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Assessing the Assessment Practices in Entrepreneurship Education in Higher Education

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Abstract

This paper explores the current debates and issues of assessment practices in entrepreneurship education within the higher education context. While there has been considerable attention in literature dedicated to the teaching and learning of entrepreneurship in universities and entrepreneurship education more generally, there is, by contrast, a shortage of research on the assessment practices in entrepreneurship education. This shortage has been highlighted as a key area of concern. Assessment holds a crucial role in the successful delivery of any formal educational curriculum i.e. as a mean to ensure effective evaluation of learning, the assurance of educational standards, and motivating and progressing student learning. Given the importance of the role of assessment in higher education, questions remain as to how lecturers should assess students to promote optimum entrepreneurial learning. This paper seeks to begin to address this shortage in the field by developing a scoping review of the literature on assessment practices in entrepreneurship education within the higher education context. As the literature landscape in this field appears to be relatively recent and unexplored, a scoping review is considered as an ideal way to systematically identify the breadth of literature, clarify boundaries and definitions, and identify gaps in research evidence. There are three main research questions: (1) what is the extent of published evidence on assessment practices in entrepreneurial education delivered in higher education?; (2) what is known from the existing literature about the use and impact of such practices in promoting entrepreneurial learning?; and (3) What are the gaps in the knowledge base in this emerging field?. By addressing these questions, the outcomes of this review would identify and summarise key concepts in the field, and offer a platform on which further debates and developments may be made. Results of this study include both a descriptive numerical summary of the published studies on assessment practices as well as a thematic analysis based on the research questions.

Keywords: Entrepreneurship Education, Enterprise Education, Assessment, Entrepreneurial Learning, Assessment Feedback, Higher Education.

Introduction

The growth and development in the curricula and programmes devoted to entrepreneurship education in the university sector have been remarkable over the last 20 to 30 years (House of Commons (UK) 2014; QAA(UK) 2012). The volume of literature in entrepreneurship education reflects the growing significance of this area of education in the same period (Sirelkhatim and Gangi 2015). While there has been considerable attention on the teaching and learning of entrepreneurship education, what is really missing is the discussion on the assessment practices of student learning in entrepreneurship education (Fayolle 2013). This paper recognises that research into the assessment practices of entrepreneurial learning in higher education has been neglected. It seeks to address this gap in our understanding by examining research evidence with the aim to identify and discuss assessment practices that may be appropriate for adoption in assessing entrepreneurial learning.

The assessment of student learning has become an important focus of university business in the contemporary environment of UK higher education. As Bloxham and Boyd (2007) observe, the dominance of assessment in the student experience and the social, economic and policy climate have led to a situation where its practice is subject to many pressures and influences. Assessment is identified by most universities as a top agenda that requires urgent attention and enhancement. Within individual institutions, tutors are also influenced and often constrained by

locally-based institutional assessment regulations, process and protocols by departments. Tutors are increasingly teaching more non-traditional students who require greater support in making the transition to higher education and developing graduate-level employability. Increasing cohort size and the shrinking unit of resource have created pressure for more cost-effective assessment methods in a quality-assurance climate that stresses reliability with robust marking and moderation methods. Tutors face pressure to modify assessment so that it supports learning through student involvement in assessment, prompt feedback, flexible and formative approaches and a wide variety of assessment methods. Last but not least, assessment practices are being influenced by advances in information technology. While computers afford the opportunity for online assessment, immediate feedback and computer-marked assignments, they also provide the breeding ground for the increase in student plagiarism.

In a pioneering paper, Pittaway et. al. (2009) highlighted the shortage of research on the assessment of entrepreneurial learning in higher education. Given the importance of the role of assessment in higher education, questions remain as to how lecturers should assess students to promote optimum entrepreneurial learning. This paper seeks to begin to address this shortage in literature by developing a scoping review of the literature on assessment practices in entrepreneurship education within the higher education context. As the literature landscape in this field appears to be relatively recent and unexplored, a scoping review is considered as an ideal way to systematically identify the breadth of literature, clarify boundaries and definitions, and identify gaps in research evidence.

The Teaching and Assessment of Entrepreneurship Education

The effective use of assessment activities is central and integral to the teaching and learning of an educational curriculum. As Boud and Falchikov (2007) suggest, assessment frames students' views of higher education. It has a major influence on students' learning and acts as a powerful incentive for study. Within an education curriculum, the ways in which the role and practice of assessment are conceptualised have direct implications for curriculum design and teaching. A curriculum designer typically starts with the question 'what is it that I want my students to learn and how will I structure my teaching to enable learning?', followed by the question 'how should students be assessed so I know that they have learnt it?' (Norton 2007). This symbiotic relationship between assessment, curriculum design and teaching is consistent with Biggs' (2003) notion of constructive alignment. The alignment of assessment with learning, teaching and content knowledge is a basis for claims for the validity of assessment. When assessment is used to assess any content knowledge, consideration needs to be given also of the way the subject domain of relevance is structured, the key concepts or core ideas associated with it, and the methods and processes that characterise practice in the field (James 2006). As an educator or curriculum designer, we often make assumptions about assessment on the basis of what we have experienced and what we think has appeared to work in the past. Therefore, we have a considerable personal investment in methods with which we are familiar, as manifested in our own experiences as a teacher as well as a learner. Therefore, the ways in which the role and practice of assessment are conceptualised within entrepreneurship education should begin with understanding how educators in universities conceive the design and teaching of entrepreneurship curricula.

In my previous work (Lee, 2015; Lee, 2016; Lee, 2018), extensive reviews have been undertaken of the published literature in the last 30 years on the pedagogic approaches to entrepreneurship education in university. The findings of these reviews reveal a substantial number of publications devoted to entrepreneurship and enterprise education. Despite rapid growth as an area of research, entrepreneurship education is described as yet a fully legitimate discipline (Katz, 2008) with fragmented content (Kakauris and Georgiadis 2016) and no common framework for teaching it (Fayolle 2013). There is often confusion over the definitions, distinctions and the characteristics of entrepreneurship education. It may be delivered differently in accordance with the intended learning goals or outcomes and can therefore be assessed in different ways. In an OECD report, Lackéus (2015) identifies three approaches to entrepreneurship education i.e. 'about', 'for' and 'through'. The QAA (2018) in its subject benchmark statement also made the distinctions between 'about', 'for' and 'through' to distinguish between the theoretical and practical components that are developed within Enterprise and Entrepreneurship Education. 'About' courses are intended to help students assimilate existing theories that enhance their understanding of Enterprise and Entrepreneurship. More traditional pedagogies involving lectures and set texts are typically employed to explore

and critique the theoretical underpinnings. 'For' courses focus on creating an enterprising approach, aiming to help students discover what it is to be enterprising, and offering insight into being an entrepreneur. These courses are normally delivered via experiential learning opportunities that engage and enhance the student's capabilities within a meaningful and relevant context. Students are typically engaged in scenarios that challenge their thinking and make explicit the need for creativity and innovation. 'Through' courses emphasise on developing the entrepreneurial capabilities of the student and normally involve learning through doing, reflecting on experiences and drawing on theory. Venture creation or business start-up programmes are an example of this being achieved within a curricular context. This approach would ideally align to students' prior learning and context along with any subject specialism.

The distinctions between 'about', 'for' and 'through' approaches have important implications for the teaching and assessment of an entrepreneurship curriculum. Typically, learning 'about' entrepreneurship is embedded in curriculum where examinations and tests are dominant, whereas learning 'for' and learning 'through' are more associated with more holistic evaluative metrics in assessing learning (QAA 2018). Assessment has a major influence on students' learning hence it needs to be an integral part of a curriculum's pedagogy. It directs attention to what is perceived by students as important and consequently an incentive for study. It has a powerful effect on not just what students do but also how they do it (Boud and Falchikov 2007). Assessment is therefore an important motivating factor for students to attend classes and learn what they perceive as the focus of assessment. If we were to foster assessment practices that appropriately influence student learning in entrepreneurship education, we would need to examine the content and methods used in the dominant assessment practices in higher education.

Methods

The approach to the scoping review undertaken for this paper is underpinned by Arksey and O'Malley's (2005) framework, involving: (1) identify the research questions; (2) locate, screen and select relevant studies; (3) collate results; and (4) summarise and report findings.

(1) Identifying the research questions

The focus of this review is to explore and consider the existing literature on assessment practices in entrepreneurship education within the higher education context, and draw conclusions from the literature regarding the state of research activity. The overall research questions are as follows: (a) what is the extent of published evidence on assessment practices in entrepreneurial education delivered in higher education?; (b) what is known from the existing literature about the use and impact of such practices in promoting entrepreneurial learning?; and (c) What are the gaps in the knowledge base in this emerging field?. By addressing these questions, the outcomes of this review would identify and summarise key concepts in the field, and offer a platform on which further debates and developments may be made.

(2) Locating, screening and selecting relevant studies

The search engines of the Sheffield Hallam University Library and databases were used to search the literature. Through the university's search tool, the search could cover a number of databases simultaneously, including the most popular business and management databases such as Proquest, Emerald and EBSCO. The literature focus is on articles where the overwhelming theme relates to assessment practices in entrepreneurship programmes within higher education. The search terms included 'assessment' + 'entrepreneurship education'; 'assessment practices' + 'entrepreneurship education'; 'entrepreneurial learning', as well as using spatially oriented synonyms e.g. 'enterprise education', 'entrepreneurship programme', 'entrepreneurship curriculum' etc. Searches were restricted to articles published in English. Finally, forward chaining (publications cited by other researchers) and backward chaining (looking up the cited references) were applied to the retrieved articles to find additional articles using very specific searches for articles using author names or article titles.

Using the search procedures, the search yielded a total of 76 articles. This is followed by filtering out the highly relevant articles from those which were less relevant by reviewing and inspecting the abstracts. A large number of these articles were deemed irrelevant and therefore excluded. Most articles were excluded due to the

different interpretation of the term ‘assessment’ which has been interpreted with different meanings. By the end of this search process, only 11 articles were yielded.

(3) Collating results

In collating the results, each article was summarised related to the author(s), year of publication, country (in which the authors reside), research concerns/questions, study design and methods, and main outcomes.

(4) Reporting findings

Finally, the scoping review summarises and reports the findings. Findings of this study include both a descriptive numerical summary as well as a thematic analysis, based on the questions asked during the review process.

Findings of the Review

The collated results are presented in Table 1 which displays the descriptive characteristics of the 11 articles obtained through this literature search.

Table 1: Studies Included in the Review

Authors	Year	Country	Article Title	Study Design
Falkäng and Alberti	2000	Sweden, Italy	The assessment of entrepreneurship education	A conceptual paper based on a pilot programme for the European Engineer Manager project.
Besterfield-Sacre, Golish, Shuman & Wolfe	2003	USA	The State of Assessment of Entrepreneur Projects	A survey with 102 responses.
Shartrand, Weilerstein, Besterfield-Sacre and Olds	2008	USA	Assessing student learning in technology entrepreneurship	Assessment tools were piloted in 10 different US universities.
Pittaway, Hannon, Gibb & Thompson	2009	UK, USA	Assessment practice in enterprise education	Focus group with 40+ entrepreneurship educators.
Pardede and Lyons	2012	Australia	Redesigning the assessment of an entrepreneurship course in an information technology degree program: Embedding assessment for learning practices	A case study based on an entrepreneurship course developed at La Trobe University, Australia.
Pittaway and Edwards	2012	UK	Assessment: examining practice in entrepreneurship education	A sampling of 117 course outlines and syllabi between 1980 and 2012 from UK and US universities.
Scott, Thompson & Penaluna	2015	UK	Constructive Misalignment? Learning outcomes and effectiveness in teamwork-based experiential entrepreneurship education assessment	Content analysis of 48 students’ reflective diaries.

Scott, Penaluna & Thompson	2016	UK	A critical perspective on learning outcomes and the effectiveness of experiential approaches in entrepreneurship education: do we innovate or implement?	Literature review
Purzer, Fila & Nataraja	2016	USA	Evaluation of Current Assessment Methods in Engineering Entrepreneurship Education	Literature review. Content analysis of 29 journal articles and conference papers
Rasmussen	2016	Denmark	Assessment for Learning in Innovation and Entrepreneurship Education	A multiple case study of assessment practices of 10 Danish universities.
Warhuus, Blenker & Elmholdt	2017	Denmark	Feedback and assessment in higher-education, practice-based entrepreneurship courses: How can we build legitimacy?	A conceptual paper based on the teaching experiences of the authors.

This scoping review confirms the severe shortage of research on the assessment practices in entrepreneurship education. The literature landscape consists of publications which are published in recent years, with the majority appearing in the period between 2012 and 2017. The authorships emanate mostly from researchers based in the UK and the US (which, together, account for 7 out of the 11 publications i.e. 64%), followed by Denmark, Australia, Sweden and Italy. The assessment issues examined in these studies are diverse including articles with a focus on assessment instruments/methods, experiential learning, learning outcomes, conceptual framework for assessment, assessment for learning, formative assessment, and feedback. The academic disciplines represented are generally limited to business and entrepreneurship-related programmes which account for 7 out of the 11 publications, with the remaining 4 are engineering/IT/technology programmes. As a young and emerging field of study, all the identified studies are exploratory in nature. While there appears to be an increasing research interest as seen in the trickling stream of papers in recent years, it is clear that a critical mass of research on assessment practices in entrepreneurship education is yet to be established.

In reviewing the identified articles, two key themes in the assessment of entrepreneurship education emerged :

- a. Determining what learning outcomes to assess

This review has identified a wide range of learning outcomes from which an entrepreneurship educator can choose. They can be categorised into declarative and functional knowledge. Declarative knowledge refers to the knowledge of content, and functional knowledge is the application of context knowledge to solve problems (Biggs and Tang 2007). To achieve functional knowledge, students would normally need to have acquired an adequate level of declarative knowledge. Examples are summarised in table 2.

Table 2: Learning Outcomes of Entrepreneurship Education

Area of Learning	Declarative Knowledge Outcomes	Functional Knowledge Outcomes
Entrepreneurship	A broad conceptualisation of entrepreneurship. Acquire knowledge germane to entrepreneurship.	Acquire the key generic competencies associated with entrepreneurship. Develop motivation towards a career in entrepreneurship.

	Understand the benefits and challenges of an entrepreneurship career.	Identify and stimulate entrepreneurial drive, talent and skills. Encourage new start-ups and other entrepreneurial ventures.
Business Planning	Explain the process for developing an entrepreneurial venture. Knowledge, skills and attitudes necessary to begin new business ventures or projects.	Apply effective strategies in entrepreneurship cases. Develop and present a business plan. Acquire skills in the use of techniques, in the analysis of business situations, and in the synthesis of action plans.
Communication		Ability to communicate ideas and plans both in writing and orally through papers, presentations, and design/project reviews.
Leadership and Teamwork	Knowledge, skills and attitudes related to setting the direction or scope of team projects or organizing/uniting a disparate team of people to work together effectively.	The ability to function in or as a team.
Managing Teamwork and Relationships	Understand the nature of the relationships they need to develop with key stakeholders and are familiarised with them.	
Subject-specific Knowledge	Understand what constitutes entrepreneurship within a specific professional context e.g. engineering, IT, technology etc.	Develop subject-specific skills and techniques essential for the professional practice e.g. software engineer.

The reviewed publications cover a variety of learning outcomes ranging from academic knowledge of entrepreneurship and general business planning to leadership and teamwork. Where entrepreneurship is taught within the context of a professional context e.g. engineering, there are also subject-specific declarative and functional knowledge outcomes. The six areas as presented reflect the potential complexity of planning an entrepreneurship curriculum. The learning outcomes may be about helping students to acquire declarative knowledge, while others focus more specially on functional knowledge directed at developing wider entrepreneurial skills and even motivating students to pursue entrepreneurship as a career.

b. Deciding the purpose, timing, form and instrument of assessment

This review reveals a range of options in the purpose, timing, form and instrument of the assessment practices within entrepreneurship education, as presented in Table 3. It is vitally important for an educator to ensure that the purpose, form and instrument of assessment are fit for purpose in enabling student learning and achievement of intended learning outcomes. In total, twenty-eight types of assessment instruments have been identified, illustrating the diversity in the range of instruments in assessment practices. While some instruments may be perceived as closely associated with a certain form of assessment (e.g. written exam and assessment of learning), most instruments are not exclusively associated to a specific form of assessment.

Table 3: Purpose, Timing, Form and Instrument of Assessment

Purpose	Summative		vs.	Formative			
Timing	At the end	Continuously		During programme		At the beginning	
Form	Assessment <i>of</i> Learning			Assessment <i>for</i> Learning		Assessment <i>as</i> Learning	
Instrument	Written Report	Written Exam	Oral Assessment	Portfolio	Prototype	Participation in Class	Business Pitch
	Essay	Case Studies	Peer Evaluation	Logbook	Learning Journal	Presentation	Business modelling
		Quiz	Project Report	Reflective Assessment	Market Research	Interviews	Role Play
		Concept Map	Business Plan	Business Competition	Simulation or Games	Performance Appraisal	Behavioural Observation
					Feasibility Study	Business Start-up	

There are important differences between assessment instruments designed for formative or summative purposes. Formative assessments are used, often informally, to provide information on students' progressions in their learning. Any assessment can be used formatively and the result of this type of assessment is often intended for informing how best to help students improve their learning through, for example, the use of feedback. Summative assessments, on the other hand, requires an evaluation which usually result in a grade or numerical value that indicates a student's progress and achievement of pre-determined assessment criteria at a specific point in their learning. Formative and summative are not synonymous with a specific form or instrument of assessment but describe the purpose for which an assessment is intended to serve. Assessments can often be used for both formative and summative purposes. The timing of assessment refers to the point at which an assessment is conducted during a module or course. Formative assessments tend to be timed 'at the beginning', 'during' or 'continuously' to allow for time to provide students with feedback to improve their learning. Summative assessments, in comparison, tends to be timed 'at the end'. Some evidence suggests that there is a noticeable preference for assessments to be conducted 'continuously' throughout a module or course, but it is often combined with summative assessments 'at the end' (e.g. Besterfield-Sacre et al. 2003).

There are also important differences between the forms of assessment for which an assessment instrument is designed. Assessment 'of' learning is intended to evaluate students' learning by assessing their achievement against learning outcomes and academic standards. This form of assessment is often summative in purpose, intended to provide evidence of academic achievement and/or professional competence. Assessment 'for' learning reflects a view of learning in which assessment is an important vehicle that drives student learning. It may include both formative and summative assessment activities through the teaching and learning process within which students receive ongoing feedback that can lead to improvement. It is often inclusive in nature as it acknowledges each student's prior learning and encourages self-assessment as part of the regular learning activities. Assessment 'as' (or 'through') learning occurs when students take responsibility for their own learning and act as their own assessors. As an active learner, students would decide on their learning goals, ask questions, monitor own learning, and use a range of strategies to decide what they know and can do, and how to use assessment for new learning. The teacher takes on the role of a facilitator who makes clear to students the assessment criteria, asks questions, offers timely formal and informal feedback, and help students manage the learning process.

The analysis shows that there is broad range of assessment instruments for assessing entrepreneurship students. Most instruments are designed as some form of summative evaluation and developed for local use, while only a small number of instruments are designed for a formative purpose (Purzer et al. 2016). While some instruments are more synonymous with a specific form of assessment, there is no identified rule or academic reasoning that dictates how and when an instrument may be used and for which purpose. Any instruments may be used formatively or

summatively in purpose for assessing any desired learning outcomes (Besterfield-Sacre et. al. 2003). Cultural factors may, however, play a role in the preferences of instruments in assessment practices. For example, in a comparative study of assessment practises in the UK and US, Pittaway et. al. (2012) observe a noticeable academic preference in US courses for the use of case studies, in-class instruments (e.g. credit for attendance and class contribution), tests and examinations.

Conclusion

This scoping review has identified a wide range of purposes, forms, timing and instruments which are used in the assessment practices of entrepreneurship education. These are presented in Table 3 as a theoretical framework from which educators and curriculum designers can select and to which future academic practitioners and researchers can contribute new and revised elements to it. The ways in which the role and practice of assessment are conceptualised should begin with understanding how an educator conceives the design and teaching of their entrepreneurship curriculum. As discussed in this study and the previous literature, there must exist a symbiotic relationship between curriculum design, teaching and assessment to achieve 'constructive alignment' (Biggs 2003) within a curriculum. The diverse approaches to which entrepreneurship learning is assessed demonstrates that it is a complex construct that consists of a mix of academic knowledge and practical skills. It is unlikely that any single assessment approach could provide a one-size-fits-all solution. As such, entrepreneurship education requires a variety of assessment approaches in order to cater for the variety of learning outcomes in terms of knowledge, skills and attitudes of different types of entrepreneurship programmes.

In agreement with previous similar analyses, this scoping review reveals that there is generally a shortage of research on the assessment practices in entrepreneurship education. There are unresolved issues associated with the current literature of its assessment practices and evaluation of student learning which require further research development. Few studies appear to adequately investigate assessment practices in entrepreneurship education (Falkäng and Alberti 2000; Pittaway and Edwards 2012), and there is a need to generate in-depth knowledge on how educators utilised different assessment practices to evaluate students against intended learning outcomes (Rasmussen, 2017). Purzer et.al. (2016), in their analysis of assessment methods in engineering entrepreneurship education, concludes that there is generally a lack of an explicit theoretical framework or research-related argument that guides the design of assessment instruments. While it is possible that these assessment practices are developed with theoretical frameworks or research-based arguments in mind, these are often not evident in the written reports. Most instruments are developed and intended for local applications to assess student learning within the specific contexts of individual programmes. The content and instruments of assessments tend to be guided by the needs and nature of specific entrepreneurship programmes, often with the aim to enhance student learning experience and/or the effectiveness of assessment as a measurement of learning. There is generally a lack of description of the development process and rigorous evaluation to support the validity of the inferences derived from these instruments. In most studies, the quality and quantity of evidence in terms of rigour and generalizability are highly variable. Further research undertaken within these studies will need to be supported by more robust methodology to enhance research rigour, reliability and validity.

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