Entrepreneurship in Vocational Degrees: The missing link

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Keywords: Business skills, Trades Teaching

Theme: Science and Technology Education

Abstract

This paper explores whether the trades teaching curriculum focuses sufficiently on the entrepreneurial skills needed by present day vocational graduates, as evidence indicates that inclusion of entrepreneurial activities or even basic business skills are limited or non-existent. According to recent studies, degrees are failing to assure employment, high earnings, and upward social mobility for graduates unless they are able to operate within a commercial environment. In order to investigate this situation two data sources were analysed from the case study of a Bachelor of Applied Technology degree; firstly, the extent to which course Learning Outcomes showed direct entrepreneurship content or demonstrated links to basic business practice. Secondly, whether entrepreneurship was subsequently examined in any of the related Assessment packages. It was clear from this analysis that many courses lacked any business practice in their curriculum content and furthermore, even where it did exist, there was a disconnection between the outcomes and their assessment. It became obvious that the programme did not satisfactorily meet the entrepreneurial needs of future employers. It is therefore recommended that in order to equip students with effective workplace learning practices, more emphasis on business skills is required to improve both cognitive development, and also to add value to the industry they will work in. Educational institutes through planned curriculum development can increase the quality and quantity of potential entrepreneurs and this will impact on their ability to operate in business. This paper recommends strategies for addressing the identified gaps.

Introduction

Entrepreneurship is a key capability for the economic growth of any country and New Zealand was rated 20 out of 34 within the Organisation of Economic Cooperation and Development (OECD, 2014). The term entrepreneur originated in French economics in the 17th and 18th centuries. An entrepreneur is an individual who establishes and manages a business for the principal purpose of profit and growth, or who is starting a business (Dees, 1998). To stimulate economic growth, individuals in business in an economy need to participate positively, which is to say they need to contribute towards the generation of wealth. Rasmussen (2006) defines entrepreneurship as the creation of new ventures or sometimes within the existing organisation as a major engine of economic growth and it only happens with committed and competent persons. It has been found that graduates with an entrepreneurship major are more likely to start new businesses and have stronger entrepreneurial intentions than other graduates. Entrepreneurship is the key to generation of wealth and the development entrepreneurship skills is essential when developing business skills. Trade professionals such as builders, electricians and automotive technicians, are people who have a high level of manual and technical skills but are frequently regarded as having limited entrepreneurial skills. Entrepreneurial skills include taking calculated risks, having the determination to drive the project and the resilience to overcome obstacles when they arise. Nevertheless, Mok (2003) argues that current vocational degrees are failing to assure

employment, high earnings, and upward social mobility for graduates, in both developed and emerging economies. He emphasised that this trend indicates that in addition to vocation specific expertise, graduates need to know how their industries operate in a commercial environment. Furthermore, over two decades ago Gynawali and Fogel (1994) stressed that unless entrepreneurs are well equipped with technical and business skills, they may not be able to overcome various problems they encounter at different stages of their business.

The need for entrepreneurial training to be included in education has remained essential, particularly where limited mentoring is available and bureaucratic compliance have to be overcome to start a business. Potential entrepreneurs tend to study a varied curriculum and may not become a specialist which is contrary to common belief that entrepreneurs are technical specialist and their entrepreneurship comes from the innovation they have developed. Teaching organisations can indirectly contribute through embedding entrepreneurship in the education of their students or directly by being the seedbed for new commercialised ventures.

This paper explores the concept of embedding entrepreneurship in a degree programme (levels five to seven) designed for trades professionals. The programme at the centre of this study has a focus on entrepreneurship in its graduate outcomes, however, anecdotal evidence from assessments of courses indicates that the inclusion of entrepreneurial activities is limited and in some cases non-existent. The inclusion of entrepreneurial activities needs to be addressed to improve graduate employability.

Methodology

To better understand the extent to which entrepreneurial content is associated with the graduate outcomes we examined the programme document and the supporting course assessments. We carried out analysis by listing the graduate outcomes in the programme definitive document, all the courses listed in one study pathway with a high number of students (approximately 120 per year) and the learning outcomes of all the courses in the study pathway. We then analysed the assessment packages for all the courses in the study pathway for entrepreneurial content.

The documentary evidence that students learn and develop entrepreneurial skills has been gained through analysing the graduate profile in the programme definitive document, the course descriptors and the relevant course assessment packages.

A *graduate profile* in the context of this study is defined as a description of a graduate's actual skills, knowledge and abilities that the graduate needs to develop, whereas *graduate outcomes* are guidelines that the learner incrementally develops. The graduate profile will only align with the graduate outcomes when everything that is stated in the graduate outcome is exactly the same as the ability of the graduate, and when an element such as entrepreneurship is embedded.

To measure this alignment, graduate outcomes were mapped for compliance with the course and then with their related assessment instruction packages. In the process of student development, if the course design is aligned with the stated outcomes, it is expected that the attributes of the learner will finally align with the graduate outcomes, hence the graduate profile and graduate outcome will be closely synchronised. If there is misalignment of course design with the graduate outcome, the final graduate profile will be different to that of the stated outcomes. Graduate outcomes are the skills, knowledge and abilities that the academic community agrees its students should develop during their term of study. These graduate outcomes are based on industry requirements, demands from society and professional advice from academics. Hence, graduate outcomes are theoretical and is espoused and graduate profile is the actual performance at the end of the continuum. Despite the importance of entrepreneurial and business skills and its proportion in the graduate profile of the programme under study, the need for development of the very skills to support entrepreneurship skills have been overlooked. Entrepreneurs need to learn the fundamentals of market studies, preparing business plans and seeking finance. A cross analysis of the courses in the level 7 programme under study reveals deficiencies in course outcomes and assessments.

Findings

The Programme graduate profile consists of thirteen key factors of which eight factors are related to Entrepreneurship. Therefore, it could be expected that entrepreneurship would be addressed in approximately 60% percent of the assessments.

The data analysis indicates that while five courses did cover entrepreneurial assessments, the findings indicate only one course had a major proportion of the assessments focused on entrepreneurship while other courses had smaller parts, generally not contextualized in terms of the student's industry.

Data analysis

Number of courses analysed	24
Number of Learning outcomes analysed	93
Number of Learning outcomes containing entrepreneurship	17
Number of courses containing entrepreneurship assessments	5

In other words, out of the total number of courses offered over three years of study, only 18% provided entrepreneurship as part of their Learning Outcomes, rather than the 60% anticipated. Furthermore, the topic was assessed in only five of these seventeen courses,

When these five course are considered in detail, two (one at level 5 and one at level 6) are nominally business courses where an assessment on business and entrepreneurship would be expected as part of the principal area of study. In one level 6 course, which dealt primarily with technological sustainability, this topic comprised 50% of the assessment. The final two courses, at level 7, only assessed entrepreneurship to a limited extent. This trend indicates that in addition to vocationally specific studies, graduates need to know how to operate within a commercial environment.

Discussion

In the process of student development, if the course design is aligned with the stated outcomes, it is expected that the attributes of the learner will finally align with the graduate outcomes, hence the graduate profile and graduate outcome will be perfectly synchronised. If there is misalignment of course design with the graduate outcome, the final graduate profile will be different to that of the stated outcomes. Hence, graduate outcomes are theoretical and is espoused and graduate profile is the actual performance at the end of the continuum.

The global movement to open economic markets has naturally put the focus on entrepreneurial skills of the citizens of the participating countries. New Zealand subscribes to open economic markets and a knowledge based economy where entrepreneurship needs to be developed around highly developed technology. There is also a growing awareness in developed countries of the importance of tertiary education to develop that knowledge based economy and tertiary organisations are increasingly required to produce highly productive graduates who are able to respond to the dynamic global marketplace. Policy makers for education then need to support the

inclusion of entrepreneurial content in learning from primary education onto tertiary education. Obschonka, Silbereisen and Schmitt-Rodermund (2010) agree that promoting entrepreneurship is vital for the success of today's society and its promotion should start early in life. Current research indicates that graduates with entrepreneurship studies are more likely to start new businesses and have stronger entrepreneurial intentions than other graduates. Schools should target the education of the next wave of entrepreneurs at their early formative years in order to prepare for a dynamically successful society.

Our future workforce needs to know how to operate within commercial environments and develop the capability for future ventures complementing to what they have learnt in their vocational studies. Financial literacy which is the foundation of entrepreneurship has to start at primary education level and gradually stair cased through a student's developmental ages. Educators can invoke changes to curriculum and develop beliefs, perceptions and provide vision for entrepreneurship.

For current tertiary students, we may have missed the opportunity in their formative years but, it is not too late to develop entrepreneurship in students even at the late stage of tertiary study, as entrepreneurial skills would prepare highly productive talent for work in industry and later progress to skills for organisational leadership or attitude that empower them to branch out to their own enterprises.

Research on the ability to develop entrepreneurial skills by Gynawali and Fogel (1994) refers to the sum of technical and business capabilities required to start and manage a business. To make the student entrepreneurship development effective, key entrepreneurial skills need to be embedded in their discipline courses within the programme of study. Andrews and Higson (2010) stipulate that high level of hard core business knowledge by itself is insufficient and communication and technical skills are also necessary in order for trades graduates to be self-employed or manage a small to medium trade business entity. A well-designed programme of study can help graduates negotiate some of the uncertainty surrounding the process of embedding entrepreneurial education as part of the practical experience in a real working environment.

Moving entrepreneurship from business studies into business practice

If New Zealand does not adequately develop entrepreneurship skills in our future workforce the consequences will be lower gross domestic productivity, fewer entrepreneurs with business and employer skills which will result in lower standards of living. Kung (2009) argues that there are relationships between financial development and economic growth and they are simultaneously determined with gross domestic production. He further argues that low income countries are catching up to high income countries and whether the best performing countries can maintain their lead in the future. Under development of citizens with financial skill can have an impact on the economic growth of the country.

Entrepreneurship needs to move from the classroom to the work environment. According to Rasmussen (2006), education can be interpreted in two ways, either as learning in a course isolated from the real workplace or by learning the skills in a technology applied discipline. In the latter method the students develop their entrepreneurship skills within the technology they plan to work in, hence it is easier for them to identify entrepreneurial opportunities when infused rather than a separate course without context relationship. These opportunities can be either new ideas or an innovative approach to an existing problem and these are identified through critical analysis of existing environment or a gap analysis. The technology area can serve as the roadmap for designing the entrepreneurial activities into the curriculum and align with the students' future needs. Institutional entrepreneurship incubators can play a major role in providing a variety of real world experience prior to the graduates undertaking their own entrepreneurial activity. Gynawali and Fogel (1994) suggest that for an entrepreneur to start a business, they should perceive that a profitable opportunity exists, feel confident the they possess the necessary business skills and have an initiative for starting a business.

Recommendations

The recommendations suggested here are designed to effectively include entrepreneurship in the curriculum which will result in students having a better understanding of business opportunities and adapt them for their own unique purposes.

1. Increase soft business-related skills and competencies that underpin entrepreneurship in course learning outcomes.
2. Review course contents to ensure that hard business related knowledge and skills (entrepreneurship) is included across a wider range of courses.
3. Course assessments should reflect entrepreneurship practices and case studies contextualized in the relevant industry.
4. An implementation of entrepreneurial skills in work-based learning in a business environment will focus on quality and efficiency goal setting, systematic planning, independence and self-confidence.

Conclusion

This study investigated only one of the four study pathways in the programme and found considerable differences in the graduate outcome and the assessments for the courses. The findings support the hypothesis that assessments of the courses are required to align and meet the requirements of the graduate outcomes of the programme. In order to meet and promote graduate employability in middle management roles in industry the courses need to embed business focused skills and competencies. The teachers involved with the delivery of the programme have a responsibility to ensure that what they teach aligns with the graduate outcomes and in doing so produce highly flexible and employable individuals. The concept is that the curriculum design that follows graduate outcomes should take the students through a set of courses that will eventually develop the student with the outcome specification. To achieve the stated outcome specifications, course designers need to continuously map the graduate outcome to what specific outcomes the student will develop during the course facilitation. These specific can be skills in negotiating uncertainty, importance of sustainable business practices and role of networking.

As a consequence, the overall objective of this research was to examine the need to introduce entrepreneurship in the formative years of the students learning process so it not only improves cognitive development, but also adds value to the industry they will work in and eventually contribute to the development on the society they live in. Finally, institutional entrepreneurship incubators can play an important role in the development of students' entrepreneurial skills.

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