



## RESEARCH ARTICLE

### Developing multiple exit pathways within undergraduate courses<sup>1</sup>

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This paper advocates an expansion of nested undergraduate courses in Australian universities, where students can exit at multiple points throughout the degree and receive formal qualification for partial course completion. Nested courses are not new in Australian higher education, and the authors examine the prevalence and type of these courses across the sector. However, the practice of nesting qualifications, and of scaffolding certifications throughout a degree, remains more prevalent at postgraduate than undergraduate level. Consequently, many students successfully complete part of a degree but receive no recognition, while others struggle to transfer between institutions. Moreover, under-represented students are disproportionately likely to withdraw from university, and to receive no recognition for partial successful completion. Increasing the number of formal exit pathways within undergraduate degrees may be therefore an important way of reducing attrition, promoting student mobility, and reducing inequities across the higher education sector.

*Keywords:* nested courses, access, equity, higher education, attrition

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#### Introduction

This paper advocates an expansion of nested undergraduate courses in Australian universities, where students can exit at multiple points throughout the degree and receive formal qualification for partial course completion. Nested courses are not new in Australian higher education, and the authors examine the prevalence and type of these courses across the sector. However, the practice of nesting qualifications, and of scaffolding certifications throughout a degree, remains more prevalent at postgraduate than undergraduate level. Consequently, many students successfully complete part of a degree but receive no recognition, while others struggle to transfer between institutions. Moreover, under-represented students are disproportionately likely to withdraw from university, and to receive no recognition for partial successful completion. Increasing the number of formal exit pathways within undergraduate degrees may be therefore an important way of reducing attrition<sup>2</sup>, promoting student mobility, and reducing inequities across the higher education sector.

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<sup>1</sup> Within the Australian Qualifications Framework (AQF) there are ten levels of qualifications that ascend from the Senior Secondary Certificate of Education qualification (level 1) to the Doctoral Degree (level 10) (AQF, 2016). Undergraduate courses are defined within this paper as Bachelor Degree level qualifications (level 7 of the AQF), which may be three or four years in duration. Nested undergraduate courses are defined as those in which lower qualifications, such as Diploma awards (level 5), and Associate Degree and Advanced Diploma awards (level 6) are formally embedded within the Bachelor degree course, with the result that students can enter and exit the course at multiple points (for credit).

<sup>2</sup> The attrition rate is the proportion of students enrolled in a given calendar year, excluding those who did not complete their course the following calendar year (Department of Education, 2014d).

We begin this paper by providing an Australian policy context around the introduction of the demand-driven system, in which universities were first able to provide unlimited places in most degree programs. The demand-driven system created increased competition, new levels of provider diversity, and a growth in traditionally under-represented student enrolments. Broader international trends, including the rise of student mobility (ICEF, 2015) and global credentials such as Massive Open Online Course (MOOC) badges, micro- and nano- degrees (e.g. Young, 2012; Kolowich, 2013; Evans-Greenwood, O’Leary, & Williams, 2015; Fain, 2014; Selingo, 2013), may suggest a need to rethink the provision of undergraduate education and to increase both the flexibility and equity of university credentials.

The second section traces the specific nature, context and history of nested courses. We define nested courses as those in which lower qualifications are formally embedded within the higher one, with the result that students can enter and exit the course at multiple points (for credit). In developing a typology, we outline three types of nested courses using a model developed by Bennett and Makela (2012). Using a desktop review of publicly available information we argue that, while nested courses have been popular at postgraduate level for many years in Australian institutions (Bragg, Cullen, Bennett, & Ruud, 2011, p. 24), there are fewer examples of undergraduate innovation in the Australian tertiary education sector. Current Australian models of undergraduate provision are characterised within our adapted typology.

The third section addresses the potential impact of nested courses on students, including the different types of degree structures outlined in section two. What are the advantages (and disadvantages) of nested courses? Will a proliferation of nested awards change student behaviour? What would recognition of partial completion mean for attrition and stereotyping of ‘drop-outs’? Finally, how will employers value these qualifications, and what will it mean for the labour market? In addressing these questions, we argue that the more transparent, fully articulated models of nested courses are most likely to serve contemporary student needs.

The final section examines institutional and systematic implications. What effect will new credentials have on relations between the higher education and vocational sectors? Some universities are increasing flexibility in the competition for students, but approaches remain desultory. Degree structures are driven by sectoral differences, competing government policies, professional registration requirements, and financial need. These pressures have led to a patchwork undergraduate system which compares unfavourably with the postgraduate level, where flexibility is widely embraced - graduate certificates, diplomas and masters degrees are frequently nested within the same course framework. Our analysis concludes by highlighting the value of nested undergraduate courses to students, institutions and the sector more broadly, through the capacity of those courses to promote mobility, recognition, retention, and student equity.

## **Background and context**

There are at least three prevailing trends in the Australian tertiary education sector that are challenging the traditional model of undergraduate degree. The first trend is systemic expansion, along with a likely maintenance or increase in student tuition fees. Expansion has

led to an increase in traditionally under-represented students (Norton, 2013b), many of whom face a higher risk of attrition (Department of Education, 2014a; Long, Ferrier, & Heagney, 2006; Martin, Maclachlan, & Karmel, 2001; McMillan, 2005). The cost of student attrition to universities runs to hundreds of millions of dollars (Adams et al., 2010; Department of Education, 2014b). Secondly, rising student mobility has meant that more students are transferring between institutions (Department of Education, 2013a, 2014c), and thus seeking transparency and consistency of credit transfer arrangements. Thirdly, diversity of both providers and qualifications is increasing, with non-university providers increasing their higher education offerings. Increasing sectoral diversity is blurring the boundaries of vocational and higher education, and collaboration between the sectors is necessary to articulate pathways both in and out of degrees (Wheelahan, 2000). Further, a range of new qualifications are developing such as badges, nano- and micro- degrees (e.g. Young, 2012; Kolowich, 2013; Evans-Greenwood, O’Leary, & Williams, 2015; Fain, 2014; Selingo, 2013). Students using certain badge systems such as Mozilla may display ‘merit badges’ on their curriculum vitae showing what they studied ‘as they earn them, rather than waiting four years to earn a diploma’ (Young, 2012, p. 1). In the United States, Colorado State University-Global campus provides credits to students who successfully complete a MOOC (Kolowich, 2013), while the University of California, Davis, offers a digital badging initiative within the agriculture program (Evans-Greenwood, O’Leary, & Williams, 2015; Fain, 2014).

The demand-driven system (DDS) in Australia, in which universities are able to enrol an unlimited number of students in most courses, was introduced in 2009 and led to a substantial and sudden expansion of student numbers. From 2009 to 2013, Commonwealth-supported place (CSP) enrolments rose by 23%, and are forecast to rise by 35% by 2017 (Norton, 2013a). The growth in higher education has been accompanied by rising student mobility (Department of Education, 2013a, 2014c). Australian Government data reveal a proportional increase in commencing undergraduate students transferring between institutions from 4 to 6 per cent between 2006 and 2012 (Department of Education, 2013a). While this mobility explains a significant part of overall sectoral attrition (Harvey & Luckman, 2013), the ‘adjusted’ or sectoral attrition remains high (around 13%) (Department of Education, 2014a). Commonwealth funding has been extended to some non-university higher education providers (NUHEPs), and many vocational education and training (VET) providers are now also accredited to teach higher education degrees (Norton & Cherastidtham, 2014a, 2014b). Equally, universities have followed the global online trend and begun to offer their own MOOC courses (e.g. Palmer, 2012).

Current Australian Government plans include deregulated tuition fees; an expansion of Government funding for places at sub-degree level, including enabling programs and diplomas; and an extension of CSP funding to private and other non-university providers at undergraduate level (Commonwealth of Australia, 2014). Irrespective of the outcome of these negotiations, tuition fees, student mobility, and provider diversity are expected to keep rising as they have done for the previous decade (Norton & Cherastidtham, 2014a). Equally, it is clear that despite institutional innovations, attrition remains intractable, and many students are leaving university as early withdrawers or partial completers (Harvey & Szalkowicz,

2015). Traditionally under-represented students are over-represented among those who withdraw (Edwards & McMillan, 2015; Long et al., 2006; McMillan, 2005). Equally notably, despite a sectoral focus on first year attrition and student engagement there is more attrition among continuing students – those in the second or further year of their degree – than commencing (i.e. first year) students (DIISRTE, 2012). Data suggest that around 46,000 continuing undergraduate domestic students are leaving the sector every year, many of whom have successfully completed one or more years of their undergraduate degree (DIISRTE, 2012) but without any recognition of that achievement. The 46,000 continuing students who withdraw represent 53.9% of total annual student attrition.

The need for nested undergraduate courses is therefore rooted in the changing context of both Australian and international higher education. Mobility, diversity and equity are all elements that highlight the need for more flexible qualifications and pathways. Despite this need, our research reveals ongoing inflexibility of provision within Australian higher education. In Australia, there are rarely exit pathways that reward withdrawing students' partial completion of a degree – unlike at postgraduate level, nested courses are not typical at undergraduate level (Bragg et al., 2011).

### **Nested undergraduate courses: a typology**

This paper adapts a conceptual tool developed by Bennett and Makela (2012) to categorise the nested courses offered by some Australian universities. We import Bennett and Makela's (2012) characterisation of the three nested provision models and adjust it to the Australian context, including to cover dual sector institutions where both higher and vocational education are taught. The typology is not intended to be comprehensive, but rather to provide analytic clarity around the purposes and structure of the nested courses. The existence of nested undergraduate courses is revealed through a desktop review of publicly available information, including university websites and a survey of existing national and international literature. The paper provides an example of nested courses offered by at least a third of Australia's universities. The desktop review reveals that while a large minority of institutions offer nested courses, the number of these courses is low and the relevant fields of education are typically narrow.

There are several different models of nested courses, though all have flexibility and mobility at their heart. Wheelahan (2000, p. 19) notes that

nested programs are conceived and developed as a coherent whole but offer a number of entry and exit points. Nested programs comprise stackable self-contained sections of study. At the end of each defined section of the nested program, students are granted an award, whereupon they may elect to exit or they may choose to continue into the next stage of the program. Students are not required to negotiate entry continually as progression through the different sections (or awards) is guaranteed. Nested programs are normally within one field of study.

One way of characterising nested provision models has been provided by Bennett and Makela (2012). Based on comparative international analysis, their typology captures the primary models introduced to date in Australia and provides a useful explanatory tool. Bennett and

Makela (2012) categorise three types of credentialing models – *alternative exit*, *stepping stone* and *nested opportunity*. Their conceptual tool was developed after examining exit pathways used by different universities in the United States, Australia, Canada, the United Kingdom (UK) and Sri Lanka. The three models of degree pathways with embedded mid-point credential opportunities aim ‘to encourage students to engage in a clear pathway to a baccalaureate degree, while providing additional opportunities and safety nets for students who do not persist to the baccalaureate degree’ (Bennett & Makela, 2012, p. 5). Despite this common goal, every model has specific characteristics.

The *Alternative Exit* conceptual model provides credentials for students who have decided not to finish their baccalaureate degree, but have completed enough credits to earn a lesser award. The aim of this model is to ensure that students receive the highest mid-point credential if they decide not to complete their degree. As credentials are not provided automatically by the university, students need to apply for the highest mid-point credential once they decide to stop studying. To do so, students must understand the value of the mid-point credentials, whether they are eligible to earn credentials, and what they need to do to obtain them. Bennett and Makela (2012, p. 4) note that ‘these credentials can, in essence, be thought of as a “consolation prize” that is not considered necessary for students who persist to the baccalaureate degree.’

The *Stepping Stone* conceptual model ‘provides automatic credential awards as students’ progress towards the baccalaureate degree’ (Bennett & Makela, 2012, p. 3). Unlike the *Alternative Exit* model, the mid-credential award is initiated by the institution and students may decide to decline. In most cases, students are awarded a lesser credential once they have completed the requirements. If students decide to withdraw before they finish their degree they will earn the lesser certificate(s) or award(s) they have completed. Unlike the *Alternative Exit* model, the *Stepping Stone* model offers multiple instances to obtain credentials, allowing students to enter and continue on to the bachelor level (Bennett & Makela, 2012, p. 6).

The *Nested Opportunity* conceptual model embeds a range of discrete qualifications within the full degree. This model ‘provides students with the choice of receiving lesser level awards on their way to the baccalaureate degree’ (Bennett & Makela, 2012, p. 3). Students who earn the credits needed to obtain a certificate or an associate degree can decide to apply for mid-point credentials, and ‘in some cases, students must be certain to meet specific course requirements for a lesser level credential, whereas students who are not pursuing the mid-point credential have more flexibility in course selection’ (Bennett & Makela, 2012, p. 5). Students who accumulate the required credits are allowed to depart with a lesser award that formally recognises their achievements. The *Nested Opportunity* model has elements of both the *Alternative Exit* model and the *Stepping Stone* model, as it provides students with the opportunity to earn credential awards along the path to the baccalaureate degree if they decide to pursue it.

### **Australian models and practice**

In Australia, nested course models have been more common at the postgraduate level, though Bragg et al. (2011, p. 24) note that ‘the practice appears to be moving to the undergraduate

level as well'. The Australian Qualifications Framework (AQF) provides guidance for a typical nested undergraduate course, in which the completion of first year is considered equivalent to a diploma and the completion of second year equivalent to an associate degree or advanced diploma (Australian Qualifications Framework Council, 2013, p. 15). As we outline below, the university provision of diplomas and associate degrees is increasing. One notable limitation to the expansion of nested undergraduate courses, however, is the current cap on sub-degree places. While the demand-driven system enabled universities to enrol an unlimited number of undergraduate students in most disciplines, limits remain on the number of sub-degree places, such as diplomas and associate degrees, that universities can offer (Kemp & Norton, 2014). Uncapping the sub-degree market, as the Australian Government intends to do (Commonwealth of Australia, 2014), would likely increase the prevalence of nested undergraduate courses. Also notable is the fact that '3+2' bachelor/masters degrees are becoming increasingly common, whereby a bachelor degree of three years duration is embedded within a masters degree of five years duration. These programs reflect the reality that flexibility is rising not only within bachelor degrees, but between undergraduate and postgraduate levels.

Bennett and Makela's (2012) conceptual tool requires variation to account for the federal division of responsibilities within Australian tertiary education. Traditionally, Australian higher education has been provided by public universities which are primarily Commonwealth-funded, while vocational education has been primarily provided by public Technical and Further Education (TAFE) institutions, which are Vocational Education and Training (VET) providers funded largely by the state governments. This traditional dichotomy of provision remains, but is being undermined by various factors such as a rise in private providers of both vocational and higher education (Norton & Cherastidtham, 2014a), Commonwealth financing of student loans for VET students (Norton & Cherastidtham, 2014b), the prevalence of six dual sector universities in which both higher and vocational education are taught (Moodie, 2009, 2012), and an increase in VET providers now offering higher education awards (Norton & Cherastidtham, 2014a). Several innovative models have already emerged in which providers from the two sectors both teach into all three years of an undergraduate degree course (Wheelahan, 2000, p. 33). The stepping stone model is most commonly seen as a joint provision model within Australia. This model moves beyond simple articulation agreements, where those with a VET qualification can transfer into higher education with formal credit. Joint provision reflects a partnership between vocational and higher education providers where exit pathways are agreed between the two providers, but often delivered through different accreditation bodies. Under this model, students enrolled in a dual program who leave after successfully completing one year of study may, for example, receive their higher education diploma from the partner Technical and Further Education (TAFE) institution rather than the partner university.

The rise in provision of sub-degree programs is evident through analysis of higher education sub-degree enrolments, which include: associate degrees, advanced diplomas, diplomas and a small number of cross institutional enrolments. In 2014, 21,962 commencing and continuing domestic students were enrolled in a sub-degree program. Since 2008, the number of

domestic students enrolled in sub-degree programs has increased by 40.7%, compared to an increase of 32.9% for all domestic students over the same period (Department of Education, 2015; 2009). The rising sub-degree student load is not spread evenly throughout the sector though. For example, in 2014, just five universities – Charles Sturt University, Southern Cross University, RMIT University, the University of Southern Queensland and Central Queensland University – enrolled 71% of the commencing and continuing domestic associate degree students. Of the other sub-degree enrolments, including advanced diplomas and diplomas, 58% were provided by private universities and non-university higher education providers (Department of Education, 2015).

Diplomas and associate degrees are not always situated within a nested undergraduate course, but several nested models have developed in recent years that are consistent with Bennett and Makela's (2012) conceptual models (see Table One). Interestingly, most universities have so far adopted an alternative exit model, which arguably highlights a reluctance to develop and advertise articulated arrangements, potentially because of perceived reputational risk (see the following section). Charles Darwin University (2016), Charles Sturt University (2015), University of New England (2015) and Southern Cross University (2015) offer several courses that follow the alternative exit model, with alternative exit awards available for students who decide to discontinue before completing the full requirements of specific undergraduate programs. These programs allow students who have completed enough credits to earn a lower qualification if they decide not to finish their bachelor degree.

An example of a nested opportunity model is Victoria University's Health Sciences program (see Table One). This program allows students to enrol in a certificate level and proceed to a diploma, advanced diploma or bachelor degree, while offering them the option to exit after each level of qualification with an earlier accreditation that recognises their achievements (Wheelahan, 2000, p. 19). Students can decide to leave with a lower qualification, gain work experience and return to the bachelor degree at a later stage.

Some Australian institutions such as Deakin University (2010), Griffith University (2016), University of Wollongong (2016) and La Trobe University (2015a) follow the stepping stone model. These universities offer students multiple instances to obtain credentials, and allow students to enter and continue on to the bachelor level. The University of Wollongong and TAFE Illawarra offer students the possibility to enrol in a dual degree that allows students to complete a dual qualification in three years due to the cross articulation agreement between the sectors. Upon completion, students receive an advanced diploma from TAFE Illawarra and a bachelor degree from University of Wollongong. La Trobe University (2015a) has developed a co-enrolment pilot program in areas of high skills need – nursing and early childhood education – where students are taught the first year of a degree course by the partner TAFE, whilst simultaneously achieving progress toward a vocational qualification. These dual qualifications recognise prior learning with TAFE, take into account credit transfer within the university, and allow students to complete their diploma before progressing to later years of a degree course.

Similarly, several universities such as La Trobe (2015b) and Charles Darwin (2015) offer an entry pathway option to students who do not meet the requirements to commence a bachelor

degree, allowing students to enrol in diplomas and/or associate degrees with the possibility of continuing towards a bachelor degree. Unlike the stepping stone model, these pathways are not officially embedded within the bachelor degree course. Nevertheless, participating universities recognise TAFE diplomas as an appropriate alternative to first-year bachelor level, allowing students who have received a TAFE diploma to enter into second year of a number of bachelor degrees.

**Table One: Types of nested undergraduate courses offered by Australian institutions**

<b>Conceptual Model</b>	<b>Australian Institution</b>	<b>Nested courses</b>
<i>Alternative Exit</i>	Charles Sturt University	Students who enrol in specific programs (e.g. Bachelor of General Studies - Science; Bachelor of Business; Bachelor of Educational Studies) have the option to apply for an associate degree or a University certificate if they complete the required amount of credits (Charles Sturt University, 2015).
<i>Nested Opportunity</i>	Victoria University	The Health Sciences program is structured as follows: ‘Semester 1 Certificate II in Health Science (Patient Transport Attendant); Year 1 Diploma of Health Science (Emergency Care); Year 2 Advanced Diploma of Health Science (Paramedic); Year 3 Bachelor of Health Science—Paramedic’ (Wheelahan, 2000, p. 19). Students can enrol in a certificate level and continue towards a diploma, advanced diploma or bachelor degree. They have the option to exit after each level or they can continue to study.
<i>Stepping Stone</i>	Griffith University/ TAFE partner (TAFE Queensland Brisbane, TAFE Queensland Gold Coast, TAFE Queensland SkillsTech, North Coast TAFE)	Students can enrol in dual qualifications through Griffith University and TAFE dual qualifications. To do so, students must complete a tertiary partner qualification and articulate to Griffith University. Once they have satisfactorily completed the Tertiary partner qualification, they will be made a direct offer to Griffith University (Griffith University, 2016).

Source: types adapted from Bennett and Makela (2012); information from university websites – www.csu.edu.au, www.griffith.edu.au, www.vu.edu.au – and Wheelahan (2000).

### **Implications for students**

While these types of nested courses reflect differing levels of institutional motivation and commitment, the existence of even minimalist provision of exit pathways may be helpful to students. Nested courses recognise rising student mobility and enable students to take a widely accepted qualification between institutions. These students no longer need to rely on institutionally distinct recognition of prior learning processes, but can instead take with them a transparent, highly portable qualification. Nested courses also support the reality of interrupted, non-linear pathways through higher education. A report commissioned by Laureate Education to Zogby Analytics (2014), an international opinion research firm which surveyed students at 37 Laureate network institutions in 21 countries, found that students want certificates within their degrees. Over 41% of the respondents:

believe university students in the future will be able to earn specialised certificates throughout their academic career allowing them to take courses at their own pace



instead of concentrating academic careers into 2 or 4 year spans culminating in a degree (Zogby Analytics, 2014, p. 3).

The more transparent universities are in developing exit and entry pathways, the more easily students will be able to move across both place and time to complete their undergraduate education.

The reality of attrition can also be mitigated through the introduction of nested courses. As noted previously, the number of Australian continuing students who withdraw from an undergraduate course is higher than the number of commencing (first year) students who withdraw (DIISRTE, 2012). These data suggest that thousands of students satisfactorily complete multiple units of study yet leave the institution with no credit. Similarly, a major international study has found that while large student cohorts who have accumulated substantial college credits did not finish or obtain a college degree, these adults may have already earned enough or nearly enough credits to warrant the awarding of a certificate or an associate degree to mark their accomplishments (Shapiro et al., 2014). Part of the logic for nesting undergraduate courses is therefore simply to recognise formally what students have achieved and earned. Students who have successfully completed a year or more of undergraduate study can be treated as partial completers rather than as failures, and those who have completed diploma level study, for example, can have that achievement appropriately recognised.

The issue is therefore not simply one of adopting more positive language (partial completers compared with failures), though language is undoubtedly important. There is a clear stigmatisation towards students who withdraw from university, extending to nomenclature around 'drop-outs' and 'wastage' (Long et al., 2006; Longden, 2002, p. 9; Quinn et al., 2005). Given traditionally under-represented students such as low socio-economic status students, regional students, students with disability and Indigenous students are more likely to withdraw, the impact of attrition falls disproportionately on these students (Department of Education, 2014a; Edwards & McMillan, 2015; Long et al., 2006; Martin et al., 2001; McMillan, 2005). Thus, many students 'who have already suffered stigmatisation are faced with further normative language and assumptions upon withdrawal' (Harvey & Szalkowicz, 2015, p. 8). As Shapiro et al. (2014) suggest, it is more appropriate to consider departing students as an alumni subset or as partial completers rather than as 'drop-outs'. Beyond the risk of stigmatisation, international evidence suggests that failing to provide formal credit for successful completion of a year or more of undergraduate study may also impact upon both employability and return to study (Taylor, 2013). These consequences underline the tangible benefits of nested courses for students, particularly compared to alternative qualification models.

Unlike MOOC badges and nano- and -micro degrees, the awards established within nested undergraduate courses have a long history of recognition, are embedded within the Australian Qualifications Framework (Australian Qualifications Framework Council, 2013), and are recognised and valued by employers (Taylor, 2013). Equally, many non-completers do indicate a willingness to return to study (Harvey & Szalkowicz, 2015; Quinn et al., 2005; The Victoria Institute, 2013), but that return is likely to be advantaged by them having a

recognised qualification on which to build (Taylor, 2013). The fact that many Australian withdrawing students already do return to study is visible in national admissions data. Around 25% of Australian undergraduate commencing students were admitted on the basis of some prior higher education in 2012 (Department of Education, 2013b). However, this basis of admission is often opaque and time-consuming, with students needing to understand complex articulation agreements and receiving different levels of credit according to institution, and university admissions officers individually assessing applications for recognition of prior learning. Evidence therefore suggests that there is significant potential to re-recruit students who have withdrawn (Harvey & Szalkowicz, 2015), but that students who leave with some formal credit are most likely to re-enrol.

Nested courses also provide consistency of treatment between students. Presently, many students will enter an undergraduate degree via a diploma pathway, receiving a full year of credit for their diploma and thus articulating directly into the second year of the degree. This transfer is usually part of an articulation agreement, but there are some formal nested courses in which universities and vocational providers combine elements to deliver an undergraduate course in which the diploma is officially embedded (see Table One). In either of these cases, students who withdraw from higher education will leave with a diploma at worst. By contrast, students who pursue the traditional undergraduate model will rarely receive recognition for passing their first year if they subsequently withdraw from university. Despite successfully completing the equivalent of a higher education diploma, they will leave university with no formal qualification. This discrepancy reflects inconsistent treatment of students, and advantages those who articulate via diplomas or associate degree pathways.

### **Implications for institutions**

For institutions, there are clear benefits in introducing nested courses. First, such an approach would mitigate the record of attrition with a rising rank of partial completers replacing those currently recorded as withdrawers or 'drop-outs'. Attrition is becoming an important indicator of university quality, so any reduction will carry reputational gain. More importantly, by increasing the ranks of partial completers, the university may gain access to a new cohort of alumni and reframe student experiences in a more positive way that reflects and celebrates their levels of achievement (Harvey & Szalkowicz, 2015). Nesting undergraduate courses is likely to reduce the formal measure of attrition, but it is also likely to increase completion of bachelor degrees and to reinforce rather than undermine the undergraduate degree structure. The broader unbundling of higher education qualifications through MOOCs and badges threatens to disrupt the standard bachelor degree model and create a proliferation of qualifications to reflect individual student interests and mobility (Selingo, 2013). In the face of this threat, university undergraduate courses can actually be strengthened by adopting nested models. Nested provision provides for the flexibility and mobility sought by contemporary students, but without substantially undermining the traditional course model. For universities, the sub-degree qualifications resting within the undergraduate course remain accredited within the AQF, and students seeking different levels of qualification can remain enrolled within the one institution (and indeed degree). The bachelor degree will remain at the pinnacle of the undergraduate course model and most

students are unlikely to leave an institution with a lower qualification unless circumstances intervene. Many undergraduate courses remain professionally based, with completion of the full undergraduate degree required for registration and employment in the field (e.g. Australian Psychological Society, 2016). The graduate wage premium remains high in Australia (Group of Eight Australia, 2014), and the premium largely reflects the ability of graduates to work in professional industries whose registration requirements demand a full undergraduate degree. Incentives for leaving before completion of the undergraduate degree will therefore remain low, but providing recognition for partial completion may lead some students who have considered withdrawing to persevere (Taylor, 2013), knowing they can complete the degree at their own pace, in their own time, and in a staged fashion. It is important to ensure that all students, including those from equity backgrounds, receive credit for partial completion. However, existing evidence suggests that the nesting of undergraduate qualifications may also be likely to increase the proportion of students who persevere to complete a full bachelor degree.

Recognition of partial completion would simplify institutional processes around recognition of prior learning. Much of this work is currently conducted on a case by case basis, and can be labour-intensive as well as lacking in transparency for students. By adopting clear, formally recognised qualifications within the stages of an undergraduate degree, assessment of prior learning would be simpler both for students and for the institutions who serve them. While universities could pursue each of the models within our typology, the ‘alternative exit’ model appears to be the least advantageous to students, and advertising a fully transparent nested model is more likely to be understood and accessed by traditionally under-represented students.

Interestingly, the introduction of nested courses could also drive greater quality assurance, with universities motivated to be more precise about learning expectations within each stage of their undergraduate degrees. Cornerstone, midpoint and capstone subjects are already being introduced in several Australian universities (e.g. La Trobe University, 2015c), with a view to clarifying the expectations and capabilities at different levels of undergraduate degrees. The development of these subjects and expectations could be made more explicit if linked to formal qualifications nested within the degree. The rise of common, or core, first year programs that are often interdisciplinary in nature also fits neatly into this structure (Fitzmaurice, McAlpine, Pannan, & Oates, 2011; Newell, 1992). Higher education diplomas for students who have successfully completed their common first year could be recognised and valued by both students and employers (Taylor, 2013). Reforms to curriculum and course structure would be best undertaken through a ‘stepping stone’ or ‘nested opportunity’ model in which the multiple exit pathways were clearly advertised and understood.

### **Systemic implications**

At the system level, a move toward nested courses would be likely to reduce both the reporting and the reality of attrition. The higher education sector has faced much negative publicity about the incidence of attrition (Adams et al., 2010), and moves to mitigate its occurrence would demonstrate greater efficacy of provision. More than simply assisting students who withdraw from university, nested provision is likely to increase student

perseverance by disaggregating long undergraduate courses into shorter, more manageable stages. Importantly also, within Australia there remains a perceived hierarchy between vocational and higher education with consistent calls from vocational educators for greater parity of esteem between the sectors (Wheelahan, 2000). The introduction of nested courses, which in many cases would involve joint provision between vocational and higher education institutions, would likely lower barriers between the sectors, reduce the stigma attached to some vocational providers, and create possibilities for economies of scale in regional areas in particular.

Tom Karmel and Tham Lu (2012, p. 10) note that ‘in terms of the Australian Qualifications Framework, parts of VET and higher education overlap. In particular, diplomas and advanced diplomas are qualifications that are awarded across the two sectors’. The report argues that associate degrees are more lucrative from a provider point of view and usually provide more credit for students who wish to articulate to a university degree. However, two-year advanced diplomas are significantly cheaper for students and often preferable if they lead directly to the labour market. The multiplicity of qualifications, tuition fee levels, and providers is only likely to increase, so universities will clearly need to adapt to this emerging environment. Universities may be better placed to manage the threat of non-university providers, and of MOOCs and nano- and micro- degrees, if their own undergraduate degrees were compartmentalised and offered in flexible formats to students. Traditional provision models are unlikely to satisfy an emerging generation of students who are highly mobile, frequently changing careers, from diverse demographic backgrounds, seeking asynchronous learning, and demanding greater flexibility of entry and exit pathways.

## **Conclusion**

Following the introduction of the demand-driven system, the Australian higher education system has become increasingly competitive and expansionary. Student mobility between institutions is rising, traditionally under-represented students are enrolling in unprecedented numbers, and student attrition levels remain intractable. In confronting these challenges, universities could look to expand the provision of nested undergraduate courses with multiple exit pathways. In this paper we have shown the capacity of nested courses to facilitate efficient student mobility across the sector, cater for diverse students with non-linear pathways, and reduce both the reality and stigmatisation of attrition. Adapting course provision to the needs of contemporary students would bring benefits to students, institutions, and the sector more broadly.

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