Do accredited undergraduate accounting programmes in Australia meet the needs and expectations of the accounting profession?

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Do accredited undergraduate accounting programmes in Australia meet the needs and expectations of the accounting profession?

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Abstract

Purpose: This paper assesses the overall alignment of undergraduate accounting degree programmes from all Certified Practicing Accountants (CPA) Australia and Chartered Accountants Australia and New Zealand (CAANZ) accredited higher education providers in Australia with the profession's minimum educational expectations.

Design/methodology/approach: The paper uses a series of quantitative and qualitative analyses to determine whether or not the content and focus of these programmes prepares students for contemporary accounting practice.

Findings: The results of these analyses demonstrate that most accredited undergraduate accounting degrees in Australia are largely unaligned with the profession's expectations, with 18 (out of 57) degree programmes showing no overlap between their learning outcomes and the profession's minimum educational expectations. In addition, only two (out of 57) programmes are shown to address all of the profession's minimum expectations. A subsequent analysis of the focus and structure of the evaluated degree level learning outcomes revealed additional inconsistencies between the interpretation of individual minimum educational expectations by the profession and the higher education sector.

Originality/value: This paper demonstrates that accredited undergraduate degrees are predominantly unable to prepare students for entry into the accounting profession, and that the prior efforts to align accounting curricula with the profession's needs and expectation have thus far been largely unsuccessful. The findings of this paper are relevant for higher education providers and the accounting profession because they reflect the current level of alignment between the content and focus of undergraduate accounting education and the profession's expectations. In addition, the findings of this paper highlight that the current accreditation process of the professional accounting bodies in Australia does not generate the desired alignment between academia and accounting practice.

Key words Accounting Education; Learning Outcomes; Language Analysis; Graduate Skills; Employer Expectations

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Introduction

Professional undergraduate degree programmes in accounting are expected to produce graduates who possess the skills and knowledge required to enter the accounting profession successfully (Fleming, 2008; Jackson, 2016; Jackson & Chapman, 2012; Kavanagh & Drennan, 2008). Professional skills, including those related to teamwork, problem solving, analytical assessment, and communication, have been identified by employers and professional bodies (the profession) as critical prerequisites for graduates' successful entry into the workplace (Australian Association of Graduate Employers, 2011; Australian Government, 2015b; Clarke, 2009; Jackson, 2016). The high importance of these, and other professional skills, stems from their critical role in the successful application of technical knowledge in complex non-routine business situations (Jackson & Chapman, 2012; Robst, 2007; Sondergaart & Murthi, 2012), which are the focus of modern accounting practice (Bennett *et al.*, 2012; Tingey-Holyoak & Burritt, 2012).

Over time, the profession's extensive and persistent calls to improve the professional skills of graduates have generated extensive activity within the higher education sector (Bayerlein, 2015; Jackson & Chapman, 2012). Prior work in this area has focused on: improving the learning outcomes of graduates through developing a shared understanding of the profession's expectations (for example, see: Australian Learning and Teaching Council (ALTC) 2010; Hancock *et al.*, 2015); the development of professional skills in undergraduate programmes (for example, see: Bayerlein, 2015); and the transfer of graduates' skill and knowledge into contemporary work environments (for example, see: Jackson, 2016). Despite the extensive prior work aimed at aligning undergraduate accounting programmes with the needs and expectations of the profession, the limited professional skills of graduates continue to be noted as a key issue in accounting education (Australian Government, 2015b; Jackson, 2016; Jackson *et al.*, 2014; Rosenberg *et al.*, 2012).

Prior literature also highlights that many students perceive accounting as an uninteresting, conservative, and tedious occupation purely focused on technical expertise (Dimnik & Felton, 2006;

Jeacle, 2008). In addition, accounting students continue to exhibit personality traits aligned with the traditional stereotype of accountants as technical experts (Andon *et al.*, 2010). Interestingly, these negative perceptions of accounting have persisted although the profession has made considerable efforts to showcase that contemporary professional practice is focused on complex advisory services in a rapidly changing business environment (Bennett *et al.*, 2012; Howieson, 2003; Jeacle, 2008; Tingey-Holyoak & Burritt, 2012). Given the profession's efforts, it appears likely that students are exposed to other contradictory information. The most likely source of such information is the learning outcomes, focus, and content of accredited accounting degree programmes. The impact of the learning outcomes of such programmes is likely to be extensive, because they should prepare students for professional practice (Fleming, 2008; Jackson, 2016; Jackson & Chapman, 2012; Kavanagh & Drennan, 2008), and learning outcomes represent legally enforceable commitments on the part of the provider (Australian Government, 2015a). Whilst prior literature has not directly assessed the alignment and similarity between accredited undergraduate accounting programmes and the profession's widely accepted minimum educational expectations (MEEs), the continued use of technically focused accounting curricula is seen to promote the perception of accountants as technical experts (Boyce *et al.*, 2012).

The current paper extends the literature by assessing whether or not the extensive prior work to align Australian undergraduate accounting degree programmes with the needs and expectations of the Australian accounting profession have been successful. The paper investigates this question by assessing the alignment of degree level learning outcomes with the profession's MEEs, as well as through an assessment of the alignment between the focus and internal structure of the learning outcomes of accredited accounting degree programmes and the profession's MEEs.

The current paper differs from earlier work because its focus on degree level learning outcomes enables an assessment of a provider's interpretation of, and commitment to, the profession's MEE criteria. In addition, the assessment of degree level learning outcomes also provides an early

indication of the skills and knowledge of future graduates because learning outcomes represent a promise to students, which is enforceable under clause 1.4 of the *Higher Education Threshold Standards* (Australian Government, 2015a). The specific aims of the paper are twofold:

(1) to evaluate the extent to which the learning outcomes of accredited programmes reflect the profession's MEEs, and

(2) to assess whether the learning outcomes of accredited programmes and the profession's MEEs exhibit a similar focus and internal structure.

Development of hypotheses

The common foundation of both aims is an expectation that the learning outcomes of accredited accounting degrees in Australia reflect the profession's MEEs, and that providers interpret the profession's MEEs in a way that is consistent with the profession's contemporary focus. This expectation is based on the profession's long-standing calls to improve the professional skills of university graduates (De Lang & Watty, 2011), as well as the extensive efforts by the profession (for example, see: Certified Practicing Accountants Australia (CPA Australia) & Chartered Accountants Australia and New Zealand (CAANZ), 2012) and the higher education sector (for example, see: ALTC, 2010; Hancock *et al.*, 2015) to achieve this goal.

The first aim draws on this expectation to evaluate the extent to which accredited Australian undergraduate degree programmes are aligned with the profession's MEEs. Prior literature (for example, see: DiGabriele & Mundy, 2016; Howieson, 2003; Palm & Bisman, 2010; Pan & Perera, 2012; Rosenberg *et al.*, 2012; Sondergaart & Murthi, 2012) highlights that although accounting education in Australia is bound by clear standards and expectations, accounting graduates continue to lack the skills and knowledge that the profession requires. Despite the persistence of this issue over time, it appears likely that the extensive recent work in the higher education sector (for example, see: ALTC, 2010; Hancock *et al.*, 2015) has created change within accredited degree

programmes that have not yet been experienced by the profession. The existence of such a time-delay is likely because changes to degree programmes would impact on the skill and knowledge of future, rather than current, accounting graduates. Given the potential for a delayed impact of previous activities, as well as the focus of prior literature on the assessment of graduate skills, this paper hypothesises that prior work has had a positive influence on the alignment of accredited accounting degree programmes with the profession's MEEs.

H1) The learning outcomes of accredited undergraduate accounting degree programmes are strongly aligned with the profession's MEEs.

To address this hypothesis, the current paper requires the identification of a well-documented and widely accepted set of MEEs. The identification of such MEEs is critical because they represent the expectation set against which the learning outcomes of accredited degrees may be assessed. The current paper utilises the MEEs contained in the joint accreditation guidelines of the two main professional accounting bodies in Australia, CPA Australia and CAANZ (2012), and the '*Learning and Teaching Academic Standards Statement for Accounting*' project, published by the ALTC (2010) and endorsed by the Australian Business Deans Council. The utilised MEEs revolve around the following six criteria (for details, see: ALTC, 2010; CPA Australia & CAANZ, 2012; Hancock *et al.*, 2015).

- ***Judgement***

  Exercise judgement under supervision to solve routine accounting problems in straightforward contexts using social, ethical, economic, regulatory and global perspectives.

- ***Knowledge***

  Integrate theoretical and technical accounting knowledge which includes a selection of auditing and assurance, finance, economics, quantitative methods, information systems, commercial law, corporation law and taxation law.

- ***Application skills***

  Critically apply theoretical and technical accounting knowledge and skills to solve routine accounting problems.

- ***Communication***

Justify and communicate accounting advice and ideas in straightforward contexts to influence specialists and non-specialists.

- ***Teamwork***

  Contribute accounting expertise to a diverse team collaboratively solving a routine business problem in a straightforward context.

- ***Self-management***

  Reflect on performance feedback to identify and action learning opportunities and self-improvements.

In addition to the profession's MEEs, all (accredited) undergraduate accounting programmes must meet the Australian Qualifications Framework (AQF) (AQF Advisory Board, 2007) and the Higher Education Threshold Standards (Threshold Standards) (Australian Government, 2015a). AQF level seven (applicable to undergraduate degree programmes) stipulates additional minimum learning outcomes that all Australian undergraduate degrees must meet. Despite the general applicability of the AQF framework, its practical impact on this paper is negligible because the profession's MEEs meet or exceed all level seven AQF expectations. Conversely, the Threshold Standards (Australian Government, 2015a) that apply to all Australian degree programmes have a substantial impact on the current paper because Clause 1.4 (*Higher Education Threshold Standards 2015)* requires all higher education providers to develop clear degree level learning outcomes, and to ensure that students meet these outcomes. The Threshold Standards consequently enable degree level learning outcomes to be treated as definitive and enforceable promises by a higher education provider that summarise the content and focus of individual undergraduate accounting programmes. In addition, this legislation also supports the argument that degree programmes whose learning outcomes are not aligned with the profession's MEEs are unlikely to produce graduates with the skills and knowledge that are required by the profession.

The second aim of this paper investigates whether the focus and internal structure of the learning outcomes of accredited Australian undergraduate degree programmes is similar to that of the profession's MEEs. The current paper investigates this question because differences in the focus and

internal structure of accredited programmes and the profession's MEEs would explain why students continue to hold incorrect perceptions about contemporary accounting practice (Dimnik & Felton, 2006; Jeacle, 2008), and why this perception persists despite the profession's considerable efforts (Bennett *et al.*, 2012; Jeacle, 2008; Tingey-Holyoak & Burritt, 2012). In addition, the existence of a different focus and/or internal structure within the learning outcomes of accredited degrees and the profession's MEEs would also explain why students continue to exhibit personality traits that are aligned with the outdated stereotype of accountants as technical experts (Andon *et al.*, 2010), and why degree programmes are often unable to correct this misalignment (Boyce *et al.*, 2012).

The current paper investigates this question by comparing the technical/professional skills focus and internal structure of degree level learning outcomes with those of the profession's MEEs. This assessment is possible because learning outcomes summarise the content and focus of an individual degree programme, and are enforceable through the Australian Government's Threshold Standards (Australian Government, 2015a). Underpinning this assessment is the assumption that language makes an important contribution to the development of meaning for individuals and society (Glynos & Howarth, 2007; Howarth, 2013). Following de Saussure (2011), the current paper interprets language as a system of signs in which the union of meaning and sound-images conveys information. As a result, learning outcomes are interpreted as a system of signs that transfers information from educational providers to students, and an assessment of the content and focus of this communication provides information about the intentions of the sender.

The extensive prior work within the higher education sector to align graduate skills with the demands of the profession (for example, see: ALTC, 2010; Hancock *et al.*, 2015), and the widespread agreement about the importance of professional skills for contemporary practice (for example, see: Jackson & Chapman, 2012; Kavanagh & Drennan, 2008), enable the adoption of a directional hypothesis. Specifically, the current paper argues that the technical/professional focus of degree level learning outcomes should be similar to the profession's MEEs.

H2) The technical/professional focus of learning outcomes of accredited undergraduate accounting degree programmes is similar to that of the profession's MEEs.

This directional hypothesis is adopted despite prior evidence of a substantial misalignment between the skills and knowledge of graduates and the profession's expectations. The current paper adopts this hypothesis because although prior alignment efforts within the higher education sector should have changed the learning outcomes of accredited programmes, it is unlikely that the skills and knowledge of current graduates assessed in prior literature already reflect these changes. (De Saussure, 2011; Jackson & Chapman, 2012; Kavanagh & Drennan, 2008)

Study design and assessment methodology

The degree level learning outcomes of accredited accounting programmes are influenced by the profession's MEEs, as well as the requirements of the AQF framework (Figure 1). Together, the profession's MEEs and the learning outcomes of accredited degree programmes shape students' understanding of the nature and focus of contemporary accounting practice (Figure 1). The current paper assesses the alignment of these information sets by comparing the degree level learning outcomes of accredited undergraduate accounting degrees from all Australian higher education providers with the profession's MEEs. In addition, the current paper undertakes an evaluation of the focus and structure of the profession's MEEs and the learning outcomes of accredited undergraduate degrees to investigate if higher education providers and the profession interpret the profession's MEEs consistently.

INSERT FIGURE 1 HERE

The paper initially used the webpages of CPA Australia and the CAANZ to identify all Australian higher education providers that offered one (or more) accredited undergraduate accounting programme(s) in 2016. This search yielded a list of 57 providers with programmes accredited by both CPA Australia and the CAANZ. During December 2015, one researcher visited the public webpages of all listed providers to identify and hand collect degree level learning outcome information through the following process:

1. Identification of most current year level information (usually 2016).
2. Identification of flagship degrees (for providers offering multiple accredited degrees):
    - The researcher assumed the role of a prospective student interested in pursuing an accredited degree in accounting.
    - The degree most highly recommended by the prospective student webpages of a provider was regarded to be the respective provider's flagship degree.
3. Identification of degree level learning outcomes (for accredited/flagship degrees) through:
    - Review of each provider's *prospective students webpages* (or similar).
    - Review of each provider's *current student webpages* (or similar).
    - Review of each provider's *student handbook* (or similar).
    - Use of the webpage search function of each provider page (use of search terms (1) "learning outcome", and (2) "learning outcome + >>degree name<<").

Generalist degree programmes in which the selection of a particular major would result in a student's enrolment in an accredited/flagship degree programme were reviewed at degree level as well as the level of the required major. In cases where learning outcomes were available for generalist degree programmes as well as applicable majors, both sets of learning outcomes were recorded.

Learning outcomes were defined in the broadest possible sense to recognise that different providers may choose to present/communicate this information in different forms. As a result, any type of

information that outlined or described the skills and knowledge that students would develop during their enrolment was seen to represent learning outcomes. In cases where no specific learning outcomes could be identified, information outlining or describing the focus and/or aims of the assessed degree programme was collected. Information that related to structural or progression arrangements, including but not limited to lists of subjects to be completed in an accredited programme, were excluded.

The learning outcomes of each degree programme were subsequently compared against the six critical skill areas contained in the joint accreditation guidelines of CPA Australia and CAANZ (2012), and the '*Learning and Teaching Academic Standards Statement for Accounting'* project, published by the ALTC (2010). Each skill area was scored as being "present" or "absent" from each set of learning outcomes. Presence/absence decisions were made by comparing the qualitative descriptors contained within the profession's guideline document with the collected learning outcome information. Skill areas were scored as "present" if a description of this skill was provided in the collected learning outcome, regardless of the format used to provide this description. In addition to the collection of degree level learning outcomes, descriptive information about each analysed degree and education provider was collected. The resulting degree level database was then used to conduct quantitative and qualitative assessments aimed at interrogating the two hypotheses of this paper.

Results and discussion

The initial collection of degree level learning outcome information revealed that 30 out of 57 (52.6%) analysed degree programmes did not provide clearly identifiable learning outcomes on their webpages. This initial result is surprising because governmental regulations (Clause 1.4; Higher Education Threshold Standards 2015) require the development of clear learning outcomes for all degree programmes. Given this requirement, in combination with the competitive Australian higher

education sector and the high importance of this information for students, the current paper expected to find clearly articulated learning outcomes for most (if not all) degree programmes.

This finding was further interrogated through a comparison of the learning outcome presence/absence pattern of university/non-university providers, as well as Group of eight (Go8) universities, which represent Australia's leading research focused universities (Group of Eight, 2016), and non Go8 universities (within the university provider group only). The rationale underpinning these assessments relates to the relative quality and societal standing of the different higher education providers in Australia. Specifically, this analysis assumes that the degree programmes of Go8 universities represent offerings of the highest quality and societal standing, followed by the offerings of the general university sector, and non-university education providers.

The relationship between the presence/absence patterns of each grouping was evaluated via two contingency table analyses. The results of these tests indicated the absence of a significant relationship between the presence/absence of clearly articulated learning outcomes and a provider's membership in the university/non-university (X^2 (DF = 1, n = 57) = 3.13, p. =0.08) grouping, as well as the university/Go8 university (X^2 (DF = 1, n = 40) = 0.10, p. =0.75) grouping. The large proportion of higher education providers without clearly identifiable learning outcomes, as well as the absence of a clear segregation between non-university providers, universities, and Go8 universities challenges the commonly held perception that the outcomes of undergraduate accounting degrees from institutions with high societal standing exceed those of less well-perceived providers. The current paper is able to draw this conclusion because the legislative environment in Australia requires all providers to develop clear degree level learning outcomes, and providers do not appear to have any incentive to withhold existing learning outcome information from students, unless such information reveals that their degree programme does not meet the profession's MEEs. Although this paper was unable to identify a clear rationale why providers would choose to withhold learning outcome information from students, it is possible that some providers chose to present this

information in the form of general aims/focus areas when describing their degree programmes. The current paper is able to test this possibility by comparing the total frequencies with which the six MEE criteria appeared in degree level descriptions that included/did not include clearly identifiable learning outcomes.

The current paper utilised an independent-samples *t* test to investigate this possibility (normal distribution of utilised data was assessed, no issues were detected). This test identified a significant difference between providers that communicated clear learning outcomes and those who did not. The descriptions of degree programmes that contained clearly identifiable learning outcomes ($M = 2.81$, $SD = 1.41$) were significantly ($t(55) = 7.87$, $p = 0.00$) more aligned with the profession's MEEs than the descriptions of programmes that did not provide clearly identifiable learning outcomes ($M = 0.50$, $SD = 0.73$). Although this finding is not surprising given the absence of a clear rationale to withhold learning outcome information from students, it demonstrates that providers whose programmes are more strongly aligned with the profession's MEEs are also more proactive in highlighting this alignment to students.

In addition to identifying a significant difference between groups of providers, the results of this test statistic also highlight that the overall alignment of undergraduate programmes (measured by the sum of MEE criteria covered by an individual degree programme) with the profession's MEEs is low ($M = 1.60$, $SD = 1.62$). Given this low alignment, the paper investigated the level of alignment of individual degree programmes with the profession's MEEs (also, see Appendix A for provider specific information).

INSERT TABLE 1 HERE

Table 1 highlights that only two of the assessed degree programmes cover all six MEE criteria in its learning outcomes, and that only seven out of 57 degree programmes (12.2 percent) cover five MEE criteria. In addition, table 1 highlights that a majority of all analysed programmes (32 out of 57, = 56.1 percent) are largely unaligned (covering a maximum of one criterion) with the profession's expectation. Degree programmes whose webpage description include clearly identifiable learning outcomes display a higher level of alignment, with 3 out of 27 (11.1 percent) programmes covering five MEE criteria, whilst only 6 out of 27 (22.2 percent) programmes cover a maximum of one criterion. The lowest level of alignment with the profession's MEEs is displayed by degree programmes that do not provide clearly identifiable learning outcomes in their webpage descriptions. In this group, 26 out of 30 (86.7 percent) programmes are largely unaligned with the profession's expectations, whilst no programme learning outcome is aligned with more than two MEE criteria.

Given these results, this paper's first hypothesis, stating the existence of a strong alignment between the analysed learning outcomes and the profession's MEEs, is rejected. These results support the profession's long-standing (De Lang & Watty, 2011), and ongoing (Andon *et al.*, 2010; Australian Government, 2014, 2015b; Rosenberg *et al.*, 2012; Sondergaart & Murthi, 2012) calls on the higher education sector to align the skills and knowledge of accounting graduates more closely with the needs of contemporary professional practice. In addition, the findings of the current paper highlight that the previous efforts to align the learning outcomes of accredited undergraduate accounting degree programmes in Australia (for example, see: ALTC, 2010; Hancock *et al.*, 2015) have not yet achieved the desired results. One potential reason for the limited success of these efforts relates to the persistence of traditional teaching strategies and priorities in undergraduate accounting education (Bayerlein, 2015). Prior literature highlights that the education sector's continued reliance on traditional teaching and learning paradigms leads to an inappropriate interpretation of the profession's needs and expectations, as well as the development of degree programmes that do not prepare students for contemporary workplace challenges (Bayerlein, 2015).

Despite the low overall alignment between the profession's MEEs and the learning outcomes of accredited undergraduate programmes, the higher education sector may still be able to produce graduates with highly relevant skills if the focus of their degree programmes matches the needs of the profession. The current paper addresses this question by investigating the presence/absence pattern across the six MEE criteria. This assessment enables an evaluation of the focus of undergraduate accounting programmes because it highlights the relative importance that an individual higher education provider attaches to each criterion.

INSERT TABLE 2 HERE

Table 2 provides presence/absence information across all MEE criteria for all analysed programmes, as well as programmes with/without clearly identifiable learning outcomes. The relative occurrence frequency across the six criteria varied widely, ranging from a maximum of 77.8 percent (for the "knowledge" criterion in the group of programmes that contained clear learning outcomes) to a minimum of 0.00% (for the "teamwork" and "self-management" criteria in the group of programmes without clear learning outcomes). Despite this substantial variability, a general trend emerged across all three groups of programmes. Specifically, the "knowledge" criterion exhibited the highest relative occurrence frequency (RANK 1) in all groups, whilst the "self-management" criterion exhibited the lowest relative occurrence frequency (RANK 6) in all groups. Furthermore, the relative occurrence frequency of the remaining criteria was also largely consistent across all groups of programmes.

Based on this initial quantitative assessment, it is likely that most accredited undergraduate programmes continue to retain an outdated focus on technical skills (also, see: Bayerlein, 2015), and do not communicate the demands and requirements of contemporary accounting practice adequately. This assessment is also supported by the high overall occurrence frequency of MEE criteria related to technical competence ("knowledge" (Rank 1 of 6) and "application skills" (Rank 3 of 6)), as well as the low overall occurrence frequency of criteria related to professional skills

("judgement", "communication", "teamwork", and "self-management"). The identification of "knowledge" as the criterion that is most often included in the analysed learning outcomes is aligned with other findings in prior literature. Specifically, literature highlights that students often perceive accounting as an uninteresting, conservative, and tedious occupation purely focused on technical expertise (Dimnik & Felton, 2006; Jeacle, 2008). Degree programmes that exhibit a strong focus on the transfer of technical knowledge to students are unlikely to challenge this misconception successfully because students are not provided with sufficient opportunity to develop the extensive professional skills required by contemporary accounting practice. Whilst it is possible that programmes which are focused on the transfer of technical skills to students also contain opportunities to develop professional skills, such opportunities do not represent a key learning outcome for this type of degree programme.

Further analysis of the extent to which the learning outcomes of accredited degree programmes are aligned with the profession's expectations is provided through a qualitative language assessment. This assessment approach is employed because the utilised language clarifies the profession's expectations, and reflects the activities and views of individual higher education providers. A comparison of the language utilised by the profession and the providers of accredited degrees is consequently able to provide additional insights into the alignment of learning outcomes and the profession's expectations. Following the propositions of de Saussure (2011), the current paper argues that the meaning of words used to communicate the profession's MEEs should match the meaning of words used to summarise the learning outcomes of accredited degree programmes (also, see: Howarth, 2013). De Saussure (2011, p. 114) argues that meaning is derived from the "interdependent terms in which the value of each term results solely from the simultaneous presence of the others". The application of de Saussure's work in the context of the current paper highlights that the exact meaning of an individual MEE criterion is dependent on the presence and absence of the remaining criteria. For example, the "judgement" criterion represents different

sound/mind images, all else being equal, when paired with the "knowledge" criterion or the "communication" criterion. (De Saussure, 2011)

Another element of de Saussure's (2011) work is the division of a word/term/descriptor into the signifier (the symbols used to form the word/term/descriptor) and the signified (the sound/mind image or meaning gained from the signifier). In linguistic terms, a word/term/descriptor represents a sound/mind image or meaning, rather than a group of symbols (De Saussure, 2011). The current paper utilises the sound/mind image concept of de Saussure (2011) to argue that the sound/mind images that are created by the learning outcomes of accredited accounting programmes should match the sound/mind images created by the profession's MEEs. This focus on sound/mind images, rather than specific words/terms/descriptors, enables the current paper to disregard simple textual differences, and to focus on differences in the concepts that underpin the sound/mind images within the analysed information. The current paper investigates these differences through a learning outcome structure analysis. This analysis is based on the premise that the meaning of the sound/mind image of an individual learning outcome/MEE criterion is partially determined by the presence or absence of the other MEE criteria.

The structural analysis results outlined in Table 3 describe the choices of those providers whose accredited degrees exhibited a low overall alignment with the profession's MEEs. Degree programmes are seen to exhibit a low level of alignment when their learning outcomes address one or two MEE criteria. The current paper focuses on low alignment degrees because the learning outcome interactions within degree programmes that are well aligned with the profession's MEEs are complex, and the internal structure focused arguments of this paper are equally well supported by a discussion of the interactions in less complex low alignment degree programmes. The discussion of low alignment degree programmes achieves this outcome because it showcases the structural requirements that apply to all analysed programmes, and well over half (41 out of 57) of all analysed programmes are aligned with a maximum of two MEE criteria.

INSERT TABLE 3 HERE

Table 3 initially focuses on degree programmes that are aligned with only one MEE criterion. Overall, 14 (out of 57) providers chose to align their degree programmes with only one criterion. Out of these providers, nine chose to focus their programmes on technical skills (represented by the "knowledge" and "application skills" criteria), and five focused their programmes on professional skills. Within the technically focussed degree programmes, a sole focus on the "knowledge" criterion is aligned with the traditional perception of accounting education as being technical knowledge driven (Bayerlein, 2015). Whilst this focus is outdated (Bennett *et al.*, 2012; Tingey-Holyoak & Burritt, 2012), the foundation nature of the "knowledge" criterion within the profession's MEEs allows providers to create internally consistent degree programmes. Degree programmes that are only aligned with the "application skills" criterion, on the other hand, do not appear to exhibit an internally consistent set of learning outcomes. Such degree programmes are likely to lack internal consistency because the profession's MEEs describe application skills as "critically apply theoretical and technical accounting knowledge and skills to solve routine accounting problems" (ALTC, 2010; CPA Australia & CAANZ, 2012; Hancock *et al.*, 2015). The sound/mind image that is created by this descriptor highlights that the successful development of "application skills" requires pre-existing "knowledge". Given this hierarchy within the profession's MEEs, it is unclear how the learning outcomes of degree programmes that are solely focused on "application skills" represent an internally consistent representation of the profession's expectations.

The five remaining degree programmes that are aligned with a single MEE criterion are related to "judgement" (2 out of 14) and "communication" (3 out of 14). Whilst the descriptors attached to these criteria may allow providers to focus their degree programme on "judgement" or "communication" in isolation from the profession's remaining expectations. The sound/mind image that is created by the interactions between all six MEEs highlights that the successful development

"judgement" and "communication" skills is only possible once students have understood the theoretical and technical foundations of accounting, as well as the context in which contemporary accounting work is conducted. These results, in combination with the work of de Saussure (2011), suggest that providers whose degree programmes focus on only one MEE criterion (other than those focused on "knowledge") interpret the MEEs in a way that is inconsistent with the expectations of the profession.

Table 3 also provides information about degree programmes in which two MEE criteria are adopted concurrently (9 out of 57). Following the previously outlined arguments, seven (out of 9) programmes exhibit internally consistent learning outcomes. These programmes are judged to be internally consistent because they focus on "knowledge" and "application skills" (4 programmes), or "knowledge" and "communication" skills (3 programmes). Both groups of programmes are internally consistent because they contain opportunities for students to develop the theoretical and technical foundations that are applied or communicated. However, although both groups of programmes are internally consistent, the four programmes focused on "knowledge" and "application skills" are only loosely aligned with the demands of contemporary accounting practice (also, see Bayerlein, 2015; Bennett *et al.*, 2012; Tingey-Holyoak & Burritt, 2012). As a result, this group of programmes is unlikely to produce accounting graduates that are fully prepared for contemporary professional practice. The three programmes that are focused on "knowledge" and "communication" skills are internally consistent and somewhat more aligned with the profession's expectations. The increased alignment of these programmes stems from their dual focus on technical and professional skills. However, given the low overall alignment of this group of programmes with the profession's MEEs, the work of de Saussure (2011) indicates that each individual criterion may not fully reflect the profession's expectations, because providers have interpreted both criteria without reference to the four remaining MEE criteria.

The two remaining degree programmes that adopted two MEE criteria (Table 3) are focused on "communication" and "teamwork", and "application skills" and communication", respectively. Both programmes are judged to lack internal consistency, and are therefore unlikely to produce graduates that meet the profession's expectations. This conclusion is drawn because the sound/mind images of the profession's descriptors for "application skills", "communication", and "teamwork" require the pre-existence of theoretical and technical accounting knowledge, and both degree programmes fail to explain how students will develop such knowledge.

In addition to the programme focused structure analysis provided above, the current paper also examined the generated structural information on a criterion by criterion perspective. This examination revealed that providers only adopt the "self-management" criterion when their overall degree programme is already strongly aligned with the profession's MEEs. Specifically, degree level learning outcomes only incorporate the "self-management" criterion if at least three other MEE criteria (M = 4.2) are also adopted. This finding is significant, because literature suggests that well developed self-management skills are critical for successful contemporary workplace practices (Bridgstock 2009), and that these skills are highly valued by employers (Tempone *et al.*, 2012). In addition, the "self-management" criterion does not exhibit strong ties to the other five MEE criteria, and degree programmes would consequently be able to address this criterion in isolation, without being internally inconsistent. The absence of degree programmes that contain self-management learning outcomes without also being strongly aligned with the remaining MEEs suggests that providers may be unwilling and/or unable to integrate this criterion into their degrees, unless their degrees are already strongly aligned with the profession's MEEs. Whilst it is unclear why this may be the case, it is possible that the complexity of the criterion hinders its application by providers whose familiarity with the profession's MEEs is limited. The sound/mind image of the "self-management" descriptor within the MEEs is complex because it relates to students' intrinsic behaviour, rather than students' engagement with extrinsic information and contexts. As a result, the sound/mind image of "self-management" is not as precise as that of other criteria (for example "knowledge"). Further

difficulties arise because the definition of self-management varies widely between employers (Tempone *et al.*, 2012). This lack of precision, in combination with the varied industry perception of self-management may create uncertainty about the development, practice, and assessment of this criterion within individual degree programmes, and reduce the frequency with which this criterion is adopted, unless providers are already confident that they already possess a good understanding of the profession's expectations.

Overall, the analyses in the current paper demonstrate that the learning outcomes of most accredited undergraduate accounting degree programmes do not meet the profession's expectations. This conclusion is reached because the learning outcomes of 18 out of 57 programmes (31.58%) fail to reflect any MEE criteria. In addition, 20 out of 23 programmes for which a language structure analysis was undertaken exhibited either a sole focus on the development of technical skills (10 programmes), or displayed internal inconsistencies (10 programmes). Even if all 16 programmes whose learning outcomes incorporate three or more MEE criteria, and for which no language structure analysis was undertaken, are deemed to have a focus that is similar to that of the profession, the paper demonstrates that at least 66.67% of all analysed programmes (38 out of 57) do not exhibit any similarities with the profession's focus, because 18 programmes are not aligned with any MEE criterion, and 20 programmes fail to meet the structure and/or internal consistency requirements discussed above. Given these results, hypothesis two is rejected.

The rejection of hypothesis two indicates that graduates of accredited undergraduate programmes in Australia are unlikely to meet the needs and expectations of the profession today, and within the foreseeable future. The current paper is able to extrapolate its findings to the skills and knowledge of future graduates because the analysed learning outcomes represent those applicable to degree programmes that commenced in either 2015 or 2016. Given that providers are expected to enable students to achieve the degree level learning outcomes that were stated at the time they

commenced their studies, the profession may only expect future graduates to exhibited the currently stated learning outcomes.

The findings of the current paper also highlight that prior work (for example, see: ALTC, 2010; Hancock *et al.*, 2015), which was undertaken to align the educational practices with the profession's expectations, has not yet achieved its desired outcome. However, despite the absence of a strong alignment, the critical importance of well-developed professional skills is acknowledged by degree providers as well as the profession (Jackson & Chapman, 2012; Kavanagh & Drennan, 2008). As a result, it is possible that future amendments to degree level learning outcomes address the profession's long standing calls (for example, see: Andon *et al.*, 2010; Howieson, 2003; Rosenberg *et al.*, 2012; Sondergaart & Murthi, 2012) for a stronger alignment between education and professional practice. Whilst the current paper did not specifically assess this issue, it is worth noting that at least some providers appear to aim for a stronger alignment between their degree level learning outcomes and the profession's MEEs. Some evidence of this shift is provided by one of the analysed degree programmes (offered by a Go8 university) whose learning outcomes changed dramatically between the sample period (December 2015) and January 2016. During the sample period, the relevant degree level learning outcomes did not incorporate any of the profession's MEEs. In January 2016, the provider released updated degree level learning outcomes which incorporated all six MEE criteria. In addition, the language structure of the updated learning outcomes was highly similar to the profession's MEE document. Although it is unclear how the content, delivery, and assessment that underpin the learning outcomes of this degree programme have undergone such rapid change, this example suggests that at least some higher education providers are actively seeking to align student learning outcomes with the profession's MEEs.

Conclusion

The current paper aimed to evaluate the level of alignment between the skills and knowledge that the Australian accounting profession expects graduates of accredited accounting degrees to possess,

and the learning outcomes of accredited undergraduate accounting degrees in Australia. In addition, the paper evaluated the extent to which the technical/professional focus and internal structure of accredited undergraduate accounting degree programmes are similar to that of the profession's MEEs.

The generated results demonstrate that accredited undergraduate degrees in Australia are largely unaligned with the profession's expectations, and that most degree level learning outcomes do not reflect the profession's technical/professional focus. As a result, it is concluded that graduates of accredited undergraduate accounting programmes in Australia are unlikely to meet the needs of contemporary accounting practice. Using a qualitative language structure assessment approach, the current paper also demonstrates that the interpretation of the profession's MEEs in a high number of degree programmes does not match the profession's expectations. Despite these disconnects, the current paper does not argue that the analysed degree programmes fail to educate students. Instead, it argues that graduates may have difficulties to enter the workforce successfully, and/or be unaware of the demands and challenges in contemporary professional practice unless degree programmes are strongly aligned with the profession's MEEs.

The findings of this paper are relevant for higher education providers and the profession. Benefits for education providers arise because the language structure analyses of the paper highlight how different interpretations, as well as the unsystematic adoption of MEE criteria, within individual degree programmes may result in inconsistent learning outcomes. The outlined analysis also enables individual providers to reflect on, and improve on, their stated commitments to students, industry and society.

Benefits for the profession arise because the current paper demonstrates that although the higher education sector has acknowledged the need to align its learning outcomes with the profession's needs and expectations, this commitment has thus far had little practical impact. In addition, the results of this paper represent a call on the professional accounting bodies in Australia to re-examine

the adequacy of their current degree accreditation process. This call for action is warranted because although all degree programmes that are analysed in this paper are accredited by CPA Australia and CAANZ, most programmes failed to even be loosely aligned with the profession's expectations.

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Appendix 1: Key-content Assessment Table for all Providers

Providers	Judgement	Knowledge	Application skills	Communication	Teamwork	Self-management
Provider 1		1	1	1		
Provider 2	1					
Provider 3	1					
Provider 4						
Provider 5			1			
Provider 6				1		
Provider 7	1	1	1	1		1
Provider 8						
Provider 9		1	1			
Provider 10			1			
Provider 11	1	1	1	1		1
Provider 12		1	1	1	1	1
Provider 13				1	1	
Provider 14		1		1		
Provider 15						
Provider 16						
Provider 17	1	1	1	1		1
Provider 18		1				
Provider 19			1			
Provider 20			1	1	1	1
Provider 21		1	1			
Provider 22						
Provider 23		1	1			
Provider 24	1	1	1	1		
Provider 25		1	1		1	
Provider 26		1				
Provider 27						
Provider 28			1	1		
Provider 29		1				
Provider 30		1				
Provider 31		1	1	1		
Provider 32	1	1	1	1	1	1
Provider 33						
Provider 34		1		1		
Provider 35						
Provider 36				1		
Provider 37		1				
Provider 38		1		1		
Provider 39						
Provider 40						
Provider 41						
Provider 42						
Provider 43	1	1	1	1	1	
Provider 44		1	1			
Provider 45	1	1	1	1		1
Provider 46		1		1	1	
Provider 47		1		1	1	
Provider 48						
Provider 49						
Provider 50				1		
Provider 51						
Provider 52						
Provider 53						
Provider 54	1	1	1	1	1	1
Provider 55	1	1	1	1	1	
Provider 56						
Provider 57		1				
Total	11 (out of 57)	28 (out of 57)	22 (out of 57)	23 (out of 57)	10 (out of 57)	8 (out of 57)
Percent	19.3	49.1	38.6	40.4	17.5	14.0

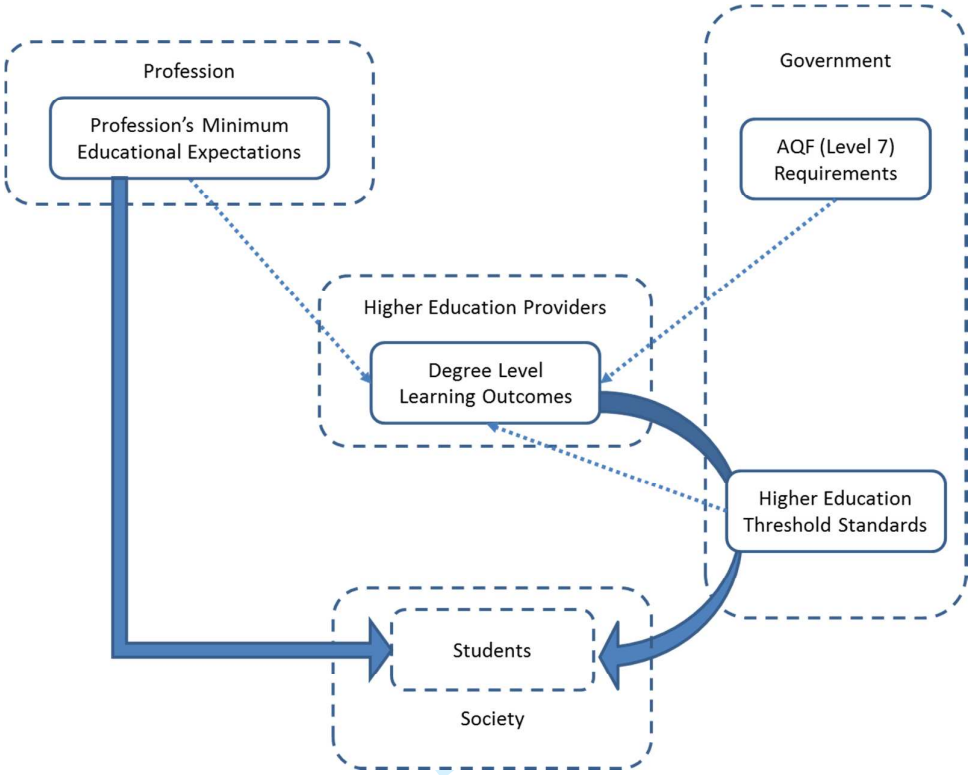

Figure 1: Assessment Outline

Where: "solid arrows" represent communication processes between the profession and students, as well as higher education providers and students; and "dotted arrows" represent substantial influences on degree level learning outcomes.

Table 1: Relative alignment of degree programmes with MEEs

Where: "Total (LO)" represents programmes whose webpages included clearly identifiable learning outcomes; "Total (NO-LO)" represents programmes whose webpages did not include clearly identifiable learning outcomes; "Total (All)" represents all analysed programmes; and values in brackets represent the relative presence (percentage) of an individual criterion in a given sub-sample.

	Total (LO)	Total (NO- LO)	Total (All)
Presence of 6 (out of 6) criteria	2 (7.4)	0 (0.0)	2 (3.5)
Presence of 5 (out of 6) criteria	7 (25.9)	0 (0.0)	7 (12.2)
Presence of 4 (out of 6) criteria	2 (7.4)	0 (0.0)	2 (3.5)
Presence of 3 (out of 6) criteria	5 (18.5)	0 (0.0)	5 (8.8)
Presence of 2 (out of 6) criteria	5 (18.5)	4 (13.3)	9 (15.8)
Presence of 1 (out of 6) criteria	5 (18.5)	9 (30.0)	14 (24.6)
Presence of 0 (out of 6) criteria	1 (3.7)	17 (56.7)	18 (31.6)
Total	**27 (100)**	**30 (100)**	**57 (100)**

Table 2: Presence of critical skill criteria in degree level learning outcomes

Where: "Total (LO)" represents the presence/absence of the six critical skill areas identified in the profession's MEEs for programmes whose webpages included clearly identifiable learning outcomes; "Total (NO-LO)" represents the presence/absence of the six critical skill areas identified in the profession's MEEs for programmes whose webpages did not include clearly identifiable learning outcomes; "Total (All)" represents the presence/absence of the six critical skill areas identified in the profession's MEEs for all programmes; and (RANK) indicates the rank (highest to lowest) of each criterion, within each set of programmes.

	Judgement	Knowledge	Application skills	Communication	Teamwork	Self-management
Total (LO)	10 (out of 27)	21 (out of 27)	16 (out of 27)	20 (out of 27)	10 (out of 27)	8 (out of 27)
Percent	37.0 (RANK 4/5)	77.8 (RANK 1)	59.3 (RANK 3)	74.1 (RANK 2)	37.0 (RANK 4/5)	29.6 (RANK 6)
Total (NO-LO)	1 (out of 30)	7 (out of 30)	6 (out of 30)	3 (out of 30)	0 (out of 30)	0 (out of 30)
Percent	3.3 (RANK 4)	23.3 (RANK 1)	20.0 (RANK 2)	10.0 (RANK 3)	0.0 (RANK 5/6)	0.0 (RANK 5/6)
Total (All)	11 (out of 57)	28 (out of 57)	22 (out of 57)	23 (out of 57)	10 (out of 57)	8 (out of 57)
Percent	19.3 (RANK 4)	49.1 (RANK 1)	38.6 (RANK 3)	40.4 (RANK 2)	17.5(RANK 5)	14.0 (RANK 6)

Table 3: Structure of MEE criteria combinations in degree level learning outcomes

Where: "Programmes with LOs" are programmes with clearly identifiable learning outcomes that address one, or two MEE criteria; "Programmes without LOs" are programmes without clearly identifiable learning outcomes that address one or two MEE criteria; and "All Programmes" are all analysed programmes that address either one or two MEE criteria.

Single MEE criterion adopted	Programmes with LOs	Relative occurrence	Programmes without LOs	Relative occurrence	All programmes	Relative occurrence
Judgement	0	0.0%	2	22.2%	2	14.3%
Knowledge	2	40.0%	4	44.5%	6	42.9%
Application skills	1	20.0%	2	22.2%	3	21.4%
Communication	2	40.0%	1	11.1%	3	21.4%
Teamwork	0	0.0%	0	0.0%	0	0%
Self-management	0	0.0%	0	0.0%	0	0%
TOTAL	**5 (out of 27)**	**100%**	**9 (out of 30)**	**100%**	**14 (out of 57)**	**100%**
Two MEE criteria adopted						
Knowledge & Application	3	60.0%	1	25.0%	4	44.5%
Communication & Teamwork	0	0.0%	1	25.0%	1	11.1%
Knowledge & Communication	1	20.0%	2	50.0%	3	33.3%
Application skills & Communication	1	20.0%	0	0.0%	1	11.1%
TOTAL	**5 (out of 27)**	**100%**	**4 (out of 30)**	**100%**	**9 (out of 57)**	**100%**