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Delving into double degrees: The case of Victorian universities in Australia

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This pilot study explores how Victorian universities in Australia present information about and design double degrees. Nvivo-aided content analysis of information published on nine university websites and an audit of various curriculum designs of the double degrees informed the findings of the study. The studies found that overall about 29% of degrees offered through Victorian universities are double degrees. Among the 280 double degrees business or commerce degree program combinations (118 degrees) are the most common. The term “double degrees” appears to be the most commonly accepted nomenclature of double degrees among the universities. Although they frequently use certain terms such as “two”, “different”, “years”, “time”, “simultaneously” and “disciplines” in their double degree descriptions, they tend not to focus on certain other terms such as ‘qualification’, “longer” and “courses”. The study found no exhaustive list of benefits relating to double degrees, although the universities seem to be sending consistent messages about the advantages of concurrently studying double degrees. Nevertheless, the universities have different entry requirements of double degrees, sending confusing signals to the market. Overall, there is a large variation in the number, design and proportion of double undergraduate degrees offered by the universities.

Key words: double degrees; Australia; content analysis

Introduction

A double degree, which usually combines two separate undergraduate degrees, aims to broaden knowledge and equip students with diversified skills and discipline knowledge whilst playing a key role in meeting future global workforce needs. In a recently completed study on double degrees Moulton et al. (2011) found that three out of five employers considered double degree graduates more versatile and well-rounded than single degree graduates.

It is repeatedly stressed that current graduates may expect to change careers several times over their working lives, and future graduates even more so (Bialik, 2010). Furthermore, their career pathways continue to unfold in a globalised marketplace in which engagement with Asia - requiring language skills and cultural understanding - is of paramount importance for Australian businesses (AWPA, 2012). This places pressure on educators in the tertiary sector to renew and update the curriculum to ensure currency, relevance and breadth in both single and double degrees, in order to support students’ development of contemporary and diversified skills which they are likely to require so they can compete in an increasingly competitive globalised job market.
Whilst there are high expectations of double degrees, which are perceived as potentially addressing the demands of a 21st Century higher education system, there are also doubts raised over their design, effectiveness and legitimacy. Notwithstanding the popularity of double degrees locally and internationally (Knight, 2011), little Australian research has been conducted into them (Moulton, et al., 2011; Russell et al., 2008). The Australian Qualifications Framework (AQF) provides guidelines as to how post compulsory education courses should be designed, with a focus on the development of knowledge, skills and the ability to apply these. However, the AQF is silent on the area of double degrees and there are no clear guidelines as to how such degrees should be designed in Australia.

Based on this background, the time is ripe for detailed investigations into curriculum design and integration of double degrees. To this end, the aim of this pilot study is to initiate a discussion on double degrees within the Australian higher education context. It explores two key themes relating to the communication about and the design of double degree programs. The research questions are: how do Australian universities present information about double degrees? and how are double degrees constructed?

**Literature review**

**Definition of double degrees**

There is no global understanding of double degrees with the term having different meanings in different institutions and countries. According to Schüle (2006) joint and double degrees were discussed as part of the Bologna process during the creation of the European Higher Education Area (AHEA) in the early part of the century. Through a literature review on European double degree programs, Knight (2011) found a plethora of terms used in double degree definitions including multiple, tri-national, integrated, collaborative, international, consecutive, concurrent, co-tutelle, overlapping, conjoint, parallel, simultaneous, and common degrees, creating confusions due to their inconsistent meanings and uses.

Generally, double and joint degrees are awarded by two separate institutions, with a double degree implying students have studied different awards, whilst joint degrees are the same degrees taught in an integrated manner through two institutions (Schüle, 2006). Knight (2011, p.300-301), concurring with Schüle (2006), defined a joint degree as “a program which awards one joint qualification upon completion of the collaborative program requirements established by the partner institutions” whereas a double degree as “a program which awards two individual qualifications at equivalent levels upon completion of the collaborative program requirements established by the two partner institutions”.

In the European context Culver et al. (2011) defined a double degree as undergraduate or graduate degrees in the same or similar subject areas that are awarded by two or more institutions to students who have met the degree completion requirements for all participating institutions. It also appears that double undergraduate degrees emanate from the British higher education system while double Master awards are more common and valued between member nations of the EU other than the UK. In the US dual degrees are awarded from two different colleges or universities and virtually no literature relating to double degrees in the US was located. Thus it can be seen that there is no common or universal understanding or definition of such higher education programs.

Knight (2009) explained that in Australia, the terms joint, double and combined degrees are commonly applied to degree programs offered within a single university. Moulton et al.
(2011) recommended the use of the term “dual degree” by Australian institutions when communicating with international community to avoid confusion. They defined a dual degree program as two undergraduate degrees studied simultaneously through two faculties or disciplines within one institution. Russell et al. (2008) defined double degrees as undergraduate courses involving two bachelor degrees studied concurrently over approximately four to six years. Students graduate with two distinct degrees (e.g. Bachelor of Commerce and Bachelor of Arts), “receiving a discount in terms of credit and time compared with the sum of two degrees” (p. 576). In the current study double degrees are defined as two separate undergraduate degrees, from different subject areas or disciplines, being studied through the same institution either concurrently or sequentially.

I- versus T-shaped graduates

Whilst debate remains as to the purpose of post secondary education, there is agreement that, through their studies, graduates should have developed core capabilities, such as critical thinking, communication skills, ability to work independently and in teams, problem solving, adaptability and ethical behaviour. However, these capabilities alone are unlikely to satisfy the needs of industry, government and community, who are seeking graduates who possess advanced qualities and dispositions, such as professionalism, resilience, self confidence, curiosity, vision across disciplinary boundaries, and an ability to learn so that they are able to cope with a complex and unpredictable future. It is therefore incumbent on universities to develop curricula aimed at “the transformation of human beings” (Barnett, 2012, p.75).

Universities are expected to be able to educate graduates to have unique skills and competency, as required by modern knowledge-based economies (Jongbloed et al., 2008). More specifically, a graduate is expected to be more than the traditional “I-shaped” graduate of the past and more like the “T-shaped” graduate employers are looking for (Bajada & Trayler, 2013). They should also possess cross-disciplinary expertise (Moulton et al., 2011).

The idea of the T-shaped professional was conceived by Leonard-Barton (1995) in the context of computer science education. This model contrasts the I-shaped professional who predominantly has highly specialised knowledge. The Collegiate Employment Research Institute (2012) defined the T-shaped professional as “a person who blends deep knowledge in a field with cross-disciplinary acumen, supported with a strong set of people or soft skills, which facilitate the spanning of boundaries (collaboration) within and outside the organization”. The Institute’s survey of employers found that the most desirable graduate had a liberal education combined with discipline specific knowledge, which aligns with the concept of the T-shaped professional (illustrated in Figure 1).

Such graduates are likely to be increasingly valuable to the Australian workforce in the 21st Century. The Australian Workforce and Productivity Agency (2012) stresses that Australia will need professionals who are equipped for lifelong learning, able to embrace several career changes during their working lives, and who are armed with cultural understanding for engagement with Asia.

The question of how universities can facilitate the development of T-shaped graduates is a complex one. In the constantly evolving tertiary and industry sectors, double degrees appear to offer a cross-disciplinary answer to current and future labour needs, by aiming to produce graduates with diversified skills and multidisciplinary knowledge thanks to their inter-faculty learning experiences.
Graduate outcomes of double degrees

There is some evidence that graduate outcomes for double degrees are more favourable than for single degrees. The purpose of Australian double degrees which combine two undergraduate degrees (e.g., business and engineering) from one university is to enhance the employability of a graduate by facilitating the development of multi-disciplinary skills and competencies. A considerable number of recent studies have found that enhancing employment opportunities is a significant motivation among students who study a double degree (e.g., Beriaín et al., 2013; Klahr, 2011; Moulton, 2010; Welsman, 2012).

A graduate’s field of study is considered to play an important role in determining their ability to find a job that best matches his or her degree qualifications (Li & Miller, 2013) and earnings potential regardless of the structure of their degrees (e.g., single or double degree) (Del Rossi & Hersch, 2008). However according to a survey published by Graduate Careers Australia (2012) double degree graduates regularly have better employment opportunities (80%) than those with single degree (75.6%) and they regularly have employment rates about 5% higher than single degree graduates with median commencing salaries about $3,000 or higher. Further, the recently completed Australian Learning and Teaching Council (ALTC) project on double degrees by Moulton et al. (2011) focusing on engineering related degrees, identified both employer reservations and enthusiasm for double degrees. While some double degree program combinations seem to add value for some employers, other employers stressed that pre-graduation work experience, where students are able to put theory into practice, was a far more critical skill for any new graduate - double degree graduates included.

Schüle (2006) identified the primary goals of European double degrees as increasing student mobility and improving graduate employability. Furthermore, Schüle (2006) asserted that there are benefits to the European universities who collaborate to offer double degrees, as such programs provide an institutional selling point, as well as an opportunity to compare curricula between partner universities.

Within the Australian context Hobsons (n.d.) claims that there are three main reasons why students choose to study double degrees – desire to have a broad education, inability to choose between two distinct areas of study, and possessing career goals that involve two
distinct discipline areas. The benefits of double degrees according to Russell et al. (2008) are that they provide options for graduates who are likely to have several careers in their lifetime; they equip students with unique combinations of skills, as well as transferable skills and literacies; and they provide an opportunity for students to develop trans disciplinary knowledge, which facilitates creative solving for complex real-world problems.

Homewood (2013) asserted that invariably double degrees take longer to complete than single degrees and hence cost students more time and money than single degrees, but when one considers the impact of double degrees it appears that they are not delivering value. Notwithstanding this, graduates of double degrees in Australia are more competitive and are able “to traverse across and integrate different disciplines and industries” thus increasing their employment options (Kermode, 2012), the modest increase in employability, as well as starting salaries, does not offset the additional study time incurred by double degree students (between 25 and 33%). This highlights a key failure of double degrees, as they are predominantly a technical and administrative construct.

Methodology

A content analysis was considered a suitable research method to investigate how Victorian universities define and present information about double degrees, the purpose of such degrees and their design. A content analysis is a quantitative research method that can be used to examine the appearance of words, concepts, themes, phrases, characters, or sentences within texts. The aim of this method is to identify the intentions, focus or communication trends of an individual, group or institution (Berelson, 1952). The information for the content analysis was gathered from VTAC (Victorian Tertiary Admissions Centre), university course guides and the course finders located on the websites of nine Victorian universities. This information was then transferred to NVIVO to facilitate the data analysis. In addition, a desk audit of the design of double degree program across Victorian universities was performed. The universities considered in this study are Australian Catholic University (ACU), Deakin University, Federation University, La Trobe University, Monash University, RMIT University, Swinburne University of Technology, University of Melbourne and Victoria University.

Findings and Discussion

Prevalence of double degrees

The undergraduate degrees offered for 2013 by these universities is shown in Table 1. It can be seen that there is a wide variation in the number of undergraduate degrees offered from a minimum of 6 by the newest university to a maximum of 185. There is also a large variation in the number and proportion of double undergraduate degrees offered by these institutions. University of Melbourne, Australia’s highest ranking university according to the 2013-14 Times Higher Education World University Rankings, offers no double degrees, while almost half of the degrees offered by the largest Australian university, Monash University, are double degrees.

Previous research shows that double degrees are increasing in popularity (e.g., Russell et al. 2008). In Australia, 10% of university enrolments are in such programs (Kermode, 2012). The current study found that about 29% of degrees offered through Victorian universities are double degrees. Of the 287 double degrees the most common pairings are with:

- Business or Commerce (118 degrees)
- Arts, Humanities or Social Science (90 degrees)
- Health Science, Biomedical Sciences or Nursing (63 degrees)
- Engineering (46 degrees)
- Law (42 degrees)
- Information Technology, Information Systems or Computing (30 degrees)
- Education or Teaching (19 degrees).

**Table 1: Number of undergraduate degrees offered in Victorian universities, 2013.**

<table>
<thead>
<tr>
<th>Institution</th>
<th>No of UG degrees offered through VTAC 2013</th>
<th>No of double degrees</th>
<th>% double degrees</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACU</td>
<td>48</td>
<td>15</td>
<td>31.3</td>
</tr>
<tr>
<td>Deakin</td>
<td>179</td>
<td>63</td>
<td>35.2</td>
</tr>
<tr>
<td>Federation University</td>
<td>6</td>
<td>1</td>
<td>16.7</td>
</tr>
<tr>
<td>La Trobe</td>
<td>185</td>
<td>73</td>
<td>39.5</td>
</tr>
<tr>
<td>Monash</td>
<td>163</td>
<td>75</td>
<td>46.0</td>
</tr>
<tr>
<td>RMIT</td>
<td>127</td>
<td>30</td>
<td>23.6</td>
</tr>
<tr>
<td>Swinburne University of Technology</td>
<td>108</td>
<td>15</td>
<td>13.9</td>
</tr>
<tr>
<td>University of Melbourne</td>
<td>19</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Victoria University</td>
<td>96</td>
<td>8</td>
<td>8.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>977</strong></td>
<td><strong>287</strong></td>
<td><strong>29.4</strong></td>
</tr>
</tbody>
</table>

**Nomenclature of Double degree terminology**

The desk audit revealed that the term “double degree” was most commonly used by the universities in presenting information about these types of degrees. This was confirmed by Nvivo output (tree map) of the content analysis on the definitions and terminologies of double degrees. As shown in Figure 2, although the terms joint and dual degrees were also used occasionally (green and orange colour squares), the term “double degree” is mostly used in defining double degrees (white square). Thus, it can be concluded that despite Moulton et al.’s (2011) recent study recommending the use of the term “dual degree” in communicating with international community to avoid confusion, the term “double degrees” appears to be the most commonly accepted nomenclature among Victorian universities.

**Figure 2: Tree map for words used to describe two degrees studied concurrently or sequentially**
A word cloud displays up to 100 words in varying font sizes where frequently occurring words are in larger fonts shows frequently occurring words or concepts. This enables a researcher to identify possible themes. The word cloud (Figure 3) was created by Nvivo as the content analysis of how Victorian universities describe their double degrees.

Figure 3: Common words used by Victorian Universities in describing double degree programs

Figure 3 shows the most common words used by the Victorian universities when describing their double degree programs. It can be seen that double degree programs are mostly described through the use of the word “two”. Words such as “degrees”, “different”, “years”, “time”, “simultaneously” and “disciplines” are also common in the descriptions. However, terms such as “qualification”, “longer” and “courses” not frequently appeared. This shows that in their double degree communications, the universities tend to emphasize the fact that students are able to study two different degrees simultaneously than what qualifications they could earn as a result of studying a double degree. That is, there is a focus on the structure of the degrees rather than the potential outcome. The latter, however, could be a more convincing message to students and other university stakeholders e.g., employers.

Purpose and benefits of double degrees
A search through the websites relating to double degrees at Victorian universities reveals the following list of benefits:

• Students are able to study two different degrees;
• Duration of a double degree is shorter than the duration of two single degrees;
• Students are able to develop skills, knowledge and competencies in several areas;
• Double degrees provide the ability to study diverse discipline areas;
• Studying a double degree enriches and widens educational, personal and social experiences;
• Studying a double degree displays commitment and strong work ethic to employers as such degrees are perceived as being more challenging, and
• Graduates of double degrees are more competitive, have increased career choices and greater employment opportunities.

(Source: Summary from web-published information of Victorian universities)

Similarly, Nvivo output, Figure 4 (word cloud) shows the most common words used by the Victorian universities when describing the purpose of offering double degree programs. The terms “career” and “skills” appeared frequently in the description of double degree programs.
Most of the benefits listed above are similar to benefits expected by students who study double degrees as identified through previous research (e.g., Hobsons n.d., Russell et al., 2008). Overall, double degrees are considered to be supporting personal growth and developing high level knowledge and skills across a range of disciplines. These are also traits of the T-shaped professional explained in the literature review of this paper.

It is argued that double degrees are ideal in producing a graduate who is better equipped with required skills and knowledge as expected by students, employers and society (Culver et al., 2011). Whilst there is no exhaustive list of benefits relating to double degrees, the literature and university marketing publications seem to be sending consistent messages about the advantages of concurrently studying two undergraduate degrees from different discipline areas.

**Entry requirements for double degrees**

Whilst double degrees are perceived to be more prestigious and desirable, there appears to be no consistent message to the market about entry requirements for such degrees. A review was undertaken of the published entry requirements for double degrees which were combinations of single degrees that were available either individually or in pairs. No consistent trends were identified.

In some cases the ATAR (Australian tertiary admission ranking) for entry into the double degree is the higher of the two ATARs that would be for entry into the two single degrees. For example, Arts/Law double degree at Monash University, Clayton campus has an ATAR of 98, which is the same entry requirement as for a single Law degree at the same university campus. In some circumstances the ATAR for the double degree is as much as 25 points higher than the ATAR for each individual degree program. For example, Agriculture Science/Business double degree at La Trobe University has an ATAR of 80.45, but the ATAR for each single degree was 55.25. Computing Science (Honours)/Electrical Engineering (Honours) double degree has an ATAR of 89.2, while each of the single degrees has ATARs of 60.65 and 61.65 respectively.

There are other cases where the ATAR for the double degree is higher than that required for one degree, but lower than the ATAR required for the second degree. For example
Arts/Commerce double degree at Deakin University (Melbourne campus) has an ATAR of 64.2, whilst the ATAR for the single Commerce degree is 76. Similarly the ATAR for the Commerce/Law double degree at Deakin University (Melbourne campus) is 90.3 whilst the entry requirement for the Law degree is 94.85. (Note: All ATAR figures based on 2013 entry requirements).

Overall, these differing entry requirements are sending confusing signals to the market. Whilst double degrees appear to be more challenging and desirable, this is not the consistent message that is currently being conveyed.

**Structure of double degrees**

The desk audit showed that the curriculum design of double degree programs in Victorian universities take different forms. As already noted double degrees can be completed in less time than two individual degrees as often units of study are cross credited. For example, at Swinburne University of Technology, a Bachelor of Design (Communication Design) requires the completion of 24 units (over three years full time study), with 16 units in Communication design, plus 4 units specialisation and 4 units of electives. The Bachelor of Business at the same university also requires 24 units of study, with 8 core business units, plus an 8 unit Business major, plus 8 additional units which may be made up of various combinations, but are not limited to the business disciplines. The joint Bachelor of Design (Communication design)/Bachelor of Business preserves the 16 unit Communication design core and the 16 units of core and Business major, thus completing the 32 unit degree (which can be completed in 4 years full time study). This leaves no room for any additional units of study or electives, as the business units are counted in place of the specialisation and electives units in the Design degree, whilst the Communication design units are counted as the additional units in the Business degree. There is no overt integration of the two awards which are studied concurrently.

However, not all double degrees are designed so as to retain the core structure of the two single degrees. Take for example the Bachelor of Music/Bachelor of Laws at Monash University. The Bachelor of Music consists of 144 points (which can be completed over 3 years). Of this, 12 points of the degree may be non-music electives. A Bachelor of Laws consists of 192 points (over 4 years of full time study), including 12 points of non law electives. In the combined Music/Law degree, the structure requires the completion of 258 points in total (over 5 years) encompassing 156 points of Law and 102 points on Music, therefore, the requirements of both single degree programs are compromised. Whether or not the design of the original single degrees has been preserved, there is no effort made to overtly draw together the two disciplines being studied in any systematic manner.

Moulton et al., (2011) are critical of the design of double degrees as they found that for double degrees with Engineering the number of credits offered to students differed from that offered to students who undertake degrees sequentially. Consequently, double degree students undertake less study than students who undertake the same two degrees sequentially and they may not have the opportunity of enhancing critical thinking skills and knowledge in research-related learning activities. This may also lead double degree students to have fewer opportunities to continue into postgraduate research, especially in research areas at the discipline interfaces. Russell et al. (2008) are also critical of the structure of double degrees because although they have the potential to allow students to integrate and synthesise their
learning, their design is predominantly “administrative rather than pedagogical” (p. 576). Previous research has shown that each faculty or school develops its own component of a double degree with little or no attention to interdisciplinary, trans disciplinary or post disciplinary content, skills or teaching interactions (King, 2008; Welsman, 2007); and that programs appear to be “bolted together” (Fleming et al., 2010; Moulton, et al., 2011).

Conclusion

This pilot study explored ambiguities in the notion of double degree across nine universities in Victoria, Australia. Whilst previous literature argues that there is no global understanding of double degrees with the term having different meanings in different institutions and countries, the study attempted to initiate a discussion on the notion of double degrees within the Australian higher education context. The study found that over 29% of undergraduate degrees in Victoria are double degrees and the term “double degree” is most commonly used by the universities as opposed to “joint” or “dual” degrees. Despite the large variation in the number, design and proportion of double undergraduate degrees offered by Victorian universities, they share common terminologies in presenting information about degrees. Whilst the term “two” appears most frequently when presenting basic information regarding double degrees, terms such as “career” and “skills” appeared frequently when presenting the purposes of studying double degrees.

This research commenced as a pilot study and has highlighted some areas and inconsistencies worthy of further research. The desk audit has uncovered anomalies such as the prevalence of double undergraduate degrees with increasing demand, yet little common understanding of how such degrees should be structured and marketed to various stakeholders such as students and industry. This is highlighted by the fact that double degrees are not even mentioned in the national policy regulating Australian education and training qualifications, that is, the Australian Qualifications Framework (AQF).

Limitations of the study include the original scope and focus on one state of Australia, as well as the fact that all data collected was secondary data from university websites. Areas for future study include, expanding the scope of the study to other states of Australia and the collection of primary data from key players such as academics and university administrators to understand why they offer double degrees and the methods used to design them, as well as students/alumni and employers to explore their views on double degrees and whether they are perceived to be delivering a superior outcome.

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