

National Association of Enabling Educators of Australia

Flexibility: Pathways to participation

Refereed papers from the
NAEEA Conference
27 – 29 November 2013
Australian Catholic University, Melbourne Australia

Burgess, C. & Relf, B. (2013). A flexible response: Monitoring the performance of enabling students in first year undergraduate nursing

In Proceedings of the National Association of Enabling Educators of Australia Conference; Flexibility: Pathways to participation, Melbourne, Australia, 27-29 November, 2013.
Accessed from <http://enablingeducators.org/conference/2013.html>

Published 2013 by the National Association of Enabling Educators of Australia, C/- Open Access College, University of Southern Queensland, Toowoomba, Queensland, Australia, 4350

This paper was reviewed using a double blind peer review process that meets DIISR requirements. Two reviewers were appointed on the basis of their independence and they reviewed the full paper devoid of the authors' names and institutions in order to ensure objectivity and anonymity. Papers were reviewed according to specified criteria, including relevance to the conference theme and sub-themes, originality, quality and presentation. Following review and acceptance, this full paper was presented at the NAEEA conference.

Copyright © 2013 NAEEA Inc. Apart from any fair dealing for the purposes of research or private study, criticism or review, as permitted under the Copyright, Designs and Patent Act, 2005, this publication may only be reproduced, stored or transmitted, in any form or by any means, with the prior permission in writing of the publishers, or in the case of reprographic reproduction in accordance with the terms and licenses issued by the copyright Licensing Agency. Enquiries concerning reproduction outside those terms should be sent to the publishers at the address above.

A flexible response: Monitoring the performance of enabling students in first year undergraduate nursing

Catherine Burgess

University of Newcastle

Catherine.Burgess@newcastle.edu.au

Bronwyn Relf

University of Newcastle

Bronwyn.Relf@newcastle.edu.au

Over the last five years increasing numbers of students completing Science courses in the Enabling programs at the University of Newcastle have enrolled in the Bachelor of Nursing. In 2012, 201, or 36%, of the first year intake into Nursing came through the enabling programs. The widening participation agenda and the increased accent on the economic outcomes of higher education have resulted in a greater number of students choosing to enrol in the enabling sciences as a direct pathway to a career in nursing. In the process of monitoring these students' performance in their first year of undergraduate Nursing over a number of years, a decline in student performance recently began to emerge. This paper explores the shift in performance data which resulted in the development of a new course designed to ensure access and more successful participation in Undergraduate Nursing for enabling students.

Introduction

With the current need for more health care professionals, particularly nurses (Blackman, Hall & Darmawan, 2007), there are more people considering a career in nursing. As a result of advances in healthcare and a higher level of expertise required in the modern healthcare environment, a University degree is now the minimum requirement for the profession (Australian Government, 2005).

The training program for nursing changed from a hospital based training program into a University degree program between 1990 and 1993 (Russell, 2005). The degree is now offered as a four year university program with clinical placements spread throughout the degree. Mature aged students who may not have completed a HSC, or even considered a nursing career when at school, are now able to pursue a pathway through an enabling program into the degree.

The Enabling programs at the University of Newcastle (UoN) have been offering the opportunity to gain entry into a science based career, including nursing, for over ten years. More recently academics involved in teaching the science courses at UoN in the Open Foundation Program have been monitoring the progress of the students in the first year of their nursing degree in order to assess the effectiveness of their general science course as a preparation for the nursing degree.

At UoN, generic academic skills are embedded with discipline specific content for students. This focus on preparing students through embedded content for their future degree is consistent with best practice andragogical principles (Knowles, 1980). Adult learners find learning new material more successful when the content matter is directly related to their future career choices. They can see a direct relationship between what they are learning and how it applies to their future career choice as well as allowing them to

draw on their past experiences. Perhaps the general chemistry and life sciences course offered in the Enabling programs at UoN does not provide adult learners with the opportunity to transfer the specific knowledge to a clinical nursing environment.

Enabling educators recognise that mature aged students bring a wealth of knowledge and experience with them. However, undertaking an academic degree at University can be intimidating and requires thorough preparation particularly when you have been out of the education system for some time and therefore have limited educational experience to call upon (Debenham & May, 2005).

Students enrolling in the enabling program at UoN choose courses that align with their desired undergraduate degree. Many students wish to study in an allied health field such as Nursing, Biomedical Science or Dietetics and Nutrition, with more than 65% of students successfully completing enabling programs choosing to study undergraduate nursing, allied health and teaching education.

To gain access into these undergraduate degrees, students enrol in Chemistry and Life Sciences (CLS) courses, either on a part-time or full-time basis. The CLS courses cover material designed to give students a core knowledge in chemistry, human anatomy and physiology. This is the basis for many of the core subjects required in first year science based programs.

Over the past seven years the progress of students who completed either the part-time or full-time program in CLS was monitored at the completion of their first year of undergraduate study in the nursing degree. Anecdotal evidence from UoN Nursing Faculty staff suggested that students entering undergraduate nursing from enabling programs were not performing on par with their non-enabling counterparts. This was often attributed to their increased level of family and financial commitments and therefore increased pressure on their study time.

The aim of this study was to assess whether the current Chemistry and Life Sciences courses adequately prepared enabling students for successful participation in first year nursing.

Method

Data detailing average course mark and student enrolment numbers in Enabling Chemistry & Life Sciences and Nursing courses between 2005 – 2013 was collated and provided by the Open Foundation Program at UoN.

Grade point average (GPA), student progress rate (SPR) and university attrition rate (UAR) trends were also examined for enabling students versus non enabling students enrolled in undergraduate nursing at UoN from 2005 and 2012.

Student progress rate measures the percentage of students who enrolled in first year nursing and subsequently re-enrolled for second year nursing.

Results

Enabling Program Enrolments into Chemistry & Life Sciences (CLS) and Nursing Courses (NURS)

Between 2005 and 2008, enrolments in CLS courses remained steady at around 500 students. However, between 2008 and 2010 there was a 43% increase in the number of students enrolling in CLS, increasing from 485 students to 848 (Table 1). After this spike in enrolments, numbers in 2011 and 2012 remained constant around 840 students. In 2013, a new course, Science for Nursing and Midwifery (NURS), was introduced. Total number of enrolments in both courses increased by 145, taking the number of students enrolled in CLS and NURS to 1001 (Table 1).

Table 1: Enrolment Numbers in Chemistry and Life Sciences (CLS) and Nursing (NURS) Open Foundation Courses, and Average Course marks (%) between 2005-2013.

	2005	2006	2007	2008	2009	2010	2011	2012	2013
Total Student numbers	436	530	552	485	632	848	854	856	1001
Part-time CLS Average Mark (%)	55	50	43	45	49	48	52	64	68
Full-time CLS Average Mark (%)	58	53	51	49	49	48	62	63	NA
Part-time NURS Average Mark (%)									66
Full-time NURS Average Mark (%)									NA

Enabling Program Chemistry and Life Science Course Marks

Average course marks for both the part-time and full-time CLS courses fell progressively from 2005 – 2010, from 55% in 2005 in the part-time course to 48% in both courses in 2009 (Table 1). From 2011 onwards, average marks for the CLS courses increased from 52% in 2011 to 64% in 2012. Average course mark in 2013 for the new part-time NURS was similar to the average course mark for part-time CLS (Table 1).

Undergraduate Nursing Enrolment numbers

The number of students enrolling in first year nursing increased from 462 in 2006 to 564 in 2012 (Table 2). During this time the percentage of students entering first year nursing via enabling programs increased from 24% in 2005 to 36% in 2012. Between 2006 and 2009, the percentage of enabling students enrolling in nursing fell. The data in Table 2 indicates that the year 2009 had the lowest percentage (17%) of students from an enabling background entering the Bachelor of Nursing. Since 2009 there has been a steady increase in the percentage of students entering the nursing degree from an enabling background, up to a maximum of 36% in 2012.

Table 2. Commencing Student Enrolments in the Bachelor of Nursing at the University of Newcastle, 2006-2012, by entry pathway.

Year commenced undergraduate nursing	2006	2007	2008	2009	2010	2011	2012
No Prior Enabling (NPE)	353	469	458	451	370	362	363
Enabling Programs (EP)	109	110	121	90	135	162	201
Grand Total	462	579	579	541	505	524	564
Percentage of EP students	24	19	21	17	27	31	36

Grade Point Average (GPA)

The GPA of enabling (EP) students was lower than students with no prior enabling (NPE) across all years (Figure 1). In 2006, EP students GPA was 0.5 points lower than NPE students. This gap closed in 2007, but increased to almost 1 grade point difference in 2009. Since 2009 the difference between NPE and EP GPA's has reduced each year. Interestingly, between 2007-2011, the GPA for NPE students also declined, however those who entered via enabling pathways had a greater decline in their GPA (Figure 1)

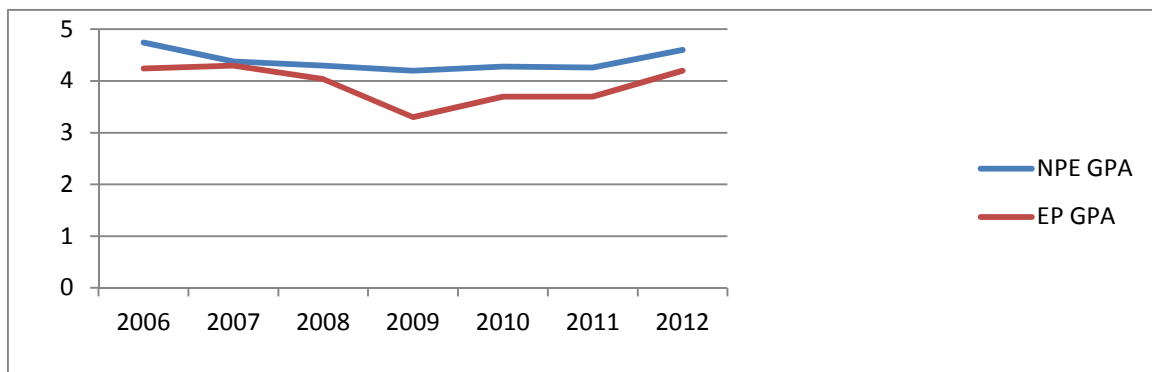


Figure 1: Graph of GPA scores for students with no prior enabling (NPE) compared to GPA scores for enabling (EP) students in First Year Undergraduate Nursing between 2006 & 2012.

Student Progress Rate (SPR)

Student progress rate, shown in Figure 2, mirrored the decline in grade point average. From 2006-2008, the SPR between E and NPE students was similar (Figure 2), although NPE students still had a higher SPR compared to E students across all years. However, between 2009 – 2011, the SPR of enabling students was 12-17% lower than NPE students (Figure 2). In 2012, the gap between the SPR of E and NPE students returned to 2007 levels (Figure 2).

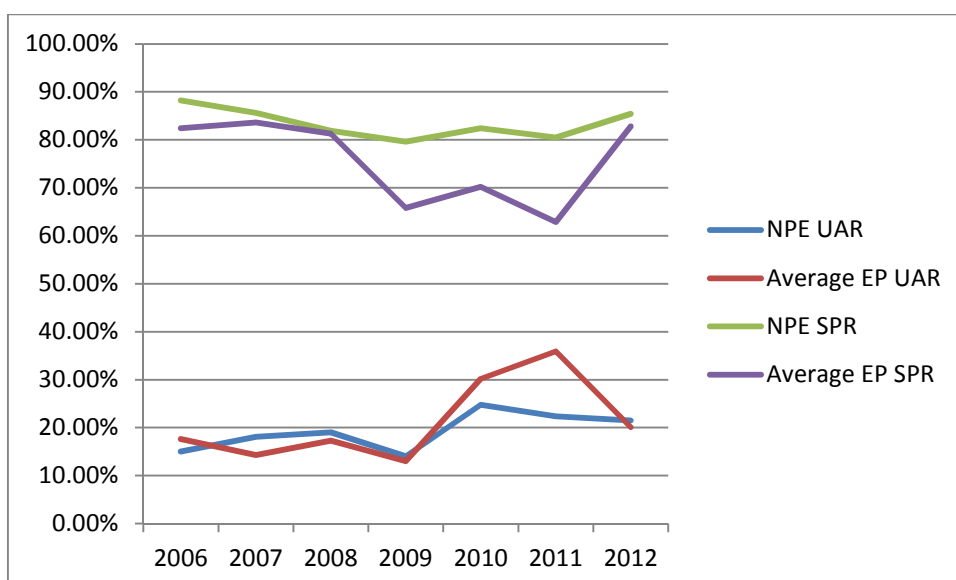


Figure 2: Student progress rate (SPR) and university attrition rate (UAR) for Enabling (EP) and No Prior Enabling (NPE) students enrolled in First Year Undergraduate Nursing between 2006 - 2012.

University Attrition Rate (UAR)

Overall the results indicate that the attrition rate for enabling students was comparable with NPE students across most years, except for 2009 & 2010, when there was a significant increase in the numbers of students leaving university from both cohorts (Figure 2), and in general the EP students' attrition rate was lower than NPE students. However, the attrition rate for EP students in this period was 13% higher than NPE students (Figure 2). In 2012, there were similar attrition rates between E and NPE students.

Summary of Findings

Between 2006 and 2012:

- There was an increase in enrolments in both enabling CLS courses and first year undergraduate nursing,
- EP students represented an increasing percentage of commencing first year undergraduate nursing students.
- Average course mark declined as numbers increased in the enabling CLS course,
- EP students GPA was consistently lower in the first year of nursing than NPE students,
- SPR for EP students was consistently lower than NPE students, and
- UAR for EP students was similar if not lower than NPE students' attrition rates except in the years 2009 and 2010.

Discussion

This paper examined the achievement and progress of enabling students in the first year of their undergraduate nursing studies, from 2006-2012.

From 2009 onwards, the Chemistry and Life Sciences (CLS) courses started to become more popular, resulting in an increase in the number of students enrolling in the Chemistry and Life Sciences. As numbers increased in CLS, the percentage of students enrolling in undergraduate nursing also increased. The increase in students enrolling in CLS courses and then choosing nursing may be attributed to several factors, including the widening participation agenda set by the government in 2008 (Bradley, Noonan, Nugent & Scales, 2008), the introduction of the *Higher Education Support Act 2003* (Australian Government, 2003) and the related HECS-HELP for students studying nursing and teaching (Australian Government 2003).

HECS-HELP was introduced by the Australian government in order to address the skills shortages in nursing and teaching. Currently in Australia (and worldwide) there is a shortage of qualified nurses in the health care workforce (Blackman, Hall and Darmawan, 2007). This nursing shortage is a well-documented problem that has been worsened by demographic factors such as the aging nursing workforce, the aging of the general population, and a declining number of young people in the workforce (Worrell, 2005).

The percentage of commencing students enrolled in nursing from an enabling background has increased since 2009. The largest increases in the number of enabling students entering undergraduate nursing was seen in the years 2010, 2011 and 2012. The percentage of enabling students increased from 17% in 2009, to 27% in 2010, 31% in 2011 and 36% in 2012. The large increase from 2009 to 2010 coincides with implementation of the Bradley review recommendations and the introduction of HECS-HELP. The sustained large increases in subsequent years, suggests that the incentives by the government have increased the participation of students who otherwise would not have undertaken university studies. These factors have resulted in an overall increase in enrolments in the enabling programs at the University of Newcastle, in the CLS courses, and subsequently the number of students enrolling in undergraduate nursing from an enabling background.

As the CLS class size increased there was a decline in the average course mark, from 55% in 2005 to 48% in 2010. This decline was concerning and it was thought that the large class size was impacting negatively on a students' grades. It was also thought that students with little or no science background were attempting to use the general CLS courses to try to gain entry into the nursing degree. However, they were unable to connect the general science to their future career choice and therefore either left the program or performed badly.

In 2011, the CLS course was split into two classes to address the increase in student numbers and decline in average CLS course mark. Reducing the class size resulted in an increase in average mark from 48% (in 2010) to 52% (in 2011) in the part-time CLS, and 48% (in 2010) to 62% (in 2011) in the full-time CLS course. Reducing class size appeared to have a positive impact on average scores in the CLS courses, improving the success rate of CLS students enrolled in the enabling program.

Although the large class sizes may have been one of the factors that negatively impacted on effective learning in the enabling programs, and although students gained enough marks

to be offered entry to the Nursing degree, their level of academic preparedness, confidence and perseverance was perhaps not adequate for the ongoing rigours of undergraduate study. This was evidenced in the decline in EP students GPA in first year nursing for the years 2009-2011, where there was the greatest difference between the GPA for NPE and E students. EP students completing CLS courses in 2011, the first year of the smaller classes, entered first year nursing in 2012. Creating smaller classes in the enabling program appeared to contribute to improved GPA scores in the 2012 first year undergraduate cohort, however it was still lower than NPE students' GPA. Smaller class size allows for more student contact and supports students learning more effectively and may have been a factor in increased preparedness of the students for undergraduate nursing.

It has been shown that students from lower socio-economic status backgrounds perform comparably to those of higher socio-economic status backgrounds (James, Krause & Jenkins, 2010; Marks, 2007), however, students from lower socio-economic status backgrounds face greater challenges in completing tertiary study (Devlin & O'Shea, 2012). These challenges are more pronounced for mature age students, who are more likely to have financial and family responsibilities and therefore less time to devote to study. They are often the "first in family" to attend university and have limited experience with the rigours of academic life. Non-academic factors such as family commitments and financial responsibility may have also impacted on GPA, as well as attrition and progression (Jeffreys, 2004).

The Global Financial Crisis in 2008 may have negatively impacted on enabling students capacity to firstly attend university after completing the enabling program and then subsequently continue their studies. The responsibility of financial commitments may have resulted in the higher percentage of enabling students failing to progress and/or achieve compared to NPE students. Often students from lower socio-economic backgrounds are the first in their family to attend university and lack the understanding of expectations and roles (Devlin & O'Shea, 2012). This lack of understanding of university culture can impact on the student's academic capability and can limit their ability to demonstrate their capacity (Devlin, 2013; Collier & Morgan, 2008). The lack of confidence in dealing with university study, plus the added financial stress may have made it too difficult for enabling students to continue their university studies in this period. Such factors may also help explain the widening gap between E and NPE SPR and attrition rates during the Global Financial Crisis between 2008-2011.

First year students from lower socio-economic status backgrounds report that they have more difficulty coming to terms with university teaching styles than those from higher socio-economic backgrounds. They also report having trouble understanding materials and assessment requirements (James, Krause & Jenkins, 2010). The aim of the enabling programs at UoN is to address this imbalance, however the preparation for a career in Nursing is complex and rigorous and a student's education has to be tailored to embed a range of skills and expertise capable of dealing with a vast range of technology, complex legislative requirements alongside many difficult and or distressing human situations.(Australian Government, 2005).

One of the reasons that students leave first year undergraduate nursing is because of the level of science contained in nursing courses and the fact that the content was too hard (White, Williams, & Green 1999). Nursing students have reported bioscience subjects to be a source of anxiety and that the language and terminology used in these course was difficult to comprehend (Whyte, Madigan and Drinkwater, 2011). It was thought that the

Chemistry and Life Sciences courses would address this problem for our students, however, it would appear that students were unable to transfer the information and skills from the general science courses to their nursing courses for satisfactory progress through the degree.

The GPA data from 2009-2012 indicated that EP students were having difficulty undertaking undergraduate nursing study, even though they had completed the general Chemistry and Life Sciences course. Although this course provided adequate preparation for some students, many students were unable to apply their new knowledge to the study of nursing, which in turn was impacting on their capacity to be successful in their first year of Undergraduate study in the nursing degree. It became obvious that the current CLS course offering was not suitable for the wide range and number of students who were now using this course to prepare for nursing, and that the course was not targeting the specific skills required in the undergraduate nursing course.

In the light of these findings the new NURS course was proposed in 2012 and implemented in 2013. The course was developed in consultation with the nursing school and biomedical department at UoN and involved discussion around the most appropriate preparation for mature age students returning to study. UoN Nursing Faculty staff highlighted a focus on understanding basic scientific principles and their application to healthcare and the development of literacy and numeracy skills, as applied in the nursing context, as the areas of greatest need in terms of preparation of students. The new NURS course will help students develop an analytical approach to their study and focus directly on those skills that will be an essential component of their future work life in the health care environment.

Contrary to expectations, enrolments in the CLS course were not significantly impacted by the introduction of the new NURS course. In fact, the new NURS course attracted an additional 145 students to enrol in the UoN enabling programs overall. This was an unexpected turn of events as it was expected that a large portion of the traditional cohort which have been choosing to complete the CLS courses would switch over to the new Nursing course. It would appear that a whole new cohort of students have taken the opportunity to study the new NURS course who may not have otherwise chosen to enrol in an enabling program.

The results of the new NURS course and the progress of the 2013 and 2014 cohort of students as they complete their first year of Undergraduate study will be the focus of further research and analysis, as well as comparison with the CLS students who may choose to complete a Nursing degree.

In conclusion, tracking student performance and monitoring their progress in undergraduate nursing studies, prompted a review of the adequacy of the current CLS course in preparing students for undergraduate nursing, and ultimately resulted in the introduction of an entirely new course, focussed on addressing the specific skills and knowledge EP students will require for successful participation in first year undergraduate nursing. It is hoped that this flexible response will improve the overall success rate of EP students in their first year undergraduate nursing studies.

References

- Australian Government (2003), *Higher Education Support Act, 2003*. Retrieved 29th August, 2013, from <http://www.innovation.gov.au/highereducation/TertiaryEducation/ResourcesAndPublications/HigherEducationGuidelines/Pages/default.aspx>
- Australian Government, (2005). Senate Committees – Parliament of Australia, Report on Inquiry into Nursing – The patient profession: Time for action Nursing Education, Chapter 3 – Undergraduate Education. Retrieved 20th March, 2013 from http://www.aph.gov.au/Parliamentary_Business/Committees/Senate_Committees?url=clac_ctte/completed_inquiries/2002-04/nursing/report/c03.htm
- Blackman, I., Hall, M., & Darmawan, N,G,I. (2007). Undergraduate Nurse Variables that Predict Academic Achievement and Clinical Competence in Nursing. *International Education Journal*. 8 (2), 222 – 236.
- Bradley, D., Noonan, P., Nugent, H., & Scales, B. (2008). Review of Australian higher education: Final report. Canberra, Department of Education, Employment and Workplace Relations. Retrieved 29th August from <http://hdl.voced.edu.au/10707/44384>
- Collier, P. & Morgan, D. (2008). Is that paper really due today?': Differences in first-generation and traditional college students' understandings of faculty expectations. *Higher Education*. 55 (4), 425 – 46.
- Debenham, J. & May, J. (2005). Making connections: a dialogue about learning and teaching in a tertiary enabling program. *Australian Journal of Adult Learning*. 45(1), 82-105.
- Devlin, M. (2013). Bridging socio-cultural incongruity: conceptualising the success of students from low socio-economic status backgrounds in Australian higher education. *Studies in Higher Education*. 38 (6), 939 – 949.
- Devlin, M. & O'Shea, H. (2012). Effective University teaching: views of Australian University students from low socio-economic status backgrounds. *Teaching in Higher Education*. 17(4), 385 – 397.
- James, R., Krause, K., & Jenkins, C. (2010). The first year experience in Australian universities: Findings from 1994 to 2009. Melbourne, Australia, *Centre for the Study of Higher Education*. Available at http://www.cshe.unimelb.edu.au/research/experience/docs/FYE_Report_1994_to_2009.pdf
- Jeffreys, M. R. (2004). *Nursing Student Retention: Understanding the Process and Making a Difference*. Retrieved from <http://0-site.ebrary.com.library.newcastle.edu.au/lib/newcastle/docDetail.action?docID=102655934>
- Knowles, M. (1980). *The Modern Practice of Adult Education: From pedagogy to andragogy*. Chicago: Association Press.
- Marks, G. (2007). *Completing university: characteristics and outcomes of completing and non-completing students. Longitudinal Surveys of Australian Youth, Research Report 5*. Melbourne: Australian Council for Educational Research.
- Russell, L (2005). From Hospital to University – the transfer of nurse education. Retrieved 29th August from <http://www.cdnm.edu.au/wp-content/uploads/2011/09/HistoryNursingEducation.pdf>
- White, J., Williams, W.R., & Green, B.F. (1999). Discontinuation, leaving reasons and course evaluation comments of students on the common foundation programme. *Nurse Education Today*. 19(2), 142 – 150.
- Whyte, D., Madigan, V., & Drinkwater, E. (2011). Predictors of academic performance of nursing and paramedic students in first year bioscience. *Nurse Education Today*, 31, 849-854.
- Worrell, W.W. (2005). Packing a Bag for the Journey Ahead: Preparing Nursing Students for Success. *Virginia Community College System*. 10 (1), 1 – 4.