies, which is a noteworthy cause for concern (see Table 4).

Table 3. Percentage of failed units in a year of study for the lowest achievement group (n = 41).

Failed units	Percentage of students
Have not failed a unit of coursework	30%
Failed one unit of coursework	24%
Failed two units of coursework	10%
Failed three or more units of coursework	39%

The entry profiles of these 41 students were then considered, to see if trends linked to their educational background existed.

Table 4. Entry profiles of lowest achievement group (n = 41).

Entry	Number	Percentage
TEP[1]	2	4%
TER[2]	19	46%
Cert IV	11	27%
International students	2	4%
Transfers from other universities	3	7%
STAT	4	10%

[1] TEP refers to the University's bridging program.

[2] TER refers to a tertiary entry rank received from the Curriculum Council of Western Australia, as part of Year 12 secondary graduation.

Most of the 41 students (46%) entered the course on the basis of an ATAR score. The range of ATAR entry scores ran from 40–89. One student with an ATAR of 60 had failed 5 units and passed 3, and was moved to conditional status at the end of Semester 2, 2009. The student with the ATAR of 40, had failed 2 units, achieved a pass grade in 4 units, and one credit. The student with the highest ATAR, 89, had mixed results, with two fails, one unit on hold, and the rest a combination of distinction, credit and pass grades. A student with an ATAR of 50 had 3 passes, 5 credits and 2 distinctions, and was clearly making solid progress in her course. From these findings in can be concluded that ATAR is not a consistent predictor of performance at undergraduate studies for this group as the best performing student had the second lowest ATAR.

Of the 11 Certificate IV entry students, in the group of 41, 9 are in lowest bands of achievement, and show the highest rates of failure across units. In a non-statistical comparison, the printed transcripts were sorted prior to knowing the entry point of each student. The nine "at risk" students from the Certificate IV background were the only ones who were clustered immediately and correctly, without needing to use any quantifiable data; the performance trends were plainly apparent. Based on this one unit, and one sample group, there are serious concerns for Certificate IV entry students if other support is not provided. Other anecdotal information from other reviews of student performance, based on course entry criteria, indicates that the performance concerns of Certificate IV students are possibly widespread and common.

6. Discussion

Universities need to create mechanisms for the referral of students with low scores in core academic literacies units to academic support (Candy et al., 1994). In the case of the University of Notre Dame, a School refers a student to the Academic Enabling and Support Centre (AESC). This referral requires collaboration and shared commitment (Crosling & Wilson, 2005) between Schools and the Centre. To this end, based on the results of this investigation, a working group has been established between the unit coordinators of all core literacy units in Schools, and the leadership team of the AESC. A student who has passed their core literacy unit cannot be obligated to attend further courses or programs, and therefore the systems will rely on recommendation and effective course counselling. This requires that unit coordinators flag students who have been recommended to attend the AESC with the relevant course coordinator. In some Schools, students are assigned a course coordinator, and in other Schools, students are assigned a year coordinator; it is therefore imperative that good communication exists within Schools and between Schools.

As discipline-based literacy units are positioned in the first semester of a first year of study, they are most often designed to be introductory and fundamental in nature. The content level is not sophisticated or complex, and is based on the knowledge that expectations and rigour will increase naturally over time within a tertiary study program. It is likely that a student who has a strong literacy background will achieve well in an introductory level core literacy unit. For example, a student who achieved high grade levels in an advanced upper school English course is likely to achieve well; they may well find such a course unchallenging. A failure grade will result in the requirement to repeat the unit, and this may be sufficient to allow the student time to gain the necessary skills. Students who achieve a low pass grade are potentially at greater risk than students who fail, as no further intervention or referral is likely to occur.

6.1. Core unit performance and course progress in Health Science

This study demonstrated that the lowest band of achievement in a core literacy unit indicated that ongoing course difficulties might be common. The logic of "a pass is a pass", in meeting academic unit requirements, is problematic. A pass grade was not corresponding to success in other units of study, for the majority of this identified group. Indeed, the study would indicate that a pass is an indicator of likely difficulties occurring. It is contended that the pass grade is likely to indicate that the student has had academic problems for an extended period of time,

rather than their just being related to the specific unit of study. The progress of other students, in other core literacy units at this University requires investigation to identify if the pass grade range is a broader issue for future academic success. One literacy unit is not likely to be sufficient for students with problems, making referral to ongoing programs though a program such the Academic Enabling and Support Centre courses imperative for these students.

Students entering this University with a Certificate IV background may require a more extensive profiling process. It may well be that pre-start courses and assessments will lead to the provision of specific programs for these students. The prevalence of Certificate IV students in the bottom band of performance in CO115, and subsequent poor performance in other units, supports anecdotal evidence that these students have specific needs in terms of academic literacies. The consideration of a diagnostic assessment for all first year students needs investigation (Huxham, 2006). It may well be that diagnostic assessments and profiling is more equitable than identifying specific target groups, such as Certificate IV students, and that such an identification process leads to better support for all students across a university.

The lack of connection between ATAR scores and students within this group was a major area identified for future research. It appears that high ATAR scores are valorised in an undeserving manner and that the courses completed, and the complexity of those courses, deserves consideration when looking at the ATAR achieved (Levy & Murray, 2005). Whilst a low university entrance score may be a "risk factor", statistical analysis of the data shows that this score is unlikely to be a predictor of success. The assumptions that have been made in the past, and are held widely in tertiary education, do not stand up to scrutiny (Thomas, Henderson, & Goldfinch, 2009). The other issue is that ATAR scores are post-moderation and statistical distribution factors, so that the examination score and/or school score need careful consideration. The impact of scaling in Western Australia in the ATAR scores for Year 12s of 2009 was statistically significant and deserves particular attention, exacerbated by the fact that many courses were being examined for the first time.

Unit assessments, particularly in foundation literacy units, scheduled earlier in semester could also be critical for identifying and referral of students for greater support. Students who receive lower marks in early assessments, in addition to feedback from academic staff, may develop greater awareness that their literacy skills need improvement. To eventually provide better support for students, it appears that an amalgamation of early assessment, identification and referral, and student self awareness is critical in fostering the development of academic literacies.

Universities expect students to be able to master the academic literacies specific to higher education. It would appear that little preparation for this occurs prior to university studies commencing (Angelil-Carter, 2000; Ellery, 2008). In 2010, the AESC will trial intensive academic writing courses for students entering the University in 2011, offering multi-modal delivery courses on a modest user pay basis. This study has highlighted that many students struggle with academic literacies, and this impacts negatively on their course progress.

6.2. The ongoing development of academic literacies

It is essential to raise student awareness that university assessments and workload increase in complexity and difficulty over the course of their degree. The development of students' academic literacies needs to be ongoing and expectations of academic staff will often reflect this when planning and marking assessments. Within the School of Health Sciences at Notre Dame, academic staff work together regularly reviewing course content, unit components, and assessments across 1st, 2nd and 3rd year that build on assessment tasks and practices from units in preceding years. For example, Health and Physical Education students are enrolled in the units HPE 100 (Physical Activity and Health) in 1st year, HPE 162 (Environmental Approaches to Health Promotion) in 2nd year and HPE 210 (Psychosocial Aspects of Sport and Physical Activity) in 3rd year, these units are primarily developed from a Social Science/Humanities focus. One form of assessment that is common across all three of these units is the writing of a research report on topics relevant to the unit content. However, the expectations and

requirements of these assessments change from 1st year to 3rd year. The students are taught how to write a basic research report in 1st year, including the relevant parts and components of a report and the completed assessment requires 4 peer-reviewed journal references. In comparison, by 3rd year, it is expected the students already have foundation knowledge and understanding of writing research reports and the assessment must be completed with at least 8 peer-reviewed journal references. Additionally, it is anticipated that students will learn from staff comments and feedback from previous assessments and apply these suggestions, as well as more sophisticated academic literacies, to new assessment tasks.

A side issue raised in this study was the gender skew, indicating that the performance of males within core literacy units was below that of their female peers. Wimshurst and Allard (2008) note that the characteristics of failing groups at university include a disproportionate number of males and students with lower entry scores. This issue is complex and deserves further study and investigation (Wimshurst & Allard, 2008). The particular course under examination, CO115, represented similar numbers of males and females. Other university courses have very different gender balances – engineering remains heavily male dominated and nursing remains heavily female dominated. In such courses, it would be of value to identify if the literacy competency is a gender based issue. The complexity is that cross-course comparisons are less reliable: for example, engineering requires higher ATAR scores than nursing and usually sets higher prerequisite course requirements. Investigation might show whether the gender skew which was evident in this sample study is more specific to this particular cohort, or to the courses the particular students are taking.

7. Conclusion

The relationship between performance in academic literacies units and coursework progress will require further investigation as some degree of caution is necessary when interpreting results for a number of reasons. We cannot infer a causal relationship between poor performance in a core literacy unit and subsequent course progress. This small project looked at only one group of students within one unit, in one semester. The focus was on those students who achieved a mark under 60% and examination on the entry pathways and course progress of those selected students (n = 41). The backgrounds and entry profiles of non-selected students in CO115 (those who achieved a mark greater than 60%) was not compared to those selected students in the lowest achievement group. One of the key issues raised in the current study is that entry pathways to university may influence the development of academic literacies and course progress. Future research following from this initial study will focus on profiling all students enrolled in CO115 in Semester 1, 2010, and subsequent course progress, examining a range of factors and characteristics (including entry pathways, gender and diversity of experience, time spent in paid employment, personal dispositions and factors around transition to studying in a higher education environment) that may influence academic literacy, course progress and ultimately course completion.

A student who achieves a pass grade in a discipline-based competency unit cannot be compelled to undertake any further courses or training, although such may be recommended by the lecturer from that unit, or the student's course coordinator. It is recognised within tertiary settings that some students lack the necessary levels of academic literacies competency to do well in their studies, and that support structures, with both proactive and remedial measures are required to provide the appropriate skill development. The issues raised require broader research, more in-depth comparisons and deeper analysis before more significant conclusions and recommendations could be drawn. There is sufficient evidence in this data to suggest that further research needs to occur, and that a focus on the relationship between success in academic literacies courses and broader course success across a range of units is necessary. This research should lead to better mechanisms to support students within Schools and also through the Academic Enabling and Support Centre on each campus.

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