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Developing and Presenting a Framework for Meeting Industry, Student and Educator Expectations in University Degrees

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Abstract

This paper identifies the narrow interpretation of the constructive alignment model (Biggs, 1996), which has permeated higher education programs internationally, as a key source for this continuing disconnect between higher education and the needs of employers, students and society. Furthermore, a systematic framework extending the traditional constructive alignment model is proposed to enable curriculum development, implementation and assurance decisions to be made with explicit reference to the needs of a variety of stakeholders. This paper is relevant for educators involved in professional degree programs, professional employers and university administrators.

Key words*: Professional Education; employability; student needs; future focused education; curriculum framework.*

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Introduction

Many professionally focused degree programs, including accounting, have been longstanding recipients of criticisms from employers, students and educators due to their inability to develop graduates that meet the needs of their profession. Such criticism persists despite extensive efforts to align curricula with industry needs, and the numerous assurances of learning and accreditation processes that have become de-facto industry standards in higher education. Over the last two decades, government, industry associations and employers have criticised the work-readiness of university graduates from a variety of discipline areas. Particular criticisms focus on graduates' lack of 'employability', 'graduate' or 'generic' skills (Australia. Department of Education, Training and Youth Affairs, Evaluations and Investigations Programme and AC Nielsen Research, 2000; (Precision Consulting, 2007; Robles, 2012). The lack of appropriately prepared graduates (Sondergaart & Murthi, 2012), as well as the pressure from employers to alleviate this skills shortage(Jackson & Chapman, 2012b), has influences professional university degree programs considerably.

It is widely accepted that professionally focused university degrees should prepare graduates for entry into the profession of their choice (Jackson, Sibson, & Riebe, 2014; Kavanagh & Drennan, 2008). Professional degree programs, such as accounting, have historically focused on developing the technical skills and knowledge within a student's disciplinary area (Bayerlein, 2015), because such skills were seen are being pivotal to a graduate's overall success as professionals (Boyce, Greer, Blair, & Davids, 2012; Gray & Collison, 2002). However, due to technological advancements and organisational changes in contemporary workplaces, technical skills no longer represent the pivotal skill requirements of graduates (Mitchell, Skinner, & White, 2010). Instead, "softer" professional and interpersonal skills have become the key success driver in the professional careers of graduates (James & James, 2004).

For professional degree programs such as accounting, higher education literature (Bayerlein & Timpson, 2017; De Lang & Watty, 2011; Jackson, 2016) recognises this need for change in university programs. In addition, the profession, government and educators have undertaken a considerable amount of effort to improve the alignment of higher education programs with professional accounting practice (ALTC, 2010; Hancock et al., 2015). Whilst programs such as these have undoubtedly narrowed the gap between higher education and the world of work, it is critical that activities to develop critically important professional skills are deliberately embedded into the higher education curriculum (Deepa & Seth, 2013). The impact of attempts to undertake such systematic and deliberate curriculum change in professional degree programs, such as accounting, has been severely limited (Bayerlein & Timpson, 2017).

Instead of undertaking substantial curriculum review activities to address the changing needs of students, employers and society, universities appear to focus their attention on the design and wording of assessment tasks as a means to attain and assure industry relevant student learning activities (Jackson, 2009; Jackson & Chapman, 2012a; Mills, Tivendale, Chan, & Liu, 2013). This focus may align learning outcomes and professional practice on paper. However, differences in students' learning styles (Kolb, 1985), developmental needs (Robles, 2012) and educational expectations continue to result in a mismatch between students' learning needs and developmental opportunities unless systematic curriculum change occurs. It is suggested by Keiper, Sieszputowski, Morgan, and Mackey (2019) that embedding employability into curriculum is very complex.

This paper supports educators and universities in undertaking the required curriculum changes by proposing a systematic extension to the constructive alignment framework of Biggs (1996). Since its development, constructive alignment has become an international de-facto industry standard that assists higher education providers to

align their teaching and assessment activities with degree (or subject) level learning outcomes. The current paper extends the traditional constructive alignment framework to explicitly include a consideration of multiple stakeholders in the development of curricula, without impacting on existing assurance of learning processes.

The remainder of this paper explores the traditional constructive alignment framework, discusses the need for, and impact of, an extended constructive alignment framework (simultaneous constructive alignment (SCA)), and discusses the impact of this framework for students, educators and universities.

Literature Review

Constructive Alignment

The education literature is replete with definitions of the approaches to curriculum design (Pinar, 2013; Sheehan, 1986). However, curriculum design is usually seen as being '… analogous to reading a story backwards. One ends up defining the conclusion before constructing the plot' (Kamali, Liles, Winer, Jiang, & Nicolai, 2006, p. 364). The notion of "backwards design" (Wiggins & McTighe, 1998) in curriculum development also underpins the constructive alignment framework of (Biggs, 1996), which has become a de-facto industry standard for aligning the development, implementation and assurance of learning and assessment activities with pre-determined learning outcomes (Biggs, 2014 ; Jones, 2006; McLoughlin, 2001).

The framework (Biggs, 1996) provides a means to check and assure that the delivery and assessment activities within a degree (or subject) are accurately aligned with a set of pre-determined learning outcomes (LOs) (Biggs, 2014). This is an amalgamation of two key principles within the higher education pedagogy:

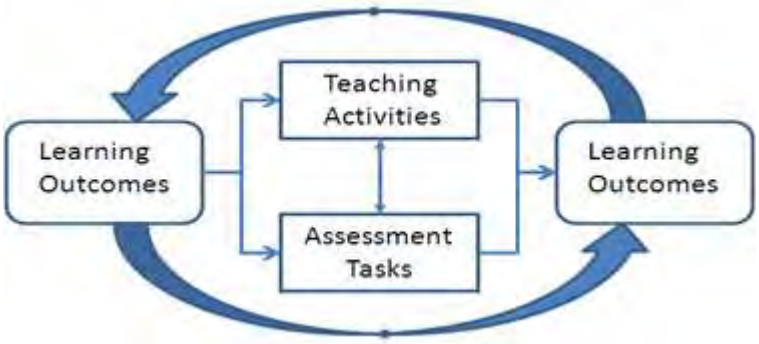
1. That learning results from what students do – because students are seen to gain meaning and learn from the activities, and
2. That effective teaching targets learning outcomes through activities that are appropriate to achieve a degree's (subject's) LOs.

Constructive alignment provides a highly effective framework to assure alignment of learning and assessment activates with learning outcomes (Biggs, 2014), and various variations of this model are widely used in practice (Mills et al., 2013; Prøitz, Havnes, Briggs, & Scott, 2017; Schoepp, 2017). However, constructive alignment and the various frameworks developed on its foundation are linked to two important limitations:

1. That assurance of learning is predominantly seen to occur through assessment tasks, because "when the assessment tasks achieve the learning objectives constructive alignment is achieved" (Vitale, 2010, p. 31), and
2. An up-front determination of desirable learning outcomes is required because "standards are stated upfront and teaching is tuned to meet them, [with] assessment being the means of checking how well they have been met" (Biggs & Tang, 2007, p. 5).

Both limitations do not directly effect the value of the framework because its focus is the design, implementation and assessment of learning. This focus on 'teacher-student activities and interactions' enables constructive alignment to be applied in a range of circumstances and situations because the learning outcomes, which represent the key 'input' and 'output' measures for teaching and learning, are externally determined (see figure 1).

Figure 1:
Conceptual Framework of Constructive Alignment



Source: Vitale (2010)

The external determination of learning outcomes, as well as the framework's assurance focus on assessment activities is nevertheless likely to impact on how universities and academics utilise constructive alignment in their curriculum planning work. Impact from both limitations arises because the framework does not provide support in how learning outcomes should be developed to be most relevant to a given degree, subject or student group. Instead, the framework implicitly assumes that learning outcomes are developed through meaningful and appropriate stakeholder engagement processes. Given that constructive alignment has become a cornerstone of curriculum development in higher education, whilst students, employers and society continue to criticise the appropriateness and quality of graduates' skill and knowledge, it appears likely that further enhancements in the development process of learning outcomes are needed.

The framework's focus on assurance through assessment tasks, in combination with the rise of internal and external assurance processes in higher education, is also likely to result in unintended consequences (also, see: Hill & Campbell, 2014). Specifically, it is likely that curriculum developers will focus learning and assessment activities on items whose attainment can be observed directly. Whilst such a focus will result in a higher level of assurance when the constructive alignment framework is applied, many of the competencies that have become critical for the success of future graduates in professional degree programs such as accounting are difficult to measure (Biesma, Pavlova, Van Merode, & Groot, 2007; Mills et al., 2013). As a result, curriculum developers may unconsciously choose learning outcomes whose relevance to graduate success is sub-optimal to achieve a maximum level of assurance within the constructive alignment framework. This potential problem is further exacerbated because the framework does not provide guidance on how LOs should be established to maximise their relevance to stakeholders.

Simultaneous Constructive Alignment to Meet Stakeholder Needs

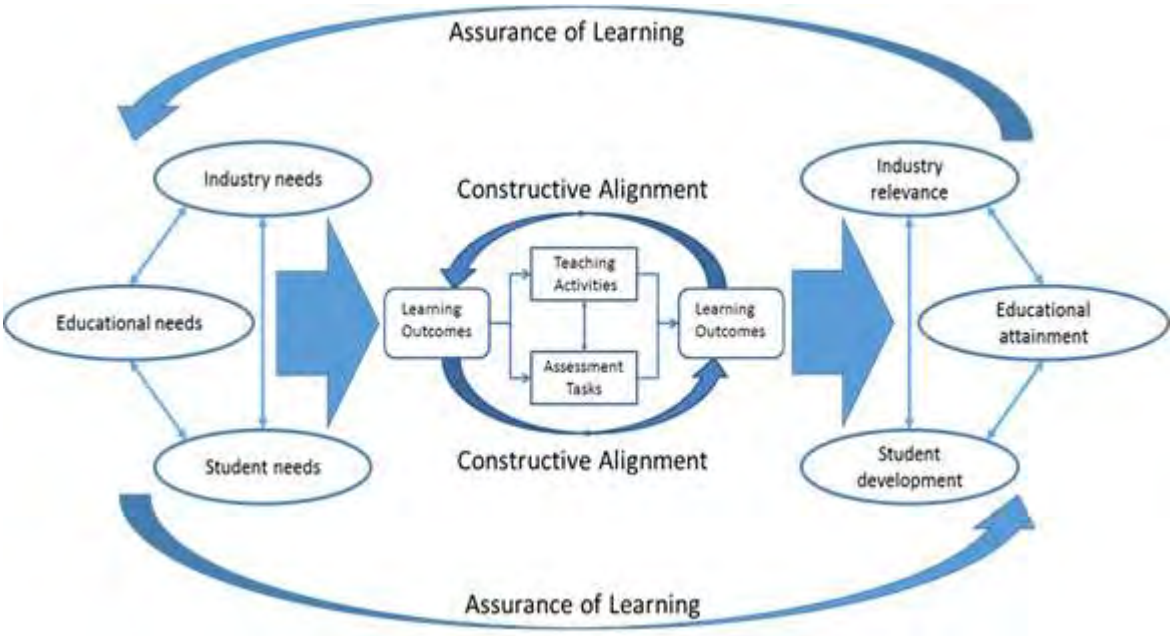
Building on the well-established constructive alignment framework, the current paper introduces the concept of Simultaneous Constructive Alignment (SCA) by adding a conceptual overview of appropriate learning outcomes choices to the traditional view of constructive alignment. The integration of appropriate learning outcome choices into the constructive alignment framework is necessary because the persistent mismatch between higher education and the needs of graduate employment (Heijke & Koeslag, 1999) should ideally be resolved through curriculum redesign in which LOs associated with the needs of employers, students and society are given equal levels of importance.

A closure of the well-established gap between employability would require higher education to provide better foundations for subsequent workplace training (Biesma et al., 2007). This could be achieved through a stronger focus on employability skills (Wang & Tsai, 2014), allowing students to pursue their own developmental goals (Heijde & Van Der Heijden, 2006), and assisting students to more accurately judge their skill and knowledge (Yu, Churyk, & Chang, 2013). Although the outlined activities are, examples targeted toward improving graduate employability, additional benefits are likely to arise for individual students and society as a whole. Such "spill-over" benefits arise because the humanistic competences that underpin the contemporary view of employability are equally useful to support students in their individual deployment as people and professionals. The outlined activities are also useful in furthering the educational development of students, and support graduates in becoming life-long learners, whilst providing opportunities for positive contributions to society.

Simultaneous Constructive Alignment

SCA provides a framework that assists curriculum developers in the purposeful identification of learning outcomes for use within the traditional constructive alignment model. The fundamental idea of SCA is that there should be no unconscious trade-off or preferences in the selection of learning outcomes. By making choices for different learning outcomes explicit, degrees (and subjects) are more likely to meet the expectations of students, employers and academics simultaneously (Figure 2). To address the ongoing concerns around graduate employability that motivated the current paper, the developmental needs and expectations of students, employers and academics related to employability should drive the identification of relevant learning outcomes.

Figure 2:
Simultaneous Constructive Alignment



The SCA framework derives learning outcome inputs – which relate to the development needs and expectations of key stakeholder groups – from students, industry/employers and educational professionals. SCA consequently positions academics, students and industry/employers as curriculum co-designers (Brooman, Darwent, & Pimor, 2014). The framework draws on the notion of partnership pedagogy,

where the curricula as well as students' learning experiences should reflect the values of authenticity, inclusivity, reciprocity, empowerment, trust, challenge, community and responsibility (Healey, Flint, & Harrington, 2014), and be informed by active input from students and other stakeholders (Brooman et al., 2014). The explicit consideration of the needs and expectations of these stakeholder groups in relation to a specific learning outcome area (for example employability) then enables curriculum designers to derive learning outcomes that capture the needs of all stakeholders concurrently.

Whilst the identification of a set of mutually beneficial learning outcomes within a particular area does not pose major conceptual difficulties, practical problems may arise due to differences in the interpretation of a learning outcome area across the relevant stakeholder groups. For example, students may perceive employability to relate to the skill and knowledge required to enter the workforce successfully (Gibson, 2010; Rosenberg, Heimler, & Morote, 2012). Employers may focus on the professional skills required to develop and succeed within the workforce (Australian Association of Graduate Employers, 2011; Jackson et al., 2014), and academics may perceive the mastery of technical skills to be the of paramount importance for employability (Bayerlein, 2015). This example demonstrates that the SCA framework is able to make divergent viewpoints explicit. Once made explicit, curriculum designers can evaluate the veracity of all points of view through a particular lens (for example graduate employability). The SCR framework does not prescribe particular selections, but implicit in its foundations is the assumption that learning outcomes are more relevant a students' holistic development if a larger number of divergent viewpoints are captured. Once curriculum designers have identified an appropriate set of learning outcomes, the traditional constructive alignment framework is used to develop learning and assessment activities that align student learning with learning outcomes.

The SCA framework also integrates with existing assurance of learning processes, which are widely used in practice (Hill & Campbell, 2014). In the traditional constructive alignment framework, the assurance of learning process is focused on the alignment of assessment tasks with learning outcomes. Although this focus represents a highly effective tool to ensure alignment of higher education based teaching and assessment activities with LOs, it does not require curriculum designers to actively reflect on the relevance of assessment tasks for stakeholders. As a result, the SCA framework extends existing assurance of learning processes beyond the traditional boundaries of the higher education degrees (subjects) and asks the question to which extend the needs and expectations of all relevant stakeholders have been met. In practice, this means that traditional degree (subject) bounded assurance of learning processes continue to exist, but that assessment tasks should also be checked for their alignment with the perceptions of external stakeholders. Such an alignment check is necessary because the SCA framework initially requires curriculum developers to integrate a multitude of stakeholder views into an integrative set of learning outcomes, which are then used to develop and implement teaching and assessment tasks. Any assessment task that is developed through this process will exhibit a clear alignment with one (or more) learning outcomes. However, it is possible that individual assessment tasks are limited to a particular stakeholder perspective, even if the underpinning learning outcome encompasses the perspective of multiple stakeholder groups. The expanded assurance of learning process within the SCA framework recognises this possibility and requires curriculum designers to check that individual assessment items are linked to the same stakeholder perspective that were considered relevant in the development of the underpinning learning outcome.

Application and Impact

previously superseded by other consideration. The extension of assurance of learning procedures beyond its traditional higher education boundaries also supports curriculum designers in the recognition of non-traditional qualitative assessment items,

because such items are more likely to be strongly related to the attainment of professional skills than quantitative assessment items.

One key issue related to the development and implementation of more qualitatively focused curricula relates to the difficulties inherent in the measurement of competencies (Biesma et al., 2007). Although the SCA framework has the potential to seamlessly integrate into existing assurance of learning processes, such processes rely heavily on the assumption that all key learning outcomes in a given degree (or subject) can be measured effectively. The SCA framework is not concerned with the question of quantifying students' attainment of particular learning outcomes. However, it appears likely that qualitatively focused professional skills, which are highly important to students, industry and educators are difficult to quantify. In the context of this paper, student's actual attainment of key skills and knowledge is much more important to the overall impact of the SCA than the measurement of the student's attainment.

The SCA framework also enables curriculum designers, university departments and institutions to demonstrate the impact of stakeholder feedback on student learning, and the attainment of graduate attributes. Being able to track the impact of such feedback is critically important for higher education providers because it demonstrates to external stakeholder that participate in external advisory panels how their feedback is used to improve student learning as well as graduate outcomes.

Conclusion

The current paper recognises that professional university curricula are often unable to meet the needs and expectations of graduates, employers and society. However, the prospect of graduate employability should be at the forefront, this would require the cooperative engagement of industry and academia. The development of a simultaneous constructive alignment (SCA) framework endeavours to meet industry, student and educator expectations in university degrees. The framework does not represent a stand-alone curriculum design framework. Instead, it extends the commonly used constructive alignment framework beyond its traditional higher education boundaries to integrate the needs and perceptions of a various stakeholder groups into existing curriculum design and assurance of learning processes.

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