

**THE ROLE OF SELF-ASSESSMENT IN THE FACILITATION OF  
ENTREPRENEURIAL COMPETENCIES IN LEARNERS WHO ARE STUDYING  
ON ENTREPRENEURIAL LEARNING COURSES IN ENGLAND**

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## **Abstract**

This study explored whether self-assessment facilitates the process of generating entrepreneurial competencies in learners who were studying on entrepreneurial learning courses in England. The focus was on how learners experience personal growth and transformation through the learning process and how this could be demonstrated through self-assessment practices. This was achieved by looking at the cognitive processes that a learner needs to engage with in order to conduct self-assessments and the relationship between these and self-regulation. The research was positioned within a holistic philosophy of education, where the learners' physical, personal, social, emotional, and spiritual well-being, as well as cognitive aspects of learning, are equally important. This was a qualitative study framed by an interpretivist philosophical position. The chosen methods were semi-structured interviews of eight educators and seven learners and document analysis, which provide an understanding of the phenomenon by looking at how the participants interpret the events based on their individual thought processes. This research contributes to our understanding of self-assessment practices on entrepreneurial learning courses and the impact that this could have on higher education more broadly. This study made an original contribution to the knowledge by increasing our understanding of self-assessment through the production of new information by identifying a typology of the forms of self-assessment that learners participate in on entrepreneurial learning courses. The typology identifies the skills that the learner requires in order to complete the self-assessments, outlining the benefits for learners who participate in self-assessments, discussing the factors that contribute to a successful self-assessment, and describing the role of the educator as a facilitator in the process of self-assessment.

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# Chapter 1: Introduction

## 1.1 Rationale for the study

This chapter provides a background for my thesis and positions the study. This is achieved by introducing the topic of entrepreneurial learning and self-assessment and explaining why this is an important area to research. Next, I provide definitions for key concepts in this thesis, such as entrepreneurial, learning, competence and self-regulation, as well as outlining key themes that my research will cover. Finally, I explain the development of my research aim, which is to explore how self-assessment facilitates the process of generating entrepreneurial competencies in learners who are studying on entrepreneurial learning courses. The focus is on how learners experience personal growth and transformation through the learning process and how this can be achieved through self-assessment practices. This will be achieved by looking at the cognitive processes that a learner needs to engage with in order to conduct self - assessments, and the relationship between these and self – regulation, before introducing my five research questions on p. 41.

The interest in entrepreneurship amongst policymakers and academics has developed significantly over the last fifty years, with governments around the world looking at enterprise as a way to improve the economy of their countries (Nabi et al., 2017). This is demonstrated by an increase in the number of enterprise policies that have been created by governments around the world (Fretschner and Weber, 2013). We can see this through the government's development of policies in the United Kingdom, such as the 2010 to 2015 government policy on business enterprise, which focused on providing a supportive environmental context for graduate entrepreneurs (Department for Business, Innovation and Skills, 2015). This has followed a similar pattern in other European Countries, with the European Commission producing an Entrepreneurship Action Plan. Their main objective was to encourage more people

to set up their own businesses as 'only 37% of Europeans would like to be self-employed, compared to 51% of people in the US and China' (European Commission, 2016, p. 4). The European Commission (2016, p. 4) found that to increase the number of people seeking self-employment opportunities, 'education should offer the right foundation for an entrepreneurial career'. There is a growing focus on ensuring that students are taught knowledge that can positively impact the economy. Universities UK (2015, p. 2) provide evidence of this in their report on the economic role of universities, in which they outline that universities 'increase skills, support innovation and attract investment and talent'. The QAA produced a report on Enterprise and Entrepreneurial Education in 2018, which aimed to provide guidance to UK Higher Education Providers on areas such as the student learning experience and the supportive institution (The Quality Assurance Agency for Higher Education, 2018). This report discusses assessment which demonstrates its importance as a topic for research.

The word entrepreneur comes from the French word 'entreprendre', which means to do or undertake something. 'In the Middle era it was originally used in the sense of a person who is active, who gets things done' (Kaur and Bains, 2013, p. 32). Many see entrepreneurship as being the act of setting up a new business venture. However, there has been a growing interest in exploring how someone becomes an entrepreneur (Nabi et al., 2010; Christina et al., 2015; Arafeh, 2016). The Entrepreneurship Competence Framework was developed in 2016 by the European Commission; it is commonly known as EntreComp. The framework develops a deeper understanding of entrepreneurship by stating that:

There is a clear need to define and describe entrepreneurship as a competence; to develop the reference framework describing its components in terms of knowledge, skills and attitudes; and to provide European citizens with the appropriate tools to assess and effectively develop this key competence. (Bacigalupo et al., 2016, p. 5)

Entrepreneurship is not only the act of creating a new business venture but also takes into consideration the skill set that is required to participate in entrepreneurial behaviour. My thesis will use the European Commission's definition of entrepreneurship.

Entrepreneurship has moved from primarily focusing on the activities of an individual entrepreneur to looking at graduate entrepreneurship (Rasmussen and Sørheim, 2006; Karlsson and Moberg, 2013), which is 'increasingly being seen as an important source of competitiveness, growth and economic development' (Nabi et al., 2010, p. 389). This change can be demonstrated through an increased presence of academic research which investigates entrepreneurial learning. It is believed that the increased focus on encouraging entrepreneurial intentions through education could be a result of the changing economy, with governments looking for a way to increase innovation and growth (Rae, 2010). Behaviour associated with entrepreneurship such as 'an innovative approach to problem-solving, high readiness for change, self-confidence and creativity' are skills that have been identified as constituting 'a viable platform for economic development in any country' (Heinonen and Poikkijoki, 2006, p, 81). Sousa and Almeida (2014, p. 138) agree and state that 'the development of entrepreneurial skills is critical to creating a culture where entrepreneurship is something natural becoming an integral part of our evolution and a new model of economy'. This demonstrates that entrepreneurship is strongly related to economic growth, with Olutuase et al., (2020, p. 17) stating that 'entrepreneurship education is seen as a potent tool to foster the entrepreneurial skills an economy requires to grow and develop'. Therefore, educators must understand how individuals develop these skills. Furthermore, the economic benefits provided through entrepreneurship provide justification of why individuals and society require entrepreneurial skills. This research takes the position that entrepreneurship has many positives for individuals and society due to the economic benefits that it can provide.

The Federation of Small Businesses provides support to self-employed and small businesses through the production of resources that can be accessed to help businesses improve their skills. The Federation of Small Businesses (2021) believes that improving these skills will help to lead to increased business continuity.

Past research (Yusof et al., 2007; Bux Soomro and Honglin, 2015) has investigated the characteristics of entrepreneurial students; however, there is a gap in the literature when it comes to the methods used to assess the competencies of the learners on entrepreneurial learning courses. Developing an individual's entrepreneurial mindset has been recognised globally. UK universities are now facing growing global competition to provide an education to students that enables them to be progressive in the 'present and future needs of society, cultural, economic, environmental, social and technological' (National Centre for Entrepreneurship in Education, 2013, p. 14). An area of academic interest has been to investigate the characteristics and motivations of entrepreneurs (Tajeddini and Mueller, 2009); In particular, the effects of gender, education and age are commonly studied (Brush et al., 2009). In contrast, there has been limited research focused on the effectiveness of different learning styles and assessment methods. Penaluna et al., believe that:

Singular/correct answers, such as those commonly found in examinations, are believed to limit the opportunity to develop alternative creative situations, whereas the development of multiple alternatives can help the learner to see wider-ranging perspectives and to make links between concepts and situations: opportunity spotting. (Penaluna et al., 2014, p. 403)

This demonstrates that using an exam-based assessment in entrepreneurial learning can be ineffective in assessing the capabilities of the learner as they do not have the opportunity to explore different creative solutions, which could result in them making links between concepts and situations. Past research has failed to examine whether

using different assessment methods in entrepreneurial learning would be more effective.

Research has focused on increasing our understanding of entrepreneurial learning courses, with Maritz and Brown (2013) suggesting that they consist of seven major components: context, outcomes, objectives, assessment, content, audiences and pedagogy. This was built on further by Maritz (2017), who conducted a systematic review of recent entrepreneurial education research in order to update the original conceptual framework and produce a model of entrepreneurial education programmes.

## **1.2 Learning and education**

Learning can be defined as the process in which knowledge and skills are acquired (Kelly, 2004). During the learning process, an adaptive change takes place; this process can be planned or unplanned. For example, when people choose to take part in an educational course compared to events they experience in their daily life, with many individuals not realising that learning is taking place all the time and not just in the classroom. Thus, education is when learning takes place at a predefined time and place, with Rogers (2003, p. 4-5) stating that 'education is assisted and purposeful learning, but there is also learning which is not educational', and that 'education is the process of helping someone else to learn'.

Learning is an integral part of an individual's economic and life success, as it 'is generally seen as the foundation of society which brings economic wealth, social prosperity and political stability' (Idris et al., 2012, p. 443). Individuals participate in different types of learning depending on what skills they would like to acquire. For those individuals who would like to learn the skills to engage in entrepreneurial activities such as setting up their own businesses, entrepreneurial learning courses have been developed. These types of courses have become increasingly popular in



recent years (Kakouris and Georgiadis, 2016), with government policymakers discovering a link between studying entrepreneurship and a positive impact on the economy. Therefore, entrepreneurial learning is not only of academic interest but instead a core policy objective in many countries. This can be demonstrated by the inclusion of entrepreneurial learning theory and strategies in many government policies in recent years. Governments globally create policies that could enable people to be effective entrepreneurs through education (European Commission, 2016).

As a result, courses that follow the Team Academy ethos have increased in the UK. For example, in September 2013, two pioneering business schools in Bristol and Newcastle upon Tyne launched degree programmes underpinned by Team Academy methods. The third Falmouth opened in 2014. Bishop Grosseteste University joined them in 2015 and the University of Westminster in 2016 (Akademia, n.d). The Team Academy philosophy can be described as:

A blended approach that combines team learning, communal learning, individual coaching, research, action learning and learning-by-doing. Students are organised into learning groups called Team Companies, which may or may not be separately incorporated as business entities. Group-work, simulations and coaching approaches used in conventional university programs fail to deliver comparably high rates of entrepreneurship and communal learning as they are seen only as separate techniques (Fowle and Jussila, 2016, p. 2).

According to Hassinen (2016, cited in Tosey et al., 2015), utilising experiential and peer learning as methods of delivery on Team Academy courses has a significant impact on learning and entrepreneurship. Team Academy courses differ from other forms of entrepreneurial learning in the following ways:

Team Academy course	Entrepreneurial learning course taught via traditional education methods
The educator's role as a coach	The educator's role as a teacher
The learner takes the role of an entrepreneur	The learner takes the role of a student
Creating a real-life business where actual money is exchanged	Learning about business or taking part in business simulations
Focus is on learners working in teams and having a shared learning experience	Focus is on individual accomplishments
No classes, instead training sessions take place as a team	Learning takes place in a classroom environment

*Table 1.1: Characteristics of different types of entrepreneurial learning courses*

In Table 1:1, we can see the characteristics of different types of entrepreneurial learning courses. From this, we can identify that there is a distinction between the role of educators and learners, with those on Team Academy courses engaging in real-life business activities where they work in teams, guided by the educator who takes on the role of a coach. According to Tosey et al., (2015), the Team Academy model is based on a fundamental belief that management is learnt by being in business. In contrast to many educational institutions' attempts to simulate workplaces in order to render the student experience more 'real', the Team Academy turns the institution into a workplace from which education is an integral output. In order to realise this, learners create and run real businesses. The fact that these are fully owned and controlled by the students themselves appears genuinely distinctive.

In contrast, on entrepreneurial learning courses that are taught via traditional education methods, the educator teaches the course content, and the learner

memorises the information that they are taught. Thus, rather than taking part in real-life business activities as an entrepreneur, the learner will take on the role of a student where they learn business theory or participate in business simulations.

Another significant feature of the model is the emphasis on the team as the fundamental unit. 'The team provides not only the primary structure in which learners are organised but also the primary ethos that guides behaviour (nevertheless, degrees are still individual awards); hence, learners are known as 'teampreneurs' (Tosey et al., 2015, p. 3). Furthermore, Csapo et al., (2013, p. 277) believe that:

The name "Team Academy" can be interpreted in two ways. On the one hand, it refers to the physical learning environment, and on the other hand, it refers to the people working in that environment, a community consisting of the coaches and the students. Also, the customers that the Team Academy has established regular relationships with form part of the community. (Csapo et al., 2013, p. 277)

From this description, it can be concluded that the social interaction on Team Academy courses is a significant part of the philosophy and that this is a key feature of the programme that promotes learning in the students. This is different from the idea of an entrepreneur being seen as an individual, with The Team Academy philosophy considering that teams make it easier for students to be entrepreneurial because an individual can be more courageous in a team than alone (Tosey et al., 2015). Therefore, when looking at the philosophy that supports the Team Academy philosophy, it can be concluded that there are two strong principles that emerge in the literature; the creation of real enterprises that are owned by the students on the course and the concept of the students working in teams rather than as individuals.

Learning the skills to be an entrepreneur is referred to as entrepreneurial learning. Since the development of entrepreneurial learning, the term has gone through

various changes, with several terms being used interchangeably (Breslin and Jones, 2012). The most frequently used terms are entrepreneurial education and entrepreneurial learning, and a distinction can be made between them. This distinction relates to the setting in which each takes place. Entrepreneurial education is 'accountable to the need for institutional control, order, accountability and ultimately learning which is programmed by prescribed and measurable outcomes' (Rae, 2010, p. 595). It is the teaching of entrepreneurship in a formal educational setting. Gedeon developed a definition of entrepreneurial education centred on the importance of value-added student transformation:

Entrepreneurship education encompasses holistic personal growth and transformation that provides students with knowledge, skills and attitudinal learning outcomes. This empowers students with a philosophy of entrepreneurial thinking, passion, and action-orientation that they can apply to their lives, their jobs, their communities, and/or their own new ventures. (Gedeon, 2014, p. 238)

The definition from Gedeon (2014) refers to entrepreneurship education; however, the definition is more closely aligned with what other academics (Wang and Chugh, 2014; Rae and Wang, 2015; Watson et al., 2018) refer to as entrepreneurial learning. This demonstrates the confusion around the terminology and how both entrepreneurial education and entrepreneurial learning are used interchangeably. In addition to this, several other terms can be used, for example, enterprise education or entrepreneurial education.

Terminology	Definition
Entrepreneurship education	Entrepreneurship Education is defined as the application of enterprise behaviours, attributes and competencies into the creation of cultural, social or economic value. This can, but does not exclusively, lead to venture creation (QAA, 2018, p.7).
Enterprise education	Enterprise Education is defined here as the process of developing students in a manner that provides them with an enhanced capacity to generate ideas, and the behaviours, attributes, and competencies to make them happen. It extends beyond knowledge acquisition to a wide range of emotional, intellectual, social, cultural and practical behaviours, attributes and competences, and is appropriate to all students.
Entrepreneurial education	Entrepreneurial Education is used here as a 'catch all' term that encompasses both Enterprise and Entrepreneurship, and may be used when discussing the combination of both.
Entrepreneurial learning	entrepreneurial learning often takes place within institutions without bearing the 'label' of enterprise or entrepreneurship, and can often be referred to, for example, as 'innovative thinking' or 'design thinking' when the goal is to create value by solving a problem or identifying new opportunities.

Table 1.2: The terminology and definitions provided by the QAA (2018)

Table 1.2 provides an overview of the definitions found in the literature for entrepreneurship education, enterprise education, entrepreneurial education and entrepreneurial learning in order to help us understand the differences between the terminology, which can be used in the same context but have different meanings.

In entrepreneurship education, the emphasis is on delivering existing entrepreneurship theories and knowledge. This can be in an artificial setting or environment, where the instructors may be non-practitioners. Entrepreneurship education focuses on setting up, starting, and running a business and provides students with the further knowledge, capabilities and attributes required to create a new venture or business (QAA, 2012, cited in Morselli, 2018, p. 123).

Enterprise education is the process of giving students an increased ability to generate ideas and the skills to put them into practice (QAA, 2012, cited in Morselli, 2018, p.

123). There is an emphasis on cultivating tacit knowledge through actual experience and business practices in self-selected projects. This can take place in the real setting or environment, where the knowledge is practised, with there being an opportunity to put theory into practice. Learning can take place through observation, experience and discovery, guided by practitioners. Enterprise education is concerned with creating entrepreneurs among graduates, and deals with developing the attitudes, competencies, and behaviours for functioning entrepreneurially within the business and non-business contexts. It focuses more broadly on personal development, mindset, skills and abilities (Lackeus, 2015). Erkkila (2000, cited in Lackeus, 2015) has proposed the unifying term entrepreneurial education as encompassing both enterprise and entrepreneurship education.

The term entrepreneurial learning is often used as an equivalent to enterprise education. The same term is used in the research domain of entrepreneurial learning, which is about studying how entrepreneurs learn outside of the educational domain. Entrepreneurial learning is concerned with the 'development of entrepreneurial capabilities through life and work'. Entrepreneurial learning is a lifelong learning process where knowledge is continually shaped and revised when new experiences occur (Idris et al., 2018). According to the QAA:

'Entrepreneurial learning often takes place within institutions without bearing the 'label' of enterprise or entrepreneurship, and can often be referred to, for example, as 'innovative thinking' or 'design thinking' when the goal is to create value by solving a problem or identifying new opportunities' (QAA, 2018, p. 7).

By their very nature, approaches to teaching and learning often encompass entrepreneurial learning. Regardless of whether these are labelled as enterprise and entrepreneurship education, the enhancement of appropriate skills, knowledge,

attributes and behaviours necessary for transforming creative ideas into actions are of ever-increasing importance (Advance HE, 2019, p.2). Therefore, this thesis focuses on entrepreneurial learning as the research aimed to investigate the development of competencies that could occur through different learning processes, not just under those labelled as enterprise or entrepreneurship education.

From reviewing the definitions provided in Table 1.2, it can be identified that Entrepreneurial Learning is frequently concerned with entrepreneurial capabilities outside the educational environment that are developed through life and work. Therefore, it is important to recognise the difference between the entrepreneurial learning of current entrepreneurs compared with that of students looking to explore entrepreneurship through education.

Entrepreneurial learning of current entrepreneurs	Entrepreneurial learning of students looking to explore entrepreneurship through education
Current entrepreneurs engage in self-directed learning. Self-directed learning is 'any increase in knowledge, skill, accomplishment, or personal development that an individual selects and brings about by his or her own efforts using any method in any circumstances at any time' (Gibbons, 2002, p. 2). 'Self-directed learning is a lifelong process of entrepreneurial learning for entrepreneurs in the workplace' (Tseng, 2013, p. 440).	Traditional lecturing about entrepreneurship is often compared to highly experiential learning-by-doing approaches (Lackeus, 2020).  Experiential entrepreneurial education approaches trigger emotional events for students, which in turn lead to desired learning outcomes (Lackeus and Savetun, 2019).
The entrepreneur is responsible for engaging in their own continuous professional development, where they will identify the areas that they need to develop further based on the needs of the business (St-Jean, 2012).	The European Commission (2011) believes that developing an entrepreneurial mindset is mainly the role of education, and teachers are directly responsible for this development. 'This process calls for a change in the approach to education, emphasizing active learning and the provision of new experiences for students outside of the classroom' (Asooso et al., 2014, p. 4).
Knowledge can be transferred across specialisms in an entrepreneurial firm (Tseng, 2013).	'The importance of collaborative learning mechanisms that afford those interested in starting their own business the opportunity to learn from their peers, experienced entrepreneurs, and small business consultants' (Pittaway and Cope, 2007, p. 230).

Table 1.3: Entrepreneurial learning of current entrepreneurs compared with students

Table 1.3 demonstrates the differences between the entrepreneurial learning of current entrepreneurs compared with students looking to explore entrepreneurship through education. From a review of the literature, it can be identified that there is a lack of research that directly focuses on the differences between the entrepreneurial learning of current entrepreneurs and students, with the literature focusing on one area and not providing a comparison.

Rae's (2005, p. 324) definition of entrepreneurial learning states that it is 'learning to recognise and act on opportunities, and interacting socially to initiate, organise and manage ventures'. This is the formal definition of entrepreneurial learning that will be used in this study. Lackeus (2013) has investigated how learners experience personal growth and transformation during the education process. He outlines that during an entrepreneurial learning course, an individual will take part in an action-based activity. It is the participation in these events that an educator assesses in order to understand if competency development has taken place.

My thesis focuses on entrepreneurial learning, exploring how self-assessment facilitates the process of generating entrepreneurial competencies in learners who are studying on entrepreneurial learning courses. This can take place in a range of different settings and learning environments and encompasses lifelong learning. This demonstrates why the focus is on entrepreneurial learning instead of entrepreneurial education. This research is focused on the learner and investigating how their entrepreneurial competencies can be developed, as they are the individual that would most benefit from the findings of this study. Therefore, it is important to consider and define what the role of the learner is.

### **1.2.1 The role of the learner**

It can be seen in the literature that academics (Wei et al., 2018; Malacapay, 2019) believe that the course materials should be based on the learner's preferred learning



style, as this will lead to more proficient learning. A learning style is defined as the learners' preferred way of acquiring knowledge and skills (Honey and Mumford, 1986a; Kolb, 1984). Kolb introduced his learning styles model in 1984. Several academics have developed this model further, such as Gregorc (1985) and Honey and Mumford (1986). Gregorc (1985) focuses his research on how learners perceive and order new information, with his mind styles model outlining four cognitive styles: Concrete Sequential, Concrete Random, Abstract Sequential and Abstract Random. Peter Honey and Alan Mumford (1986a) identify four distinct styles or preferences that people use while learning. They suggest that most of us tend to follow only one or two of these styles and that different learning activities may be better suited to particular styles. An individual knowing their predominant learning style will help them to decide how beneficial participating in a particular activity will be. Honey and Mumford have also produced a questionnaire (Honey and Mumford, 1986b) that can help learners identify their preferred learning styles. However, the term learning styles has been contested by other academics (Kirschner, 2017; Papadatou-Pastou et al., 2021), as they have found that there could be problems with the learning styles approach, with Kirschner (2017, p. 167) expressing that 'there is no real scientific basis for the proposition'. An and Carr (2017, p. 414) build on this by stating that 'learning styles theories and research have a number of problems including the lack of a solid explanatory framework, poor reliability and validity of constructs, and a failure to link learning styles to achievement'. They outline several alternative approaches that educators could use:

Understanding student performance in terms of differences in sensory-based representations, levels of expertise, self-regulation, perfectionism and temperament will provide insight into possible interventions. (An and Carr, 2017, p. 414)

This demonstrates that the role of the learner is a complex process as their performance can be impacted by different factors. Therefore, an individual cannot be taught based entirely on their preferred learning style. This research is concerned with how a learner who is taught on an entrepreneurial learning course develops competencies; it is, therefore, important to understand and discuss the concept of entrepreneurial learning as this type of course will involve the learner participating in different learning activities which could impact upon their student performance.

### **1.3 The concept and development of entrepreneurial learning**

The objective of entrepreneurial learning could be to raise awareness of entrepreneurship as a career possibility, or it could be to increase the number of people considering entrepreneurship as a career opportunity, or it could be to enhance the skills of those who have already chosen entrepreneurship as a career (Kassean et al., 2015). Entrepreneurial learning has become a growing area of interest amongst researchers due to societal changes, such as increased globalisation, advances in technology and increased competition amongst universities (Ferreira et al., 2018). These changes have demanded a new way of thinking. It is not only of academic interest but has been noted by the government as being of importance for increasing innovation in the community. It matters as a policy objective that is implemented through government funding and government agencies. Entrepreneurial learning is a means for employability, a motor for endogenous economic development and a crucial feature of developed, knowledge-driven economies (Kakouris and Georgiadis, 2016). In today's society, it is important that students are equipped with a diverse range of enterprising skills (Minniti et al., 2006, cited in Duval-Couetil, 2013). Entrepreneurship provides students with the initiative and ability to self-think (Arasti et al., 2012). Previously, entrepreneurship was frequently offered as an elective and stand-alone course as opposed to being integrated across different curriculums (Pittaway and Edwards, 2012). As a result, students who had interests in specific areas of business, such as fashion and

engineering, were not being taught valuable skills that could enable them to set up their own businesses. There is now a growing body of literature that investigates the benefits of developing an entrepreneurial mindset in students on non-business-related courses. Hilliger et al., (2020, p.4) recommend including entrepreneurial learning opportunities on engineering programmes as 'this type of course increases students' entrepreneurial self-efficacy to identify business opportunities or develop innovation projects, regardless of their current entrepreneurial intent'. Similarly, Jamaluddin et al., (2019) conducted a study that investigated the impact of entrepreneurship education in developing the entrepreneurship interest, intentions and competencies of fashion students. The findings from the study found that 'the fashion entrepreneurship programme has successfully cultivated entrepreneurship interest, intentions and competencies among the respondents' (Jamaluddin et al., 2019, p. 125).

Learning is considered a cognitive process (e.g. Baron 2004; Mitchell et al., 2007). Thus, much of the literature addresses cognition as a central process for entrepreneurial knowledge transfer. Much of the debate centred around entrepreneurial learning has focused on whether people can be taught entrepreneurship or if they are born with the required traits (Edwards-Schachter et al., 2015; Scott, 2016; Kuratko and Morris, 2018). It is important for us to understand this fully due to the economic importance and due to the fact that entrepreneurial learning takes the position that an individual can acquire entrepreneurial competencies through the education process. Some academics believe that the entrepreneur has a different psychological profile from the rest of the population (Baron, 1998; Rauch and Frese, 2007) and that entrepreneurs and non-entrepreneurs behaviour are different, with individuals who have similar characteristics to a typical entrepreneur being more likely to behave entrepreneurially. However, this can also be said of other professions, such as engineering or medicine, and nobody disputes the need to teach students these subjects (Fayolle, 2013). My research hypothesis

takes the opposite position to this viewpoint as it is my assertion that all individuals can be taught to behave entrepreneurially and to exhibit entrepreneurial competencies. My viewpoint is in keeping with the work of Harkema and Popescu (2015, p. 214), who believe that 'entrepreneurship can certainly be taught, but it depends largely on the pedagogical approach, and the context wherein teaching and learning takes place'.

Many new entrepreneurial courses aim to simulate the real-life entrepreneurial environment to exploit experience as a means of learning, thus accommodating a situated or an existential pedagogical perspective (Neergaard and Krueger, 2012). This is to create situations that replicate the environment that an individual would experience in the workplace. There has been a move from whether entrepreneurship can be taught or not to focus on the basic questions coming from education science; what, how, for whom, why and for which results is the entrepreneurship programme designed (Sirelkhatim and Gangi, 2015).

Research (Kassean et al., 2015; Walsh and Cunningham, 2017) has provided evidence of both positive and negative outcomes of entrepreneurial learning. Kassean et al., (2015, p. 692) discovered that there is a positive impact on a student's entrepreneurial intentions, with their 'perceived attractiveness and feasibility of a new venture' increasing during the learning process. Despite this, the number of graduates who establish their own businesses or become self-employed is deficient. There appears to be a significant gap between finding self-employment or entrepreneurship attractive and having the desire and self-efficacy to carry it through to positive action. The 2015/16 Destination of Leavers from Higher Education Survey conducted by the Higher Education Statistics Agency (HESA) (2017) revealed that 4.7% of graduates were self-employed or freelance, and 0.6% had started up their own business within six months of graduating.

'Self-efficacy is an individual's dynamic set of beliefs in his ability to competently perform a particular task or set of activities' (Kassean et al., 2015, p. 692). A high level of self-efficacy can have a positive impact on a person's entrepreneurial identity, and thus self-efficacy has been shown to have a positive impact on career goals (Kassean et al., 2015). Self-efficacy is defined as an individual's perceived capabilities for learning or performing actions at designated levels. It is stated that learners who have high levels of self-efficacy are more able to engage in self-regulated learning.

Therefore, entrepreneurial learning courses need to ensure that they are not just outlining the perceived benefits of becoming an entrepreneur but also need to ensure that they are equipping students with the skills and confidence to develop a proposed venture from developing a viable idea to taking positive actions to turn their idea into a functioning enterprise. On the other hand, it has been recognised that there are problems in evaluating the effectiveness of entrepreneurial programmes. This could be because entrepreneurial learning programmes in universities and colleges use multiple pedagogies, and as a result, there is 'little uniformity in content and approach among courses' (Holmgren and From, 2005, p. 383). In response to this, the social cognitive career theory (SCCT) has been used to explain and understand the motivations of a student who is involved in entrepreneurial learning. SCCT highlights certain experiential, learning or cognitive processes that can help to account for important, if sometimes overlooked, phenomena in other career theories. SCCT is derived principally from Albert Bandura's general social cognitive theory (Bandura, 1986). SCCT is linked to two branches of career inquiry that have evolved from Bandura's general framework: Krumboltz's social learning theory of career decision making (Krumboltz, 1979; Krumboltz et al., 1976; Mitchell and Krumboltz, 1996) and the application of the self-efficacy construct to women's career development by Betz and Hackett (1981). The similarities and differences with Krumboltz's position, discussed in greater detail elsewhere (Lent et al., 1994), are noteworthy. For example, SCCT shares Krumboltz's

emphasis on the learning experiences (direct and vicarious) that shape people's occupational interests, values, and choices.

Similarly, SCCT follows Krumboltz (1976; 1979) lead in acknowledging the influence of genetic factors, special abilities, and environmental conditions on career decisions. SCCT incorporates three central variables from general social cognitive theory: (1) self-efficacy, (2) outcome expectations, and (3) personal goals. These three variables are seen as fundamental building blocks of career development. According to social cognitive career theory, a variety of personal, environmental and behavioural variables influence the career choice process (Lent et al., 1994).

Learning outcomes are statements of what a learner should understand on completion of their course. More explicitly, they are statements of what a learner knows, understands and is able to do after completion of learning (Erikson and Erikson, 2019). These statements can be designed and used for educational planning and curriculum development or for different types of accountability, such as legal or professional accountability (Prøitz, 2010). They are important for educational institutions as they can be used in the development of new courses, for advertising courses to prospective students and for legal and professional accountability. Entrepreneurial learning cannot be 'fixed to pre-specified statements of learning outcomes since it deals with the creation of value that does not exist prior to the entrepreneurial learning process and cannot be foreseen in abstraction' (Bacigalupo et al., 2016, p. 17). As learning outcomes need to be in place to 'make the framework actionable', EntreComp 2016 outlined some learning outcomes with entrepreneurial learning in mind. These can be used for several different purposes, such as in the creation of entrepreneurial courses, assessment methods and guiding the definition of tailored pedagogies. It is interesting to note that these outcomes are not just relevant to individual learning but can be used in the evaluation of group activities as 'the subject of entrepreneurial learning and behaviour can be a group, like a project

team, a non-profit organisation, a company, a public body or a civil society movement' (Bacigalupo et al., 2016, p. 17).

Blenker et al., (2011) identified four entrepreneurial paradigms that identify the most effective approach when teaching entrepreneurship; 1) facilitating an entrepreneurial mindset in everyday practice, 2) educating students to create new ventures, 3) educating students to transform ideas and knowledge into initiatives that will create economic growth and 4) facilitating entrepreneurial energy for social change. Sarasvathy (2008) delivered a new perspective when she put forward the effectuation theory. The effectuation theory is a logic of entrepreneurial action. It is concerned with opportunity identification and decision making. Sarasvathy (2008) believes that in uncertain times entrepreneurs should look at the resources available and identify the best course of action, as opposed to choosing a course of action based on how entrepreneurs do things (descriptive) or should (normative) act in a situation. Effectuation takes a pragmatic approach to entrepreneurship through the rethinking of what we know compared to the rigorous testing of theory in a positivist approach. Therefore, it is of interest to identify whether it could revolutionise entrepreneurial learning.

Many students do not have the opportunity to study entrepreneurship as it is only available to people studying business-related degrees or is optional through extra-curricular activities. Rae and McGowan (2011) disagree with this and argue that every student should have the opportunity to study entrepreneurship, with it being accessible for students across a diverse range of degree subjects. A review of the assessment methods for entrepreneurial learning will ensure that students can take the knowledge they have learnt into a live situation. This study will contribute to the existing research as there is a gap in the literature surrounding assessment methods in entrepreneurial learning. This has been discovered through a review of the literature using keywords such as self-assessment, self-reflection, and entrepreneurial

learning. The literature is discussed in more depth in chapter two.

#### **1.4 The link between theory, entrepreneurial learning and competencies**

Entrepreneurial competencies are described as learning outcomes or objectives, which are 'defined as statements describing what a learner should know, understand and/or be able to do upon completion of the learning process' (Komarkova et al., 2015). 'For teachers, competence models might serve as a practical tool to prepare and monitor learners' competence development based on their previous experiences during different types and forms of education settings' (Lillevali and Taks, 2017, p. 3), with there being a belief in the literature that the use of competence models by educators could help to enhance the development of competencies in the learner. Despite this, competence models are uncommon in the literature. According to Lillevali and Taks (2017, p. 12) 'what is common is that the presented models highlight an "optimal set" of expected competencies for a specific educational stage', with Hamza et al., (2006) outlining how competencies such as problem-solving can be fostered through integrating strategic thinking exercises into teaching and learning activities.

When reviewing the literature (Komarkova et al., 2015), entrepreneurship in education can be classified into different areas depending on various perspectives: enterprise development stages, education levels, pedagogical approaches or competences that are taught. When looking at the difference in education levels, the theory surrounding the development of entrepreneurial competencies states that specific competencies are developed at a later stage as the learner progresses through the education process (Komarkova et al., 2015). This is in keeping with the theory that entrepreneurship is a key competence of lifelong learning and that 'entrepreneurship competence should be progressively developed at all educational levels (including the lower grades) to achieve better results' (Venesaar et al., 2022, p. 29). This theoretical framework can be seen in practice by looking at the YouthStart



Framework, which is a project delivered in Austrian schools. In the framework, progress in entrepreneurship competence is expressed by can-do statements representing the European Common Framework for Foreign Language (ECFFL) levels (A1-C2). This Framework provides learners with basic tasks to promote entrepreneurial thinking, tasks to promote a culture of co-operation and tasks to increase awareness for citizenship and social responsibility (YouthStart, n.d.). Whilst entrepreneurial learning takes place at an earlier age and is incorporated into the curriculum of many countries in Europe; this is not commonly seen in the United Kingdom. Therefore a learner may only be exposed to this type of learning once they enter Higher Education, despite more in-depth competencies being addressed at this level.

An alternative theory on the development of entrepreneurial competencies was proposed by Rasmussen & Nybye (2013), who produced a model which demonstrates four areas of competence that they believe should be present at any education level. The descriptors of each area progress from assisted by a teacher to self-learning, autonomy in action, from knowledge to professionalism, or from experimentation to finding alternative solutions. The researchers agreed that there are key objectives for entrepreneurship education (Nybye & Rasmussen, 2013):

1. Given the opportunity and tools to shape persons' own lives.
2. Raising the commitment and responsibility of students.
3. Develop knowledge and ambition to establish companies and create jobs.
4. Increase creativity and innovation in existing organisations.
5. Create culturally, socially and economically sustainable growth and development

By looking at these multiple theories surrounding the development of entrepreneurial competencies at different education levels, it can be concluded that some academics

(Komarkova et al., 2015; Venesaar et al., 2022) believe that entrepreneurial competencies can be progressively developed as a learner goes through the education process, there is a belief that there are areas of competencies that should be present when delivering entrepreneurial learning regardless of the education level. It is recognised in the literature that there are a number of contradictory theories, and that is why this study is of relevance, as it will help increase our understanding of how a learner develops competencies through self-assessment. This will help identify whether a learner draws on experiences from different education levels or experiences outside of education or whether their development of competencies has come primarily from the entrepreneurial learning course.

The theory that entrepreneurial learning competencies can be developed through an action-based approach frequently appears in the literature (van Gelderen, 2007; Lackeus, 2013; Bird, 2019). An example of the action-based approach in education can be seen by looking at the SIMULIMPRESA programme, a publicly funded Italian initiative applying the Practice Enterprise model internationally coordinated by the European Practice Enterprise Network (EUROPEN). In the programme, learners take part in the simulation of a business, where they are required to participate actively in the company activities and to be responsible for them by playing a central role in all the aspects relating to the company management (Alma Mater Studiorum, 2022). 'The didactic methodology draws on action-oriented and practical-based learning, in other terms learning by doing, collaborative learning complemented by competitions. In the programme, the training at practice firms is personalised. (Komarkova, 2015, p. 143). It is the belief of Singer et al., that:

Education has an action-oriented approach that shapes and develops individual and collective skills and entrepreneurship. In this way, students will not only learn that the entrepreneurial skills are knowledge-oriented but also non-cognitive skills that the educational system has often encountered difficulty in evaluating and testing (Singer et al., 2019, p.452).

This demonstrates that there can be a problem with assessing some types of skills in the learning process, which can mean that it is difficult for educators to identify whether an individual has developed an entrepreneurial competency. This is particularly pertinent when looking at the theory of entrepreneurial education, as this is often seen as a method of developing entrepreneurial competencies in learning. As a result, it is important 'to have a systematic approach to entrepreneurial education on all education levels to prepare learners to become entrepreneurial' (Lillevali and Taks, 2017, p. 1). However, whilst it can be seen in the literature that there is an agreed set of characteristics that define an entrepreneur, 'what has not been agreed upon is the extent to which knowledge, skills and personal traits contribute to the success of the enterprise' (Komarkova et al., 2015, p. 33). This means that there needs to be an increased understanding of how individuals develop entrepreneurial competencies through the process of learning.

### **1.5 Entrepreneurial competence and skills**

The development of entrepreneurial competencies is a key theme in this research, as it is believed that they enable an individual to conduct entrepreneurial activities in an effective way. My research is focused on understanding how self-assessment facilitates the process of generating entrepreneurial competencies in learners who are studying on entrepreneurial learning courses. It is the opinion of Kaur and Bains (2013, p. 31) 'that competency is a combination of knowledge, skills, abilities and other characteristics which are required for successful job performance'. Lazear (2005, p. 649) suggests that 'entrepreneurs achieve competence in a range of skills. He

compares this to those who are specialists in a particular skill or trade, who excel within a much smaller and closely related number of single skill sets'. However, it is believed that there is not one individual who exhibits the full range of entrepreneurial competencies. Instead, academics (Mitchelmore and Rowley, 2013; Salmony and Kanbach, 2021) have argued that it is more likely that there are different types of entrepreneurs, each with a different personality type and set of attributes and behaviours. This means that competency development is a complex process that is impacted by a wide range of variables; therefore, it is important for us to increase our understanding of how people develop competencies through the learning process. In entrepreneurial learning, a student is required to develop a range of different competencies. Lackeus (2016, p. 39-40) conducted a study in which he observed 'entrepreneurial competence development in its making, instead of through hindsight'. Lackeus' findings demonstrated:

A large number of links between emotional events and developed entrepreneurial competencies. Three kinds of emotional events strongly linked to developed entrepreneurial competencies were interaction with outside world, uncertainty and teamwork. These emotional events were linked to formation of entrepreneurial identity, increased self-efficacy, increased uncertainty tolerance and increased self-insight. (Lackeus, 2016, p. 48)

This is an important insight as the use of emotional events, also known as critical events, can be used in the self-assessment of learners as they focus on their emotions. Dirkx (2001) believes that emotions are key to attributing meaning to our learning experiences, which make emotions a central part of entrepreneurial learning and a suitable assessment method.

Having learners discuss the emotional events that have happened to them during the learning process could enable them to reflect on what they have learned from things going wrong during projects that they have participated in. Reflection could be

achieved through the process of self-assessment, and this concept will be discussed more in the next section.

## **1.6 The concept of self-assessment**

Self-assessment was defined by Boud and Brew (1995, p. 130) 'as a process, as well as an activity with a distinct identity. It is a practice in which to engage as well as a goal to which to aspire'. The concept of self-assessment as a process was also confirmed by McMillan and Hearn (2008, p. 40), who define self-assessment as a 'process by which students 1) monitor and evaluate the quality of their thinking and behaviour when learning and 2) identify strategies that improve their understanding and skills'.

Boud and Brew (1995) believed that self-assessments could occur in two distinct ways, both as a process of learning and as the outcome of learning; he went on to say that it is important to make this distinction because 'many courses in higher education have been designed in ways which inhibit the development of self-assessment skills' (Boud and Brew, 1995, p 130-131). In more recent years, more courses have begun to incorporate self-assessments, such as entrepreneurial learning courses. Therefore it is of interest to look at the role that these play in the development of competencies for the learner. Panadero et al., (2018, p. 9) discuss the relevance of self-assessment in relation to learners on vocational education and training courses and state that 'the use of self-assessment procedures covering general and specific competencies is a way to develop VET (vocational education and training) students self-regulation skills and to help them integrate their learning in workplace environments'. This demonstrates a relationship between self-assessment and competency development, as participating in self-assessments could generate self-regulatory skills. The following section will discuss how self-assessment could develop a learner's competencies.

### **1.6.1 Self-assessment and competency development**

Assessment can take place at different points in the education process; before, during or directly after the learning has taken place. Lekoko et al., provide the following definition of assessment:

Assessment is a central element in the overall quality of teaching and learning in higher education. Well-designed assessment sets clear expectations, establishes a reasonable workload and provides opportunities for students to self-monitor, rehearse, practise and receive feedback. (Lekoko et al., 2012, p. 12028)

Assessment can be used as a tool to enhance learning and to increase engagement. Lackeus' (2013) research has focused on real-time education by looking at how the learner can be assessed during the education process. This approach represents assessment for learning. This is concerned with looking at which events lead to the development of entrepreneurial competencies. Lackeus (2013) believes that there are two ways to look at how entrepreneurial competencies are developed; personal development and financial focus. Personal development is concerned with an individual acquiring competencies such as the ability to act on opportunities that create value, creativity, action orientation and self-confidence.

In contrast, the financial focus looks at developing business development skills, such as marketing, planning, accounting and human resources. This is of importance as 'a central argument is that, in higher education, formative assessment and feedback should be used to empower students as self-regulated learners' (Nicol and Macfarlane-Dick, 2006, p. 199), and 'suitably organised, self-assessment can lead to significant enhancements in learning and achievement' (Nicol and Macfarlane-Dick, 2006, p. 207). Despite this, a study conducted by Sunol et al., (2016, p. 633) on learners conducting self-assessments 'detected significant deviations between their

marks and those of the teacher. In general, the marks awarded by students were higher'. The reason for this could be a result of the learner developing a high level of self-efficacy, which is where the learner has a strong belief in their ability to conduct a task. This may not be negative but could demonstrate that the learners are confident in using the competencies they have developed through the task. However, there is a gap in the literature surrounding this, and therefore my research could help to explain this phenomenon. From reviewing the literature, it has been identified that the main competency developed by learners through the process of self-assessment is self-regulatory skills comprised of different elements.

### **1.7 Self-Regulation**

Self-regulation is widely seen as a systematic process of human thought and behaviour that involves setting personal goals and steering oneself toward the achievement of those goals (Bryant, 2006, p. 280). In entrepreneurial learning, individuals will have their own personal goals that may differ from their peers. This needs to be taken into account when considering the use of self-assessment. In addition, each person will place a different level of importance on experiences and competencies that they have developed, based on whether or not these will benefit their own aspirations. This is referred to in the literature as metacognitive awareness and is one of a number of self-regulatory skills associated with entrepreneurial behaviour. There is some debate surrounding whether metacognitive awareness should refer to an individual's self-reflection of their own cognitions and how they 'observe, monitor, evaluate, and regulate their own thought processes' (Bryant, 2006, p. 281) or should be fully concerned with the original definition which refers to developmental and cognitive processes, particularly those in childhood. This demonstrates how the term has developed over the years; this could be in direct response to the move towards a more progressive educational philosophy, which is concerned with making education more relevant to the needs and wants of the

learner.

When a learner self-assesses their competencies, they are demonstrating self-regulatory skills, as well as metacognitive awareness; these skills also include regulatory pride and self-efficacy. A study conducted by Bryant (2006) investigated self-regulation as one important aspect of entrepreneurial cognition and related it to education and training. Researchers have used this study to confirm the position that self-regulation does improve a learner's educational and entrepreneurial outcome, and as a result, researchers have used it to justify that there is a need to conduct research on self-regulation, education and assessment (Venesaar et al., 2011). As outlined in section 1.2.1, An and Carr (2017) believe that we can understand student performance in terms of differences in self-regulation. For the purpose of my thesis, I will be using self-regulatory skills as a way to understand the motivations of the learner and whether or not learning has taken place. The results from a study conducted by Bryant (2006, p. 286) suggests that 'educational programmes that seek to enhance entrepreneurial skills should aim to strengthen the relationship between students' sense of promotion pride, entrepreneurial self-efficacy, and knowledge of cognition. These skills could be used as a framework to understand if competency development has taken place successfully, as they help us understand the learner's cognitive process. There is a need to increase our understanding of how self-regulation can be used to improve a learner's entrepreneurial identity, as the literature has demonstrated how an increased entrepreneurial identity can have a direct impact on their intention to start a business.

### **1.7.1 The relationship between self-assessment, self-awareness and self-regulation**

Firstly, the relationship between self-regulation and self-awareness will be explored, with Zimmerman (2002) believing that self-regulation requires self-awareness. Mitrovic Veljkovic et al. (2020, p. 1) agree with this point and state that '...self-



regulation and attitude towards changes (both directly and indirectly through self-regulation) are positively affected by self-awareness....' This is because self-regulation requires an individual to evaluate their learning effectively; in order to achieve this, the learner needs to be self-aware (Zimmerman, 2002). It is important to define self-awareness due to its relationship with self-regulation. Mitrovic Veljkovic et al., (2020) provide the following definition of self-awareness:

Self-awareness implies a multitude of different psychological and social dimensions, such as feelings, thoughts, personality traits, preferences, goals, attitudes, perceptions, and intentions, encompassing the sense of continuity of seeing yourself in a social setting. (Mitrovic Veljkovic et al., 2020, p. 2)

According to Regehr and Eva (2006) (cited in Lu et al., 2021, p. 3), self-regulation involves the following steps:

- ongoing self-assessment of performance
- self-identification of knowledge or skills that have fallen below standards of practice
- self-directed learning to address these gaps
- practice change incorporating newly learned knowledge or skills

A study conducted by Ebrahimi et al., (2021, p. 9) 'found that self-assessment had a positive effect on the metacognitive awareness of learners', with D'Ambrosio (2012) stating that there is a link between metacognition and self-regulatory skills:

Self-regulation of learning refers to the metacognitive process of assessing one's competencies relative to an academic goal and the development of corresponding strategies to improve intellectual growth. (D'Ambrosio, 2021, p. 1)

According to Formica (2020, p. 16) 'private self-awareness looks within and relates to processes such as self-regulation and control. It requires constant practice and practice needs tools and methods that have been tested and have demonstrated to work'. This could mean that in order for a learner to increase their self-awareness, they need to have the option to practice being self-aware; one tool that would allow for this is through engaging with self-assessment practices. This is confirmed by Saadati et al., (2021), who outlines that:

Assessment tools provide abilities to learners to monitor and control their learning performance and allow them to do self-assessment and peer-assessment through different types of test like quizzes (multiple choice, fill-in-the-blank, short answers) with video, audio, and images, writing essays and assignments during the learning process. (Saadati et al., 2021, p. 5)

A study conducted by Robbins et al., (2020) investigated the benefits of using learning logs as a reflective writing tool designed to enhance self-regulation. They believed that these learning logs would increase students' self-awareness and ability to reflect on their learning. Whilst Robbins et al., (2020) found in their study that self-regulation in the learners decreased over the time a learner spent studying on the course, they discovered that reflective writing was a method of improving this decline. Interestingly the study intentionally changed the language from learning logs to learner logs, 'with a subtle intention to link action more with identity' (Robbins et al., 2020, p. 22). We can see from the literature that there is a relationship between self-regulation and self-awareness, and that self-assessment could be used as a tool by learners to demonstrate their self-regulatory skills and level of self-awareness.

### **1.7.2 Entrepreneurial intention and identity**

An individual could believe that they have an entrepreneurial identity when they successfully demonstrate behaviour that is characteristic of an entrepreneur and

subsequently views themselves as an entrepreneur. Entrepreneurial identity is seen as being individualistic as it refers to the person (Murnieks and Masakowski, 2007). It, therefore, fails on a large number of occasions to consider the entrepreneurial identities of a group of people, such as large organisations, the government and educational institutions. This is important as entrepreneurs do not live in isolation but are influenced by the community around them. It has been found that there is a link between entrepreneurial identity and socialisation. It has been argued that an entrepreneurial identity results from an individual's socialisation. This could be parental influence and also peer influence, with it being stated that having an entrepreneurial peer group has a positive effect on an individual's entrepreneurial intentions (Falck et al., 2012).

Entrepreneurial intention can be defined as 'the conscious state of mind that precedes action and directs attention toward entrepreneurial behaviours such as starting a new business and becoming an entrepreneur' (Moriano et al., 2011, p. 165). McGee et al., (2009, p. 965) believe that 'entrepreneurship-oriented intentions are considered precursors of entrepreneurial action'. From these definitions, we can see that intention is the first step in the process of an individual taking part in entrepreneurial behaviour. Previous academic research has investigated factors that increase entrepreneurial intentions (McGee et al., 2009). Pihkala and Vesalainen (1999, p. 19) investigated the relationships between entrepreneurial identities and the start-up intention of an individual and found that 'entrepreneurial identity seems to be quite a good determinant of intentionality'. From this, we can see that there is a link between having an increased entrepreneurial identity and an individual's intentions to participate in entrepreneurial behaviour. It is, therefore, necessary to understand the processes that influence a learner's entrepreneurial self-identity, as this has a direct impact on their behavioural intentions and future behaviour. Research conducted by Celuch et al., (2017) found that individual aspirations and identity processes shape the manner in which learners' start a

business or their intention to start a business and that a higher level of self-efficacy can increase a learner's entrepreneurial intentions. As a result, they believe that it is important to move beyond assessments that focus on skills to broader self-regulatory processes which are reflected by identity. Celuch et al., (2017) identify how assessment encompasses broader self-regulatory processes and does not focus on only assessing skills but can positively impact a learner's identity. It can be concluded that it is of importance to increase our understanding of how self-regulation can be used to improve a learner's entrepreneurial identity, as the literature has demonstrated how an increased entrepreneurial identity can have a direct impact on their intention to start a business.

Illeris (2014) outlines the mutual connections between the topics of identity and transformative learning, as learners in higher education are:

Typically the age where the identity is gradually worked out and stabilised, partly by processes that may have the character of transformative learning. The educational activities will therefore contribute considerably to this part of the identity development and the academic and/or professional insight and professional insight and position acquired through education will usually be important elements of the identity that are developed. (Illeris, 2014, p. 129)

This highlights the relationship between identity and transformative learning, as it is believed by Illeris (2004) that a learner's identity can be developed by engaging in transformative learning, which is a learner-centred approach where 'the aim is to develop changes in the patterns of understanding and behaviour' (Illeris, 2004, p. 10) The next section will explore the concept of transformative learning as it is believed that it can be a way of developing a learners identity, this is of relevance to this study as the literature has revealed that a learner with an entrepreneurial identity will be more likely to engage in entrepreneurial behaviours. Therefore, it is important to

understand the types of learning, such as transformative learning, that encourage the development of identity.

### 1.7.3 Transformative Learning

There are a number of 'essential components that frame a transformative approach to teaching' (Taylor, 2009, p. 4).

Component	Description
Individual experience	This is concerned with what each learner brings with her or him and experiences in the education process. The teacher's and the joint activities must lead to and support the development of experience and reflection that can provide the participants with new ideas and understandings of themselves and their surroundings.
Critical reflection	This is about reflection in relation to the content (the meaning perspectives), the process (how the content is received and elaborated) and the premises (the underlying conditions of both the content and the process). Also emphasised that learners should not only talk about the various issues but also express themselves in writing, which requires more exactness and commitment.
Dialogue	A dialogue both with the self and with others. Even though the transformations are ultimately individual, it is not possible for them to occur without some kind of interaction. It is in the dialogue, the common transformative journey, that the experience and the critical reflection take place, and it is also here that the boundaries of the individual are discovered, challenged and exceeded.
Holistic orientation	This orientation includes cognitive, emotional and social dimensions. Affective knowing is inherent in critical reflection, and therefore transformative learning is related to the effective, intuitive, physical and spiritual areas.
Awareness of context	This helps to create a deeper appreciation and understanding of the personal and socio-cultural conditions involved. For example, it has been shown that learners with recent experiences of critical incidents in their lives seem to be more predisposed to change. However, the most important contextual condition is probably about the time that is available. Critical reflection and dialogue are all time-consuming processes.
Authentic relationships	Authentic relationships, especially between teachers and learners. Such trusting relationships are necessary for the learners to emotionally develop the confidence in the teachers that is decisive for the learners to emotionally develop the confidence in the teachers that is decisive for the transformation dimension of learning.

*Table 1.4: Essential components that frame a transformative approach to learning (adapted from Taylor, 2009, p. 4-12).*

Table 1.4 provides an overview of the essential components that frame a transformative approach to learning, as identified from the work of Taylor (2009). Transformative learning theory is 'about how we, as adults, understand and interpret the many varied experiences that make up our lives and the worlds in which we live and move and have our being' (Jones, 2016, p. 38). It is believed that:

The term transformative learning itself is sometimes used by Mezirow and others to refer at once to three different but related ideas: a transformational outcome, a process of learning that is experienced by a learner, and an educational programme or event designed to foster learning experiences that result in or catalyse a transformational outcome. (Stevens-Long et al., 2012, p. 184)

This theory of learning uses challenges and dilemmas to question a learner's thinking, which can encourage critical thinking skills. These challenges and dilemmas have been referred to as discontinuous learning events. Cope (2003, p. 431) believes that 'the incidents can stimulate different levels of learning', which can be either lower-level learning or higher-level learning:

Lower-level learning: Focused learning that may be mere repetition of past behaviours - usually short-term, surface, temporary, but with associations being formed. Captures only a certain element... Single loop, routine level.  
Higher-level learning: The development of complex rules and associations regarding new actions. (Fiol and Lyles, 1985, p. 810)

One area where further research is needed is to investigate the benefits of learners not only self-assessing activities that have gone in a positive way and resulted in

positive experiences, but also how discussing 'discontinuous events' can have an impact on their learning. This would not be concerned with an individual grading themselves but instead would look at what they have learned through the experience. It is proposed that this would encourage higher-level learning. The relevance of transformative learning theory to entrepreneurial learning is explained by Trimmer, who believes that:

After such a transformation of perspective, individuals are able to have adapted existing or new ways of thinking and doing... transformative learning has useful qualities and characteristics in the unique entrepreneurial development context as it makes entrepreneurs develop their ability to transform their frame of reference to adapt better to changing environments. (Trimmer, 2015, p. 4)

In entrepreneurial learning, the role that different types of experiences play in developing skills is important as entrepreneurs generate knowledge and make decisions based on positive experiences and failures (Pittaway and Thorpe, 2012). Many pedagogies used in entrepreneurial learning generate transformative learning experiences as students learn through experience. Rae (2010, p. 594) describes how entrepreneurial education in recent years has moved towards 'experiential learning, learning for rather than about entrepreneurship'. This could result from the fact that an 'individual is more likely to develop an entrepreneurial mindset' when they engage in experiential activities, as these are believed to generate more 'intense and positive affective states' (Rae, 2010, p. 594). Therefore, academics (Shahen et al., 2020; Tatiana et al., 2020) have begun to look at how entrepreneurship is taught in the classroom and how an individual can learn more effectively, 'the discussion in entrepreneurial learning is centred on the idea of gaining entrepreneurial competencies through experience that entrepreneurs gain from 'learning by doing' (Sirelkhatim and Gangi, 2015, p. 4), which is also referred to as experiential learning.

## 1.8 Experience

Experiential learning is the process of learning through experience (Kolb, 1984; Dyke, 2017; Zhai et al., 2017), though not all experiences are equal in generating knowledge. Experience is concerned with the amount of engagement an individual has had with a particular occurrence. It contrasts with rote or didactic learning, where the learner takes a more passive role (Tete et al., 2014). Dewey theorised that discovery through experience leads to learning, and he discussed traditional and progressive education and insisted that neither the old nor new education is adequate, as neither of them applies the principles of a carefully developed philosophy of education (Dewey, 1938). This means that we cannot conclude that entrepreneurial learning courses provide learners with a better experience and consequently an increased level of learning because it follows newer teaching and learning principles. In Dewey's work, he states that not all experiences are genuinely or equally educative, and it depends on the quality of the experience. This was also referred to as the experiential continuum (Dewey, 1938).

Dewey (1938) argues that there are two principles that explain the nature of experience, continuity and interaction:

- (i) continuity (that all experiences are carried forwards and influence future experiences)
- (ii) interaction (present experiences arise out of the relationship between the situation and the individual's past).

Dewey (1938) makes two important arguments regarding experiential learning. Firstly, he states that progressive education has to simply do more than react to the problems of traditional education. Secondly, he argues that we must understand how experience occurs in order to design and conduct education for the benefit of individuals in society, both in the present and in the future. This provides a justification



of why it is important to investigate experiential learning as we cannot just conclude that progressive education courses provide more experience than those that are traditional; we need to look at the characteristics of those experiences and ensure that they are providing a good quality of experience for the learner.

There has been a fundamental change in the way that entrepreneurship is viewed. Instead of thinking that it is 'the unrelated actions of individuals', there is now a consensus that it can be 'understood more usefully in sociological terms as a social and cultural collective movement, composed of disparate but like-minded individuals' (Rae and Wang, 2015, p. 2). Rae (2010, p. 594) describes how entrepreneurial learning in recent years has moved 'towards experiential learning, learning for rather than about entrepreneurship'. This could be a result of the fact that an 'individual is more likely to develop an entrepreneurial mindset' when they engage in experiential activities, as these are believed to generate more 'intense and positive affective states' (Rae, 2010, p. 594). The pedagogical challenge is to 'create the learning environment which provides opportunities for practising and developing these behaviours, reinforces the attributes and develops the skills' (Gibb, 2002, p. 142). Creating an experiential learning environment in an educational institution can be difficult as policies and targets need to be considered. There is a need for clear and measurable outcomes on courses of an experiential nature that can be used to ensure that targets are being met. This is why it is important to investigate how assessment can take place on entrepreneurial learning courses, as students are not learning in traditional ways that the educator routinely assesses. Instead, learners take part in action-based activities, which are similar to those an individual may take part in after formal education, such as in the workplace or in the process of setting up their own business. In most cases, for the teaching for entrepreneurship theme, students act, role-play, and pretend to be entrepreneurs rather than being one, which is the core difference between this theme and teaching through entrepreneurship (Vincett and Farlow, 2008). These can be harder to assess as there is no set pattern of events

that a learner may encounter. Instead, they may experience discontinuous events; these are when something goes wrong during the process and challenges that may not have been predicted arise.

Consequently, there is a need for an assessment process that compliments these real-life experiences and gives the learner the opportunity to reflect on the events that have just taken place. The educator is required to act as a facilitator in experiential learning. 'Experiential learning positions the educator in a supportive role and locates the learner at the centre of the process' (Leigh and Spindler, 2004, p. 53).

### **1.9 The role of the educator**

In assessment for learning, Ilie (2014, p. 295) believes that the role of the educator is to facilitate entrepreneurial competence development as it happens by stating that 'educators are challenged to set forth the learning opportunities of the students in relation with the unstructured and uncertain nature of the entrepreneurial environment'.

The teacher's primary role is to achieve student approval of the learning contract and to identify the theory-based competencies to be mastered. The learning contract details the objectives of the course and what tasks a learner needs to complete in order to pass the programme successfully. It will also outline how the educator assesses learners on the course and information about how these assessments are graded. However, it can be more challenging to provide details of these on entrepreneurial learning courses, as these can be more student-led, with the learner taking on some of the educator's responsibilities. Compared with courses that follow a more traditional methodology. The concept of mastery learning was initiated by the work of Carroll (1963) and Bloom (1968). Bloom (1968) indicates that it is an effective way to improve student attitudes and interest toward learning, besides helping them to master specific knowledge. In keeping with this assumption, a

mastery learning strategy requires students to reach a particular level of mastery (usually 80 to 100 per cent) of a topic before proceeding to the next phase of a course. An example of this is through examinations in which a learner needs to achieve a certain level of competence in order to move forward with the course. Few or no such studies have considered entrepreneurship education. In response to this, Amiruddin and Zainudin (2015) conducted a study into the use of a mastery learning strategy on an entrepreneurship course. Their study found that learners who took part in the mastery learning approach acquired more knowledge compared to the control group. Amiruddin and Zainudin (2015, p. 25) concluded that a mastery learning strategy could be used as part of effective 'learning strategies in entrepreneurship education'. However, we must be aware that this study was conducted in Malaysia with aboriginal students, and therefore cultural differences could have an impact on the findings of this study which make them inapplicable to learners in the UK.

The responsibility for deciding which activities are most appropriate for teaching a competency may be assigned to groups of students, a single student, or retained by the educator. The activities should assist learners to understand and apply underlying course concepts. A common characteristic of each of these activities is that they must involve every student. This enables students to receive immediate feedback from those in the class. In this setting, the teacher may move around the classroom as a coach rather than an evaluator of student performance. Educators are ultimately the key construct that has an impact on the learner's attitude, thinking and willingness to take the plunge of new venture creation. 'Facilitators plan how to combine the construct mix, organise the learning, lead the participant through the self-learning process and control the learning process' (Pretorius, 2008, p. 17). To guide educators, Fayolle and Gailly (2008, p. 580) have proposed a teaching framework for entrepreneurial education consisting of five questions to be answered in this order:

1. Why, or objectives and goals connected to learning needs in society;
2. For whom, or characteristics of the intended audience in terms of previous knowledge, experience and attitudes;
3. For which result, or how to evaluate and assess the learners;
4. What, or contents in terms of professional, spiritual and theoretical dimensions
5. How, or methods and pedagogies.

This section has outlined why the role of the educator is important when carrying out learning by doing activities and subsequent self-assessment activities, as their role is to facilitate this process. As a result of this, my study will include the educators' views and will not just investigate the learners' beliefs when investigating the role of self-assessment.

### **1.10 The research questions**

The study focuses on developing a holistic understanding of the role of self-assessment in entrepreneurial learning. This means that all aspects of an individual's development are taken into consideration when exploring the research questions:

1. Can self-regulatory skills be used in the self-assessment of entrepreneurial learning competencies?
2. What skills do learners need to self-assess their own learning?
3. Do learners benefit from taking part in self-assessments?
4. What is the nature of existing self-assessment practices on entrepreneurial learning courses?
5. What is the role of the educator in the facilitation of self-assessment practices?

Holistic learning is a philosophy of education that is interested in engaging and developing the whole person. It puts forward the theory of developing an individual's intellectual, social, physical, artistic, creative and spiritual potentials (Lauricella and MacAskill, 2015).

The holistic learner is assumed to want to achieve the highest aspect of awareness of knowledge and appreciates the value that it adds to his or her life. The holistic teacher is assumed to want to develop the learner as a critical, confident, independent learner and provide the holistic learner with critical faculties that enable action in real situations (Patel, 2003, p. 274).

Holistic learning is concerned with teaching students academically and also providing them with life skills that they may require in their chosen field. This is particularly applicable to those studying entrepreneurship as they do not just need to merely develop their knowledge; they also need to develop characteristics that have been identified as being of importance to successful entrepreneurs.

This research aims to inform our understanding of entrepreneurial learning theory and practice. This helps to improve the design and delivery of entrepreneurship courses. I will share my research findings with all of the entrepreneurship courses that take part, and this information could be used to help them improve their assessment practices. In addition, by taking part in this research, students will have the opportunity to self-reflect on their own learning, and this will help them to recognise their own competencies and skills that they need to develop further.

## Chapter 2: Review of the Literature

### 2.1 Chapter introduction

The chapter is structured around the key themes highlighted in the research questions:

1. Can self-regulatory skills be used in the self-assessment of entrepreneurial learning competencies?
2. What skills do learners need to self-assess their own learning?
3. Do learners benefit from taking part in self-assessments?
4. What is the nature of existing self-assessment practices on entrepreneurial learning courses?
5. What is the role of the educator in the facilitation of self-assessment practices?

The literature review begins with Section 2.1, which explores the importance of entrepreneurial learning as a research topic. The literature goes on to critique the development of the concept of competence.

In Section 2.2, there is an explanation of what learning is, how the nature of learning has changed and how this has led to the emergence of entrepreneurial learning. Multiple theories of learning (behaviourism, cognitivism, experientialism and humanism) are used to explain the different researcher perspectives that describe how an individual learns.

In Section 2.3, the concept of self-assessment is evaluated through a discussion of the opportunities and challenges surrounding its use and a critique of self-assessment typologies identified in the literature. The role of self-assessment on entrepreneurial

learning courses is discussed by looking at topics that are frequently mentioned in the literature, including peer assessment, feedback and reflection.

Section 2.4 builds on the literature surrounding self-regulation, which was introduced in Section 1.6 (p. 22) by presenting different concepts mentioned in relation to self-regulation, such as entrepreneurial identity, emotional intelligence and critical thinking. This will examine whether the existing literature believes that self-regulation has an impact on a learner's participation in entrepreneurial activity.

In Section 2.5, the theory surrounding the learning environment is discussed in order to discover whether the learning environment can have a direct impact on the learner and the different ways in which learners access information. It is important to increase our understanding in this area for this study as research question four is concerned with understanding the existing nature of self-assessment practices on entrepreneurial learning courses. As a result, there is a need to recognise the different learning environments in which the self-assessment takes place to see if this has an impact on the learner. Therefore, an evaluation of the literature surrounding the existing nature of entrepreneurial learning environments will be undertaken before reviewing the literature on the entrepreneurial learning process.

In Section 2.6, a conceptual model for this study is presented, which has been produced from reviewing the literature in this chapter.

### **2.1.1 The importance of entrepreneurial learning**

In this section, I discuss the development of entrepreneurial learning courses in England. This section goes on to identify the position of entrepreneurial learning courses in higher education institutions and compares this to the role of entrepreneurial learning courses in other countries, where the courses are more established and wide-ranging. The concept of entrepreneurial competence is then

introduced. Finally, this section concludes with a discussion of whether self-assessments provide benefits for learners studying on entrepreneurial learning courses.

There was an increased interest in entrepreneurial learning in the late 20<sup>th</sup> century (Kuratko, 2005; Hannon, 2013). The rise of globalisation, innovation, technology has impacted our lives and led to changes in how businesses and economies function as well as the landscape of the job market:

The knowledge and skills required by the present and future jobs are changing, and consequently, the education system at all levels has to respond and adapt to the new challenges. (Grecu and Denes, 2017, p. 1)

Rae (2000, p. 147) believes that there has been a shift in the way in which academics look at entrepreneurial learning, with there now being a focus on four major themes, 'entrepreneurial personality, entrepreneurial career development, entrepreneurship education and cognitive approaches to entrepreneurial learning'. Pittaway and Tunstall (2016, p. 183) believe that researchers are 'interested in explaining what makes an entrepreneur do what they do' and that entrepreneurship studies frequently 'focus on the individual, their traits, motivations and behaviours'. Royo et al., (2015, p. 745) state that 'entrepreneurial learning is unique since it involves a dynamic process of awareness, reflection, association and application'. There has been an interest in entrepreneurial learning literature, with a move towards identifying 'how to educate people for entrepreneurship' (Williams Middleton and Donnellon, 2014, p. 168), what should be taught and how content should be delivered. However, entrepreneurial learning is not only of academic interest (Erdelyi, 2010). There is now an increasing number of government policies in many countries that outline entrepreneurial learning as a central strategy to improve economic growth. Whilst entrepreneurial learning practices were primarily found in developed countries, they have begun to emerge in developing countries.



### 2.1.2 The concept of entrepreneurial competence

It is important to look at the concept of entrepreneurial competence as it is the main outcome of entrepreneurial learning courses. Similarly to the term entrepreneurial learning, there can be challenges when looking to define what entrepreneurial competencies actually are, as there are many different definitions of competence, 'terms such as competencies, skills, knowledge and expertise are often used interchangeably with insufficient attention to their meaning' (Mitchelmore and Rowley, 2010, p. 104). The following table explores the differences between four of the key terms used in the literature, competencies, skills, attributes, behaviour.

Terminology	Definition
Competencies	'A competency is generally defined as a combination of skills, knowledge, attributes and behaviours that enables an individual to perform a task or an activity successfully within a given job' (International Atomic Energy Agency, n.d., p. 5).
Skills	Specific learned activities.
Attributes	What someone is. Relate to individual characteristics.
Behaviour	What someone does. Relate to how an individual acts or how they conduct themselves.

*Table 2.1: Definitions of competencies, skills, attributes and behaviours*

Table 2.1 provides an overview of the definitions of competencies, skills, attributes and behaviours that have been identified from the literature. From Table 2.1, we can see that competency is a broader concept that can comprise of skills, attitudes and behaviours. This is also the terminology relating to the EntreComp model, which is used as a theoretical framework for this study. Therefore, competencies will be used as the main focus of this research project due to its use as an umbrella term, which comprises skills, attitudes and behaviour. This is in keeping with the holistic approach to this study, which is focused on all aspects of a person.

As competencies have been identified as the main focus for this study, some further definitions of competency will be explored in order to increase our understanding.

Streblor et al., (1997) state that there are at least two key meanings or uses of the term competency: competency as behaviours that an individual demonstrates; and competencies as minimum standards of performance. Klemp (1980, p. 21) defines competency as 'an underlying characteristic of a person which results in effective and/or superior performance on the job', and Woodall and Winstanley (1998, p. 75) define competency as 'the skills, knowledge and understanding, qualities and attributes, sets of values, beliefs and attitudes which lead to effective managerial performance in a given context, situation or role'. 'Entrepreneurial competencies have been identified as a specific group of competencies relevant to the exercise of successful entrepreneurship' (Mitchelmore and Rowley, 2010, p. 93).

Lackeus (2013) states that there are two ways to look at entrepreneurial competencies: those centred around personal development and those with a financial focus. Driessen and Zwart (2006) believe that entrepreneurial competencies can be subdivided into four elements: knowledge, internal and external business motivation, skills and personal development. Similarly, the European Commission (2016) believes that learners need to demonstrate three key entrepreneurial competencies; knowledge, skills and attitudes, and each programme of study should aim to develop these three areas. Lackeus (2013, p. 13) agrees with this by stating that 'the ultimate goal of all entrepreneurial education is to develop entrepreneurial competencies among students/learners'. This has particular importance for my research as I am looking at understanding whether self-regulatory skills can be used in the assessment of entrepreneurial learning competencies. This will ultimately identify if self-regulatory skills have an impact on learners' entrepreneurial competencies, which are important for their performance in entrepreneurial activities. From this, we can also see that entrepreneurial competency can be defined into two areas those concerned with business motivation, knowledge and a financial focus and those that are concerned with personal development, skills and attitudes.

Breslin and Jones (2012) begin an interesting debate when they discuss how an individual's entrepreneurial competencies evolve over their lifetime. This is interesting as it shows that individuals will not just develop entrepreneurial competencies in the learning environment during the duration of their course but that these competencies can be developed further, and new ones can be learned in the future. The development of competencies can be through different experiences that occur at significant points in their entrepreneurial journey, such as through launching and beginning to offer a product or service from a new business where the entrepreneur learns through a process of doing. An example of when a competency can be developed can include situations where there are problems with the business and the individual experiences failure when something goes wrong; from this, 'the entrepreneur acquires and develops these various knowledge components as the needs of the business dictate' (Breslin, 2015, p. 218). Breslin and Jones (2012) have identified three mechanisms that describe the development of the entrepreneurial process: variation, selection and retention.

Mechanism	Description
Variation	During the entrepreneurial process, entrepreneurs continually adapt to changes in the external world by varying skills, heuristics and frameworks. This variation might be orientated towards the exploration and exploitation of opportunities.
Selection	While the environment will ultimately select the organization based on its offering of products and services, at a micro-level, the entrepreneur selects particular skills, heuristics and frameworks when completing key entrepreneurial activities.
Retention	The entrepreneur retains chosen skills, heuristics and frameworks over time based on the interpretation of environmental feedback.

*Table 2.2: The framework of variation, selection and retention. (Breslin and Jones, 2012, p. 298-299)*

Table 2.2 demonstrates the unique environment that an entrepreneur operates in and how this environment helps the individual to develop entrepreneurial competencies over a period of time. It can be challenging to recreate a similar environment within

a university environment, as many of the events that happen when launching and running a business are unique and unpredictable, and therefore 'it requires the creation of an uncertain and ambiguous context encouraging students to step outside taken-for-granted assumptions' (Pittaway and Cope, 2007, p. 214).

Recent entrepreneurial learning courses in higher education are increasingly designed to ensure that they recreate a real-life business environment as closely as possible and include unexpected scenarios. This can be achieved through activities such as performing simulations, creating a business plan and analysing live cases. Pittaway and Cope (2007, p. 211) outline how it is 'possible to simulate aspects of entrepreneurial learning, such as emotional exposure and situated learning'. Entrepreneurial learning courses that follow the principles allow learners to take a real business from the idea stage to launch, which allows the learners to experience various scenarios, including business failure. It is believed that closely re-enacting an actual business environment gives the learner the best chance of developing entrepreneurial competencies. However, as this business experience is taking place as part of an accredited course, there needs to be a way to identify if the required entrepreneurial learning competencies are being developed. This is where the importance of the role of assessment comes in. My study aims to discover whether self-regulatory skills can be used in the development of entrepreneurial learning competencies and whether self-regulatory skills can be used to discover whether the learner has developed the necessary competencies to perform a task effectively through the process of self-assessment. A learner can participate in different types of assessment; three of these are formative, summative, and ipsative. Dixson and Worrell (2016) believe that formative and summative assessments can be distinguished from each other based on how they are used at different points in the learning process. For example, formative assessments can be used throughout the learning process as they 'usually are not factored into final grades' (Dixson and Worrell, 2016, p. 155) and are more focused on assessing a student's understanding.

In contrast, summative assessments commonly occur after the learning process to capture what the student has learned. It is, therefore, interesting to explore whether or not self-assessments are more effective as either formative or summative assessments and how effective the delivery of self-assessments at different points in the learning process is at developing a learner’s competencies. Another type of assessment to consider is ipsative, which is where a learner assesses themselves against their previous performance in a task and not in response to a set criterion or the performance of their peers. Thus, it can be seen that formative and ipsative assessments can be used to provide learners with the necessary skills to conduct self-assessments of their competencies, despite the fact that summative assessments are more commonly used in higher education (Seery et al., 2019).

Author	Description
Bird (1995)	Entrepreneurial competencies are defined as underlying characteristics such as specific knowledge, motives, traits, self-images, social roles and skills which result in venture birth, survival and/or growth.
Man et al., (2002)	Defined entrepreneurial competencies as higher-level characteristics encompassing personality traits, skills and knowledge, which can be seen as the total ability of the entrepreneur to perform a job successfully.
Priyanto and Sandjojo (2005)	Decompose entrepreneurial competency into four dimensions: management skills, industry skills, opportunity skills and technical skills.
Hayton and Kelley (2006)	Situationally specific individual competencies involve identifiable sets or combinations of individual characteristics, specifically knowledge, skills, and personality characteristics.
Mitchelmore and Rowley (2010)	Entrepreneurial competencies are defined as knowledge, skills and attitudes that are key for starting or growing a business.
The European Commission (2016)	The Entrepreneurial Competence Framework defines entrepreneurship as a transversal competence, which applies to all spheres of life: from nurturing personal development to actively participating in society to (re)entering the job market as an employee or as a self-employed person, and also to starting up ventures (cultural, social or commercial).

*Table 2.3: Definitions of entrepreneurial competencies*

Table 2.3 demonstrates that various academics (Bird, 1995; Man et al., 2002; Priyanto and Sandjojo, 2005; Hayton and Kelly, 2006; Mitchelmore and Rowley, 2010) have looked at the topic of entrepreneurial competencies, with most defining it in terms of knowledge, skills, and characteristics. This demonstrates that entrepreneurial competencies commonly focus on the individual and their ability to participate in

entrepreneurship tasks. There have been efforts to define areas of competency, with Man et al., (2002, p. 132) identifying six competency areas:

Competency Area	Behavioural Focus
Opportunity competencies	Competences related to recognising and developing market opportunities through various means
Relationship competencies	Competences related to person-to-person or individual-to-group based interactions
Conceptual competencies	Competences related to different conceptual abilities which are reflected in the behaviour of the entrepreneur
Organising competencies	Competences related to the organisation of different internal, external, human, physical, financial and technological resources
Strategic competencies	Competences related to setting, evaluating and implementing the strategies of the firm
Commitment competencies	Competences that drive the entrepreneur to move ahead with the business

*Table 2.4: The six competency areas identified in the literature*

Table 2.4 provides a description of the six competency areas identified in the literature by Man et al., (2002). These six competency areas are significant for this study as the research will be looking at how learners can use self-assessment to demonstrate competencies; it is, therefore, important to have a good understanding of what the different competency areas are and how these six competencies can be used in the production of a self-assessment framework for entrepreneurial learning courses, or whether learners identify competencies as belonging to these six areas through their self-assessments.

The European Commission produced the Entrepreneurship Competence Framework in 2016; they described it as a new tool that could be used to improve communities across Europe:

A New Skills Agenda for Europe: Working together to strengthen human capital, employability and competitiveness to address the skills challenges that Europe is currently facing. The aim is that everyone should have the key set of competences needed for personal development, social inclusion, active citizenship and employment. (Bacigalupo et al., 2016, p. 2)

The framework describes entrepreneurship as a transversal competence, which citizens can apply to all spheres of life from nurturing personal development, to actively participating in society, to (re)entering the job market as an employee or as a self-employed person, and to starting up ventures (cultural, social or commercial). The EntreComp model is made up of three competence areas and 15 competencies.

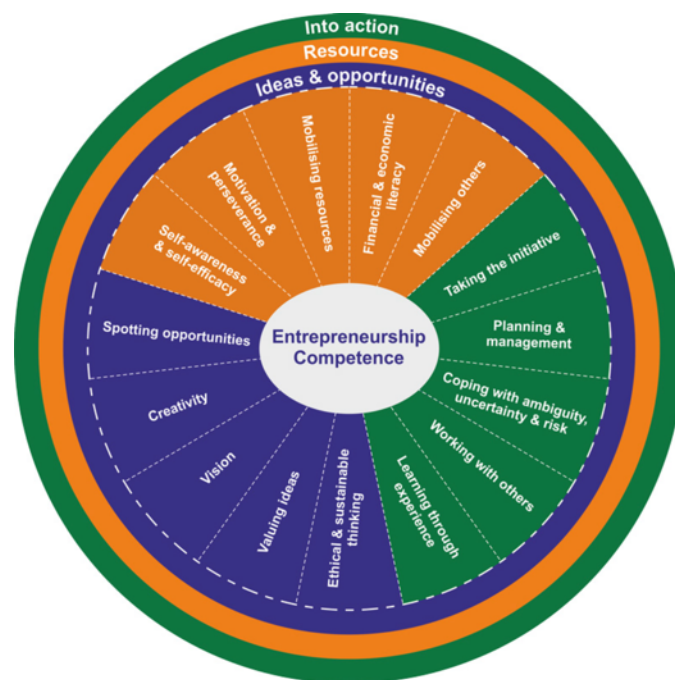


Figure 2.1: The EntreComp Conceptual Model. (Bacigalupo et al., 2016, p. 6)

The EntreComp Conceptual Model is displayed in Figure 2.1; this demonstrates how the model is split into three areas. Man et al., (2002) and the EntreComp Conceptual Model both categorise the competencies into different areas. However, Man et al., (2002) split these into six areas with competencies of a similar nature, whilst the

EntreComp contains three areas with competencies that can be used at different stages: into action, resources and ideas and opportunities. This demonstrates how there are many different understandings of what entrepreneurial competence is, which shows how it can be problematic when looking at how to implement strategies that develop entrepreneurial competencies into the curriculum. Whilst the learning process needs to ensure that learners have developed competencies in each of the six areas, The EntreComp Conceptual Model could be used to design action-based activities; however, whereas this model provides recommendations, its use is not compulsory and it can be used in different ways. Countries across Europe that have implemented The EntreComp model have different interpretations when putting it into practice. Bacigalupo, who is a Research Fellow at the Joint Research Centre of the European Commission, outlined how The EntreComp Conceptual Model has been implemented by different countries such as Finland, Greece and Portugal:

The Ministries of Education of Finland and Greece have started translating it. In particular, Finland has decided to use it as part of their forthcoming national evaluation concerning entrepreneurship education and competence. The Portuguese Ministry of Education is also revising the framework in light of their development of a national framework. (Bacigalupo, 2016, p.1)

Interestingly, Bacigalupo (2016) discusses how the model is being translated and revised to fit in with particular outcomes and therefore, it is hard to compare its use and effectiveness in different countries, with it being more of a suggested way of developing entrepreneurial competencies rather than exact guidelines which can lead to some ambiguity.

There is some debate surrounding whether or not entrepreneurship can be taught through a prescribed model. Blenker et al., (2008) argued that entrepreneurial skills could not be taught properly or effectively within many universities due to their



faculty's inability to motivate students to innovate and the lack of the right type (i.e. experiential) of pedagogical approaches. However, Blenker et al., (2008) do not attempt to analyse or assess a student's skills or competencies but instead focus on whether particular learning outcomes have been achieved. Scott et al., (2016, p. 83) conducted a review of both traditional and experiential approaches to entrepreneurial learning and found that 'we need to establish more effective student performance evaluation metrics' and, in particular if 'actual learning outcomes are appropriate measures of effectiveness'.

### **2.1.3 Entrepreneurial learning, social entrepreneurship and value creation**

Value creation was described by Lackeus (2016) as a stepping-stone between entrepreneurship and education, by having learners take part in activities that create benefits for their communities allows them to interact with the real world. Through this participation, they gain hands-on experience. This enables learners to learn through experiences that are closer to everyday activities, which are unpredictable, as opposed to learning in an educational environment that has predefined goals. It is believed by Trimmer (2015) that this will generate a high level of transformative learning experience for learners. Entrepreneurship has been primarily understood as the process of creating economic value. Recently, however, its purpose has been extended to cover the creation of social value. As a result, social entrepreneurship research has emerged and grown as an important sub-field of entrepreneurship. Social entrepreneurship is defined as 'innovative, social value-creating activity that can occur within or across the nonprofit, business, and public sectors (Austin et al., 2006, p. 2). Understanding the value created through social entrepreneurship demonstrates why it is crucial for us to investigate the role of self-assessment on entrepreneurial learning courses, as producing learners with a good level of self-awareness and competence could produce both economic and social value in society.

Academics have discussed the benefits of entrepreneurial learning in terms of 'value creation' (Gedeon, 2014; Lackeus et al., 2016; Lackeus, 2016; Lackeus, 2018; McGuigan, 2016). The authors identify many ways that entrepreneurial learning creates value both for the individual and society. This includes an increase in their entrepreneurial intentions, self-awareness and economic benefits for their society, with Heinonen and Poikkijoki (2006, p. 81) adding that 'an innovative approach to problem-solving, high readiness for change, self-confidence, and creativity – all attributes related to entrepreneurship – constitute a viable platform for economic development in any society'. Korsgaard and Anderson (2011, p. 149) do not see the value being created in entrepreneurship processes as solely economic, stating that 'entrepreneurship is as much social as economic'. A case study conducted by Korsgaard and Anderson (2011, p. 135) found that social value is created in 'multiple forms at different centres and on different levels: from individual self-realization over community development to broad societal impact'. Value creation in entrepreneurship has also been looked at in relation to social enterprises:

Governments, non-profit organizations and for-profit companies have been making significant efforts to alleviate social problems such as unemployment, poverty and lack of education among people suffering from extreme poverty. (Son et al., 2018, p. 1)

As a result, there has been an emergence of social enterprises which aim to alleviate some of these problems. Therefore, it is of interest to consider how entrepreneurial learning courses can function in a way that generates societal value by focusing on creating ventures that have a social focus instead of those that solely focus on economic benefits. This has been looked at by several academics (Howorth et al., 2012; Pache and Chowdhury, 2012; Zhu et al., 2016) who investigated how providing learners with the knowledge and skills to engage in social entrepreneurship can be

embedded into the curriculum. In addition, Howorth et al., discussed the value created in terms of the learner identity and recommended that educators should:

Focus on the social entrepreneurs' identities as learners. Design for and articulate the learning identity the participants are expected to develop. This enables social entrepreneurs to step outside their contested identities and focus on achieving their learning goals. (Howorth et al., 2012, p. 386)

A model of social entrepreneurship was produced by Pache and Chowdhury in 2012, in which they outline 'strategies allowing students to deal with the identity issues associated with this process' (Pache and Chowdhury, 2012, p. 500). This is due to the fact that entering a work environment that combines both social and commercial aspects in the field of social entrepreneurship may encounter problems from other learners and family members who may not understand their choices or dismiss them, as well as their own doubts about the impact of this choice on their salary, status or future career prospects. Pache and Chowdhury (2012) build upon the beliefs of Howorth et al., (2012) by outlining that the development of a learning identity is not always a positive one and instead can negatively impact the learner. Consequently, Pache and Chowdhury believe that it is necessary to introduce a way of allowing the learner to engage in identity work which could help to alleviate some of the adverse effects for the learner:

Identity work inventions in the context of a social entrepreneurship programme should be aimed at supporting students in understanding and shaping their future professional and personal identities. (Pache and Chowdhury, 2012, p. 505)

Self-assessment can be a method of enabling a learner to take part in identity work. This is due to the fact that it gives the learner an opportunity to discuss how they see themselves, their strengths and weaknesses and their learning goals. This will help to

shape their future identity, as they can understand who they are better and how they would like to grow and develop in the future, for example, by working on a particular competency or by completing a particular task.

This has demonstrated the importance of considering the role of social entrepreneurship in entrepreneurship courses due to the value it creates for society. Having a learner participate in different types of entrepreneurship could help them to improve their identity. This could create value for both the individual and society.

Main findings	Study
Entrepreneurial learning has economic and social benefits	Heinonen and Poikkijoki (2006)
Social entrepreneurship has emerged and grown as an important sub-field of entrepreneurship	Pache and Chowdhury (2012)
Social enterprises aim to alleviate social problems such as unemployment, poverty and lack of education among people suffering from extreme poverty	Korsgaard and Anderson (2011)
Learning 'about' and 'for' social entrepreneurship has an impact on the identity of a learner	Pache and Chowdhury (2012)
The development of a learning identity is not always a positive one and instead can have a negative impact.	Howorth et al., (2012)
It is necessary to introduce a way of allowing the learner to engage in identity work to reduce the negative impacts on their identity.	Pache and Chowdhury (2012)
Self-assessment can be a method of enabling a learner to take part in identity work.	Future research area
Value is created through increased learner identity and benefits for society.	Howorth et al., (2012); Pache and Chowdhury (2012)

*Table 2.5: Summary of findings relating to value creation in entrepreneurial learning*

Table 2.5 provides a summary of the literature relating to value creation in entrepreneurial learning. It has been identified that social entrepreneurship has benefits for society, such as tackling unemployment, poverty and lack of education. This demonstrates why it is beneficial for learners to develop entrepreneurial skills that they can then use to alleviate some of these problems in society. Therefore,

entrepreneurial skills are required by individuals so that they can contribute to community development and promote social change. In addition to this, it has been discovered through reviewing the literature that participation in social entrepreneurship has an impact on the identity of the learner.

#### **2.1.4 Section summary**

The literature has outlined a need for the education system to respond to changes in the knowledge and skills that individuals require for the present and future job market. This is demonstrated in entrepreneurial learning by shifting toward what should be taught and how to deliver the content. Models have been produced, such as the EntreComp Conceptual Framework (Bacigalupo, 2016), which outlines the skills that a learner should have in order to participate in entrepreneurial activities. However, there are several definitions, and different countries have implemented different models and adapted them for use in various scenarios. There is also some disagreement amongst academics on whether entrepreneurship can be taught through a prescribed model.

Recent entrepreneurial learning courses in higher education have been designed in a way that ensures that they recreate a real-life business environment where the learner can experience challenges such as scenarios that are unexpected and business failure. As this business experience is taking place as part of an accredited course, there needs to be a way in which to identify if the required entrepreneurial learning competencies are being developed, and this is where the importance of the role of assessment comes in, not only as a summative assessment practice but also as a formative assessment practice. This section has addressed the importance of increasing our understanding of the role of self-assessment in entrepreneurial learning courses:

- Changes in society and the job market has led to learners requiring different knowledge and skills.
- Entrepreneurial competencies can improve an individual's performance in entrepreneurial activities; however, there is some confusion over how to implement the development of these competencies into higher education courses.
- There is a requirement for learners to have the opportunity to participate in real-life business environments, and therefore the learning environment needs to re-create this type of situation. However, this leads to questions on how a learner's performance in experiential learning can be assessed effectively. In addition, there are problems with this approach on an accredited course where the learner needs to achieve a particular grade to complete their course successfully.
- Entrepreneurship has both economic and social benefits, and therefore it is important to equip learners with the required skills due to the value it creates for society.

## **2.2 The Process of learning**

It is believed that understanding the process of learning is necessary in order to develop activities that enhance the development of competencies in learners. Pritchard (2009, p. 2) reviews definitions of learning and concludes that it can be 'the process of gaining knowledge; a process by which behaviour is changed shaped or controlled; or the individual process of constructing understanding based on experience from a wide range of sources'. The process of learning has been considered in many different contexts in order to explain how to meet different learning outcomes. This section will investigate the process of learning through a review of the literature on how people learn to work in entrepreneurial ways. Theories of education are introduced and considered in relation to how they apply to

entrepreneurial learning. It has been identified by a number of academics (Baird et al., 2017; Shepard et al., 2018) that it is important to review the literature on theories of learning for the following three reasons:

- Understanding how people learn in order to explain how assessment takes place.
- Assessment is one of the key principles of learning.
- Grounding assessment design in a research-based theory of learning.

For this study, it is important to discuss learning theories as this could increase our understanding of how learning occurs in individuals as a learner could discuss their learning process in the self-assessment. Therefore, we need to understand how they learn and what motivates learning.

Rogers and Horrocks (2010) discuss assessment in terms of evaluation where they state that the subject of evaluation is important and widely discussed due to its relevance for different stakeholders (providers, government, employees) and not only for those in the context of teaching and learning. As Rogers and Horrocks (2010) refer to assessment in terms of evaluation, there is a need to address this and make a distinction between assessment and evaluation. Rogers and Horrocks (2010) discuss evaluation in three subsections; concepts of assessment, certification and accountability and other concerns, and take 'the position that evaluation is not something separate from teaching'. From this, we can see that assessment is a form of evaluation. This is demonstrated further by comparing definitions of assessment and evaluation.

Terminology	Definition
Assessment	The process of gathering information to monitor progress and make educated decisions if necessary. An assessment may include different methods such as tests, observations, interviews, behaviour monitoring etc.
Evaluation	Procedures are used to determine whether the student meets pre-set criteria. This uses assessment to make a determination of qualification in accordance with a predetermined criterion.

*Table 2.6: The differences between assessment and evaluation (adapted from Overton, 2012).*

Through the definitions of assessment and evaluation provided in Table 2.6, we can begin to see the differences between the two terms, with assessment being a process and evaluation being a procedure. We can also see that assessments can form part of an evaluation. Rogers and Horrocks (2010) provide an argument for the importance of evaluation on courses when they outline how these are implemented into the design of the course right from the beginning:

The key questions we face as teachers of adults right from the beginning of our programme are: What are we trying to do? How do we know we are being successful? What are our measures of successful? For evaluation is integral to the whole process. (Rogers and Horrocks, 2010, p. 285 - 286)

There is a need to increase our understanding of what is being measured and how we can evaluate, as 'the processes of the learning programme need to be evaluated' (Rogers and Horrocks, 2010, p. 297). In order to understand what to measure and how to evaluate, we need to understand how the learning of the individual takes place.



### **2.2.1 How do people learn to work in entrepreneurial ways?**

Entrepreneurial learning is defined as 'learning that occurs during the new venture creation process' (Pittaway and Cope, 2007, p. 212). This definition mentions the word process; a learning process is the activity or process of gaining a piece of knowledge or skill by studying, practising, being taught or experiencing something. Therefore, by looking at the entrepreneurial learning process, we are able to identify how people learn to work in entrepreneurial ways. This is necessary as the 'skills traditionally taught in business schools are not sufficient to make a successful entrepreneur' (Rae, 1997, p. 199).

Academics (Sellah et al., 2017; Schut et al., 2018) have noted that individuals can perceive and process information in different ways. Different people will act differently from each other during the learning process. Despite this, we can look at a range of learning theories that help us generate a clearer understanding of how people learn. I will conclude this section by discussing the theories of learning in the context of entrepreneurial learning.

Learning theories are conceptual frameworks, or as described by Knowles (1984; 1988a; 1988b), a set of assumptions that describe how students absorb, process and retain knowledge during learning. There are different theoretical understandings of the nature of learning:

Learning theories, which provide a profound coherence and understanding in changing teaching practices and standards, are imperative to the choice and employment of assessment. (Pattalitan, 2016, p. 695)

Although the literature covers a wide variety of such theories, this review will focus on four theories of learning, which emerge repeatedly throughout the literature reviewed. These learning theories are behaviourism, cognitivism, experientialism and humanism.

Theory of Learning	Definition
Behaviourism	Behaviourism learning theory is the idea that how a student behaves is based on their interaction with their environment. It suggests that behaviours are influenced and learned from external forces rather than internal forces.
Cognitivism	Cognitive learning theory looks at the way people think. Mental processes are an important part of understanding how we learn. The cognitive theory understands that both internal and external elements can influence learners.
Experientialism	Experiential learning theory focuses on learning by doing. Using this theory, students are encouraged to learn through experiences that can help them retain information and recall facts.
Humanism	Humanism directly focuses on the idea of self-actualization. Everyone functions under a hierarchy of needs. Self-actualization is at the top of the hierarchy of needs—it is the brief moments where a person feels all of their needs are met and that they are the best possible version of themselves. Everyone is striving for this, and learning environments can either move toward meeting needs or away from meeting needs.

*Table 2.7: The definitions of four theories of learning (adapted from Western Governors University, 2021).*

Table 2.7 provides definitions for four theories of learning: behaviourism, cognitivism, experientialism and humanism. By looking at how and why people learn, we can begin to understand the design of entrepreneurial learning courses, which increases our understanding of how entrepreneurial competencies are developed from each theoretical perspective.

### **2.2.2 Behaviourism**

Behaviourism is based on late nineteenth-century studies into how people behave, and it remained the basis of teaching approaches throughout the twentieth century. The theory of behaviourism proposes that learning is a teacher-led activity, with the educator being responsible for deciding what content should be delivered, how the teaching will take place and, in terms of assessment, 'what evidence of behavioural change needs to be produced' (Bates, 2016, p. 23).

<b>Theorist</b>	<b>Description of Theory</b>
Thorndike (1999); Thorndike and Gates (1929)	<b>Law of Effect.</b> Learning requires the teacher to stimulate the learner by rewarding successful practices. Behaviour that is followed by pleasant consequences is likely to be repeated, and behaviour followed by unpleasant consequences is less likely to be repeated.
Watson (1919; 1928)	Learning is a direct consequence of conditioning, and anyone can be conditioned to produce emotional responses
Pavlov (1927)	<b>Classical conditioning theory</b> involves learning a new behaviour via the process of association.
Skinner (1953; 1958)	<b>Operant conditioning theory:</b> process that attempts to modify behaviour through the use of positive and negative reinforcement. Through operant conditioning, an individual makes an association between a particular behaviour and a consequence.
Tolmon (1951)	<b>Purposive behaviourism:</b> all learned behaviour has a purpose rather than just a biological component. Learning is always purposeful and goal-directed; people, therefore, do not apply their learning unless they have a reason to do so. <b>Latent learning:</b> Refers to knowledge that only becomes clear when a person has an incentive to display it.
Gagne (1985)	<b>Conditions of learning:</b> there are several different types or levels of learning. Different internal and external conditions are necessary for each type of learning. <b>Hierarchy of learning:</b> instructor ensures that the individual has mastered the relevant lower-order parts of the process before learning at the next level can be undertaken.

Table 2.8: Behaviourist Learning Theories

Table 2.8 identifies numerous behaviourist learning theories. From these, we can see that behaviourism is 'based on the principle of stimulus and response' (Bates, 2016, p. 23). In addition, Behaviourism focuses on reinforcement (Robinson et al., 2016). For example, in Thorndike's (1999) law of effect theory, a teacher would be responsible for delivering the content and motivating the learner by rewarding successful practices. This is in keeping with other behaviourist learning theories that discuss how positive and negative reinforcement can be used to condition the learner to behave in the desired way.

Behaviourism was developed as a learning model at a time when mass education emerged for children in the late nineteenth and early twentieth centuries. 'This learning environment encourages reproduction rather than reflection' (Robinson et al., 2016, p. 663-664), with summative assessments such as examinations that tested

a learner's knowledge being prioritised. This is due to the fact that according to behaviourist learning theories, the individual will be extrinsically motivated, for example, through the achievement of grades (Robinson et al., 2016). As a result, education has moved away from 'learning about' entrepreneurship which fitted in with a behaviourist learning theory, to 'learning for' entrepreneurship with the emergence of new courses such as entrepreneurial learning, which are taught through student-led activity, as opposed to mass education which was designed in a way which supported behaviourism and teacher-led activity. This is in keeping with the beliefs of Rae (2010, p. 594), who stated that 'entrepreneurial learning in recent years has moved 'towards experiential learning, learning 'for' rather than 'about' entrepreneurship'. Behaviourism is in direct contrast to entrepreneurial learning theory, which is concerned with student-led activity in which the learner directs their own learning. Rather than taking a passive role in the classroom, the learner would decide what they would like to learn based on their interests and goals.

Gagne's (1985) hierarchy of learning is of relevance when looking at self-assessment as it is in keeping with the findings of Cope (2003, p. 431), which were discussed in the introduction on page 23, who believed that learning incidents 'can stimulate different 'levels' of learning', which can be either lower-level learning or higher-level learning'. Similarly, Gagne's (1985) hierarchy of learning builds on this by stating that there is a need to ensure that each learner has mastered the relevant lower-order parts of the process before learning at the next level can be undertaken. This behaviourist learning theory would suggest that a learner would have to learn to self-assess at different levels, mastering the basics of this skill which would generate lower-level learning, before advancing to the next level of self-assessment where higher-level learning could occur. The educator could influence this process through positive reinforcement and conditioning, which would increase a learner's motivation to take part in self-assessments in the future.

### 2.2.3 Cognitivism

Cognitivism is based on the principle that information is actively processed inside the mind of the person and that behaviour modification takes place by searching for the relationships that exist between the various parts of information.

Theorist	Description of Theory
Dewey (1958; 1963)	<b>Progressive education</b> is essentially a view of education that emphasizes the need to learn by doing. Dewey believed that human beings learn through a hands-on approach. This places Dewey in the educational philosophy of <b>pragmatism</b> .
von Ehrenfels (1937); Wertheimer (1938); Kohler (1947); Barber (2002)	<b>The Gestalt Theory:</b> proposes that the experiences and perceptions of learners have a significant impact on the way that they learn.
Vygotsky (1962; 1978)	Knowledge and thought are constructed through social interaction with family, friends, teachers and peers.
Piaget (1957; 1970)	The construction of knowledge is based on the individual's experiences, which, in turn, are influenced by their emotional, biological and mental stage of development.
Bandura (1977)	<b>Social learning theory:</b> Behaviour is learned from the environment through the process of observational learning. People would be more receptive to modelling good behaviours if they believed that they were capable of executing the behaviour. He used the term self-efficacy to describe this.
Ausubel (1963; 1978)	Concepts, principles, and ideas are achieved through deductive reasoning.
Bruner (1966; 1971)	<b>Discovery learning:</b> Behaviour modification is achieved through the person participating actively in the process.

Table 2.9: Cognitive Learning Theories

Table 2.9 provides a description of different cognitive learning theories. From Table 2.9, we can see an explanation of the social learning theory by Bandura (1977). The concept of students working in teams is the central component of many entrepreneurial learning courses. This can involve a process of team building in which a level of trust and accountability is generated between the students on each team. However, entrepreneurial learning is not solely conducted in the educational environment. It is also suggested that acquiring entrepreneurial knowledge and skills involves gaining social experience in the real world.

We increase our understanding of social learning theory when we look at the work of Bandura (1986). Bandura's role modelling bridges the gap between behaviourists and cognitivists by building on the work of leading educational theorists, such as Dewey, Vygotsky and Piaget. Whilst Bandura's social learning theory (1986), later named social cognitive theory, agrees with the behaviourist learning theories of classic conditioning and operant conditioning. Bandura states that people learn from others and behave in a similar way to those whom they admire. Bandura uses the term self-efficacy; however, it would be interesting to look at this concept further in relation to entrepreneurial learning to see if learners experience increased self-efficacy by modelling their behaviour on someone they view as entrepreneurial. This could be demonstrated in this study by looking at whether or not the learners discuss people they view as entrepreneurial when discussing their competencies. Having a learner compare their competencies to those of someone they view to be entrepreneurial could be a way of engaging the learner in self-assessment practices as they would be able to identify their strengths and weaknesses and then model their behaviour on someone they view to be entrepreneurial to see if this increases their self-efficacy.

'In simulating entrepreneurial learning as a process of co-participation, a relationship-based approach in which argument, debate, and collaboration with others is central' (Pittaway and Cope, 2007, p. 213). Despite the significance of social learning when simulating a business environment, Cope and Down believe that an:

Individualised focus similarly pervades a good deal of entrepreneurial learning literature, with many theorists focusing on the individual entrepreneur in relative isolation from the wider socio-cultural context. (Cope and Down, 2010, p. 7)

The implications of the social and cultural construction of learning for assessment mean that learning is both situated and distributed across cultural settings within

communities of practice. This requires assessment to consider the emergent, informal learning that occurs within a community of work practice, rather than the pre-determined, formal learning that occurs within a community of education practice (Hodges et al., 2014).

The gestalt theory is a holistic approach to learning. According to Klapper and Refai (2015, p.158), 'gestalt thinking implies looking for balance in human functioning through effective self-regulation in an individual's personal and professional life'. This provides evidence to show that learners' real-life experiences play a role in the education process, as they can impact how they organise their learning. In Gestalt's theory, this is known as phenomenology and takes the position that learning is more effective when the instruction is related to their real-life experiences (Ikehara, 1999). It is interesting to look at Gestalt theory in relation to entrepreneurial learning, as the activities that a learner participates in are of an experiential nature and are designed to recreate real-life situations and challenges that can arise. Therefore, it is important to understand the learning theory of experientialism due to the fact that entrepreneurial learning activities closely simulate real-life experiences, with this experience providing the platform for learning.

#### **2.2.4 Experientialism**

Experientialism is the philosophical theory that states experience is the foundation of knowledge. One of the leading theorists in the field of experientialism is Kolb, who first published his concept of experiential learning in 1984. Dewey (1938) outlined a need to have a theory of experience that guided educational innovation. As a response, Kolb developed these ideas and from the work of Dewey and developed the notion of experiential learning. Kolb's experiential learning cycle (1984) formally recognises that people learn from experience.

Theorist	Description of Theory
Dewey (1938)	Dewey stressed the importance of experience in education: there is an intimate and necessary relation between the processes of actual experience and education (1938, p. 7). There is a need for learners to engage with their environments.
Kolb (1984)	<b>Experiential Learning Cycle:</b> represented as a cycle of actions with no particular starting point, dependent upon a person's natural inclination to be a doer, watcher, thinker or experimenter. The theory is that by following the cycle round, meaningful learning will take place (Bates, 2016, p. 123). The four stages are concrete experience, reflective observation, abstract conceptualisation and active experimentation.

Table 2.10: Experiential Learning Theories

Table 2.10 provides a description of experiential learning theories. From Table 2.10, we can see that there are two authors who are influential in the field of experiential learning: Dewey (1938) and Kolb (1984). These have been identified through a review of the literature, as they are the theories that are discussed most frequently, still being referred to by academics today (Akhtar, 2020; Menon, 2021). It is important to note that Dewey (1938) did not believe that all experience is educative:

The belief that all genuine education comes about through experience does not mean that all experiences are genuinely or equally educative. Experience and education cannot be directly equated to each other. (Dewey, 1938, p. 25)

Dewey (1938, p. 25) believed that some experiences could be mis-educative if 'it distorts the growth of further experience'. These would be experiences that led to a lack of responsiveness in the learner. According to Dewey (1938), there are several examples of mis-educative experiences in traditional education. Despite this, Dewey (1938) goes on to state that learners did have experiences in the traditional classroom, but these experiences were not educative. Dewey (1938) stated several reasons for this:



- Learning through an automatic process where the learner's ability to apply skills to new situations is limited.
- The learner is not stimulated by the education process and sees it as being monotonous and, as a result, lacks engagement.
- Inability to apply what they have learnt in the classroom to real-life situations, they are unable to control the outcome; for example, they may not have the skills to engage in lifelong learning.
- The learner is only interested in particular learning materials and focuses on these instead of obtaining information from all sources due to them viewing one set of material as being more attractive than another.

The learner could experience a loss in their motivation to learn by how they experienced the learning, and this would negatively affect their desire to respond:

It is to emphasise the fact, first, that young people in traditional schools do have experiences; and, secondly, that the trouble is not the absence of experiences, but their defective and wrong character – wrong and defective from the standpoint of connection with further experience. (Dewey, 1938, p. 27)

Dewey (1938) believed that everything depends on the quality of the experience that was had by the learner. Thus, for Dewey (1938), experiences could be judged to be educative if they led to further growth, intellectually and morally, if there was a benefit to the community and if the experience resulted in affective qualities that led to continued growth, such as curiosity, initiative, and a sense of purpose.

Kolb's Experiential Learning model has underpinned a large body of research into experiential learning (Dewey, 1938; Kassean et al., 2015; Bhatt and Bhatt, 2016; McCarthy, 2016; Moraes et al., 2019), and therefore it is important to review this

model by applying it to the field of entrepreneurial learning. According to this model, learning is a four-stage process or cycle. Kolb's model outlines four stages that an individual goes through during the learning process: concrete experience, reflective observation, abstract conceptualisation and active experimentation. Kolb and Fry (1975) argue that the learning cycle can begin at any one of the four points and that it should be approached as a continuous spiral.

The first stage in Kolb's model is concrete experience. In a learning environment, this would be a simulated exercise such as launching a new product, reviewing live case studies and completing simulations. The purpose of this is to reduce the gap between real-world experience and learning through education in the classroom. Dewey (1916) contends that there has to be an experiential component to the lesson for education to be progressive. He argues that by employing a traditional method that focuses on primarily learning the theory of a topic, the teacher eliminates the opportunity for students to develop their own opinions of concepts based on interaction with the information. The experiential learning classroom mimics society, where all people have different views of topics and information. As each individual has differing past perspectives, it is important to utilise social networks in experiential learning, as a large amount of knowledge can be gathered during the process of working with others. A key challenge for teachers who implement an experiential learning framework is to ensure that the environment for learning is as close to a real-life setting as possible and to recreate problematic situations that may occur in real life.

Reflective observation is the second stage of the model. During this stage, an individual observes and reflects on the situation and identifies any problems in the process. From a reflexive perspective, learning is a rhetorical responsive activity where both educator and learner are active participants in creating new ideas through engaging with one another in a reflexive critique of their current practices. This means

'both educator and learner act as co-participating practitioners in a relational learning process' (Higgins et al., 2013, p. 149).

Following on from this is the third stage of abstract conceptualisation. In order to complete this stage, an individual makes sense of what has happened and comes up with a framework for repeating this success or for avoiding mistakes in the future. Making mistakes and failing outright are major components of entrepreneurial learning, and it is therefore vital that efforts are made to include these into educational designs and the course syllabus (Pittaway and Thorpe, 2012).

The last stage of the model is active experimentation. In the fourth and final stage, the individual sets up a scenario to test the new insights. This would create a new experience and allow for the cycle to begin again. In the entrepreneurial learning environment, this could take the form of an assessment element. However, this is an under-researched area, and therefore there is a significant gap in the literature. While previous research has examined the importance of assessment methods in higher education, this has not been applied to entrepreneurial learning. Therefore, this research project will aim to fill this gap in the literature.

The theory of experiential learning was discussed by Hoover (2007, p. 326), who believes that the most commonly used definition of learning by doing was an oversimplification of the learning theories put forward by Kolb (1984). Based on this assumption, Hoover created a new definition of experiential learning and stated that it is a 'methodology of education which has a learning impact on the whole person, including spirituality, emotion (affect) and behaviour in addition to cognitive stimulation' (Hoover, 2007, p. 325). Kolb and Kolb (2009, p. 43) agreed with this by affirming that experiential learning theory 'is a holistic theory that defines learning as the major process of human adaptation involving the whole person'. Due to the fact that experiential learning is holistic in nature, it includes a variety of processes such

as entrepreneurial learning, strategy formulation, creativity, problem-solving, decision-making, and leadership. Furthermore, experientialism focuses on the learner actively participating in the activities rather than just being given the information to memorise by the educator, likewise in humanism, the learner is at the centre of the learning process, with the educator taking on the role of a facilitator.

### **2.2.5 Humanism**

Humanism is based on the belief that the individual is self-determining, where they make their own decisions and decide the direction they would like their learning to take. According to Toutain and Byrne (2012, p. 20), 'in the humanist learning theory tradition, the process of learning is centred on the learner'. This is further demonstrated by looking at humanist learning theories.

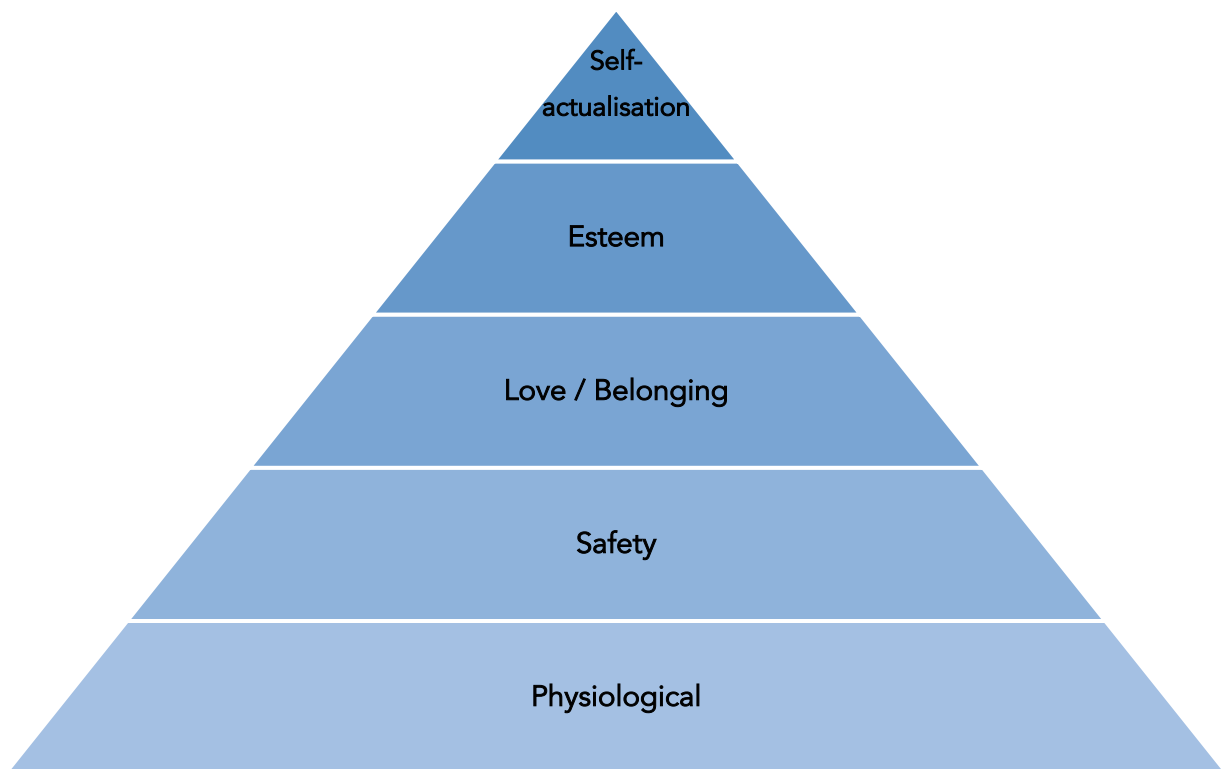
<b>Theorist</b>	<b>Description of Theory</b>
Neill (1960)	Happiness of the child should be the main consideration in their education, and this happiness is fostered by giving the child the freedom where the child has control over what they learn.
Montessori	It is important to educate the senses before educating the intellect. Montessori suggests that the 'focus on self-realisation through independent activity, the concern with attitude, the focus on the teacher as a facilitator and the creation of a stimulating learning environment would create a more meaningful learning experience (Bates, p. 62).
Rogers (1994; 2004)	The teacher's role changes from one of authority or expertise to one of facilitating the process of individuals arriving at their own solutions.
Maslow (1987; 1993)	Hierarchy of needs suggests that an individual's response to learning is dominated at any given moment by whichever need has priority; these can be split into lower-level needs and higher-level needs.
Knowles (1984; 1988a; 1988b)	Argues that most adult learners want to be in control of their learning where they have their own views and are goal-oriented in meeting their needs. They have previous life experience and knowledge that they can use as a resource for learning.
Mezirow (1991; 1997)	Transformative learning theory: Students are encouraged to use critical thinking and questioning to consider if their underlying assumptions and beliefs about the world are accurate. This theory is based on three main themes, which consist of experience of life, critical reflection and rational discourse.

*Table 2.11: Humanist Learning Theories*

Table 2.11 provides an overview and description of humanist learning theories that have been identified from the literature. Maslow's (1987; 1993) theory of motivation presented a hierarchy of needs that represents the primary goal of education from a humanistic point of view. It is the belief of Maslow's theory that individuals are motivated by a hierarchy of needs. The four levels (lower-order needs) are considered physiological needs. These lower-order needs are considered deficiency or deprivation needs (D-needs) in that their lack of satisfaction causes a deficiency that motivates people to meet these needs. The top level of the pyramid is considered growth or being needs (B-needs). The highest level is self-actualization or self-fulfilment. Behaviour, in this case, is not driven or motivated by deficiencies but rather one's desire for personal growth and the need to become all the things that a person

is capable of becoming. According to the hierarchy of needs, those needs lower down in the hierarchy must be satisfied before individuals can attend to needs higher up.

However, Maslow later expanded on this and said that the need did not need to be fully satisfied before an individual moved onto the next level.



*Figure 2.2: Maslow's Hierarchy of Needs. (Maslow, 1987; 1993)*

Maslow's hierarchy of needs is frequently discussed in relation to learning. Maslow's hierarchy of needs theory undertakes a holistic approach to learning by looking at an individual's physical, emotional, social, and intellectual aspects and how these can be developed through the learning process. This is in keeping with the holistic philosophy of education that this research project follows, which considers the learners physical, personal, social, emotional and spiritual well-being and cognitive aspects of learning. This contributes to our understanding of learning

by arguing that behaviour is not just a response to the environment, such as in behaviourist learning theories where an individual is believed to learn from those around them through observation, imitation and modelling. However, instead, the individual has their own thought processes and needs, which influences their behaviour. According to Rodolfo (2018, p. 51) 'application of Maslow's hierarchy theory to the work of the classroom teacher is obvious. Before a student's cognitive needs can be met, they must first fulfil their basic physiological needs.' For example, a tired and hungry student will find it difficult to focus on learning. Students need to feel emotionally and physically safe and accepted within the classroom to progress and reach their full potential. Maslow suggests that students must be shown that they are valued and respected in the classroom, and the teacher should create a supportive environment. Students with low self-esteem will not progress academically at an optimum rate until their self-esteem is strengthened. According to Bourke and Mentis (2006, p. 322) 'assessment practices within this view of learning would include self-rating scales that generate more awareness of individual needs, values and learning preferences'.

It is worth noting that Maslow expanded his hierarchy of needs to include cognitive and aesthetic needs before introducing transcendence needs; however, his original model is most frequently discussed in the literature.

Maslow (1987; 1993) and Rogers (1994; 2004) discuss the importance of self-actualisation and how this can be achieved. Rogers (1994; 2004) developed a theory of personality that outlined how he believed that all behaviour is motivated by self-actualising tendencies, which drive a person to achieve at their highest level.

Through interactions with the environment around them and social interactions, the learner develops a self-concept. This can be either positive or negative. The individual who has a positive self-concept has high self-esteem and thinks positively of the

environment around them. In contrast, an individual with a negative self-concept has low self-esteem and think negatively of the environment around them.

Rogers (1994; 2004) further divides the notion of self-concept into two categories; the ideal self and the real self. There is a need to have consistency between the ideal self and the real self. Rogers (1994; 2004) refers to this as congruence when our thoughts about our real self and ideal self are very similar, so our self-concept is accurate. Incongruence can occur if there are inconsistencies between our real self and ideal self. For example, when we would like to complete a particular task but are unable to do so because we do not have the required skill level. Self-actualisation occurs when a person's ideal self is congruent with their actual behaviour.

By comparing Maslow's and Roger's theories of self-actualisation, we can gain some additional knowledge about humanistic theories of learning. Maslow (1987; 1993) positioned self-actualisation at the top of a hierarchy of motivations, whereas Rogers (1994; 2004) argued that self-actualisation is the only motivation, and it was constantly having an impact on the actions of the individual based on their concept of self:

Experts in school issues still have the obligation to conduct research and study what it means today to belong, to love, to be safe, to have a chance for self-actualisation, and also to examine how learning should be carried out today and which competences should be developed to benefit young people in the future. (Matijević, 2012, p. 3291)

Humanism is increasingly important in academic motivational theories, with academics (Neto, 2015; Haqiqiyah, 2021) stating that self-actualisation needs are crucial in motivating students to achieve academically. Neto (2015, p. 24) believes that 'successful students are those who have a deep understanding of what drives them intrinsically and marries their internal drives to an activity'. A learner's intrinsic motivation can determine how likely they are to be engaged with the course materials



as they will receive personal satisfaction from achieving their goals on the course as they experience congruence between their actual self and ideal self. Self-assessment could play a role in the process as learners could identify where they currently are (ideal self) and where they would like to be in the future (real self). They could therefore work towards tasks that would lead them towards self-actualisation, either by addressing the needs outlined in Maslow's hierarchy (1987; 1993) or achieving self-actualisation by being in a state of congruence according to Roger's theory of personality (1994; 2004), this is where the learner's ideal self, whom they would like to be is congruent with their actual behaviour.

### **2.2.6 The application of learning theories to entrepreneurial learning**

Dewey (1897) investigated the concept of learning through experience. In response to the changing nature of educational programmes due to the American reform movement, which insisted that education be a continuous reconstruction of living experience, with the child the centre of concern. In keeping with the views of this progressive moment, Dewey stated:

I believe that the teacher's place and work in the school is to be interpreted from this same basis. The teacher is not in the school to impose certain ideas or to form certain habits in the child but is there as a member of the community to select the influences which shall affect the child and to assist him in properly responding to these influences. (Dewey, 1897, p. 80)

From Dewey's viewpoint, traditional education set up the child to play a passive, receptive role in the educational process. At the time, many disagreed with this viewpoint as they believed that it would remove the purpose of the teacher and take away from their authority in the classroom. Dewey agreed with this and stated that the children's interest is not simply to be freely explored without direction. Instead, the educator must control and foster the interests with a specific purpose and

enduring goal in mind (Dewey, 1897). This could be a result of today's society, which, like in Dewey's time, is going through substantial changes with people looking for new ways to meet growing challenges and create value for their communities.

Dewey furthered his work in 1916 when he developed his first educational philosophy. He undertook a pragmatic view of education and believed that it needed to be experienced. This was expanded in 1938 through his theory of inquiry. Interestingly Dewey (1938) states that education should not be viewed in terms of traditional or progressive and instead promote an educational system that respects all sources of experience. This demonstrates that it is important for learners to gain experience from a range of different sources, and thus we cannot favour one method of acquisition over another.

It is suggested by Ramsguard and Christensen (2016) that students will learn more effectively when they find the knowledge they are attaining to be appealing. Thus, learning should be generated by interest in the material rather than tests or punishments. This demonstrates that individuals will have a positive learning experience when they can direct their own learning and focus on topics of personal interest. This is confirmed by Knowles (1984) five assumptions of adult learners:

Assumption	Description
Self-Concept	As a person matures, his self-concept moves from one of being a dependent personality toward one of being a self-directed human being.
Adult Learner Experience	As a person matures, he accumulates a growing reservoir of experience that becomes an increasing resource for learning.
Readiness to Learn	As a person matures, his readiness to learn becomes oriented increasingly to the developmental tasks of his social roles.
Orientation to Learning	As a person matures, his time perspective changes from one of postponed application of knowledge to immediacy of application, and accordingly, his orientation toward learning shifts from one of subject-centeredness to one of problem centredness.
Motivation to Learn	As a person matures, the motivation to learn is internal.

Table 2.12: Knowles' five assumptions of adult learners. (Knowles, 1984, p. 12)

Table 2.12 displays Knowles' five assumptions of adult learners, which helps us to understand how learning occurs in individuals after compulsory education. The mechanism Knowles (1984) used was the notion of andragogy. Andragogy was initially discussed by Kapp in 1833, who is seen as the first person to discuss this concept in order to describe Plato's elements of education. Kapp's (1833) beliefs about andragogy differ from that of Knowles (1984) and offer a different approach as 'his andragogy is not a theory of how adults learn or how the teaching of adults should take place' (Loeng, 2017, p. 630) but instead uses it as a term for adult learning and outlines which skills an individual should develop for particular occupations. In contrast to Kapp's definition of andragogy, Knowles (1984) produced his theory of andragogy in order to specifically explain adult learning and how adults learn differently than children. This demonstrates why academics (Remenick and Goralnik, 2019) state that there are some inconsistencies when looking at the definition of what andragogy is, as there have been various ways of understanding the concept of andragogy. Knowles (1984) states how there was only one model of assumptions about learning which was known as pedagogy. In the 1920s, educators began to experience problems with this approach as transmitting knowledge that was once thought to have been valid for an individual's life began quickly outdated due to significant cultural changes such as advances in technology, advances in new knowledge and political changes. Therefore what people were learning was quickly becoming outdated, and there was a need to define learning as a lifelong process that responded to societal changes. There became a need to ensure that learners had the necessary skills to participate in lifelong learning; from this came the development of andragogy (Knowles, 1984).

It could be argued that those learners who participate in lifelong learning have a higher chance of experiencing self-actualisation, as it requires a level of maturity commonly found in those who undertake lifelong learning (Otway and Carnelley, 2013; Akçay and Akyol, 2014). Furthermore, when looking at Maslow's hierarchy of

needs (1987; 1993), it could take some individuals a significant amount of time to achieve satisfaction in different levels, such as being financially stable or achieving a sense of belonging in their relationships. Therefore mature learners may have an increased opportunity of reaching self-actualisation as they have met their deficiency or deprivation needs. Another interesting argument can be made by outlining that an individual's needs can change at different points in their life and, therefore, what motivates them can change. This would suggest that even though individuals reach a level of self-actualisation at one point in their lives, they could then experience incongruence at another time. For example, when looking at entrepreneurial learning, an individual may be motivated to set up a business initially; however, upon achieving this goal, they could want to ensure that this business is successful by completing particular activities. Therefore what motivates the individual could change throughout the lifetime of the business where they are experiencing stages of congruence and incongruence at different points; however, this would suggest that this cycle of reaching self-actualisation could be an ongoing motivation for the individual throughout their lifetime.

By reviewing the humanist learning theories in Table 2.8, we can see that the learner is responsible for deciding what they would like to learn. The learner is at the centre of the learning process and is responsible for arriving at their own solutions through exploration. This is very much in keeping with entrepreneurial learning theory, which asserts how entrepreneurial learning takes place experientially, with the individual learning by doing. The educator's role is as a facilitator who encourages the learning rather than identifying specific methods or techniques of instruction.

According to humanist learning theories, significant learning occurs when the subject matter is relevant to the learner. Senge et al., (2008, p. 129) believe that 'for information to reach the learner, the educator needs to aim to create a situation where the student cares about the subject'.

In the context of an entrepreneurship course the students may be genuinely interested in the subject of study – entrepreneurship (intrinsic motivation) or believe that by studying entrepreneurship they will gain additional benefits such as career advancement (extrinsic motivation) (Hytti et al., 2010, p. 591-592).

This demonstrates that different learners can be motivated by different factors depending on what they would like to achieve from the course. Academics (Howard et al., 2016; Ryan and Deci, 2020) have referred to this as the self-determination theory, which is a theory of motivation that aims to explain individuals' goal-directed behaviour. A study conducted by Sultan and Hussain (2012) explored the association between teachers' orientations and students' academic intrinsic motivation and performance. The sample consisted of 300 public school students in Pakistan. The findings of Sultan and Hussain (2012) found that intrinsically motivated students always work with personal interest and perform the task successfully due to their own choices. Furthermore, the students who perceive their teachers as more humanistic orientated in the classrooms become more intrinsically motivated in their learning and perform better in the course compared to the course taught by teachers who are perceived by the students as more authoritarian in the classrooms.

Humanism is seen as a holistic theory of learning which focuses on personal development. It is stated that humanism guides the self-directed learning framework, which is in direct contrast to a behaviourist learning theory. In self-directed learning, learners decide upon their learning path as they 'set their career options based on activities, learning, and development of skills and learning experience' (Ngah et al., 2019. P. 417). Humanist learning theories focus on the learner's personal development, with Arghode et al., (2017, p. 569) stating that 'humanism is more holistically inclined in generating sense and developing individuals'.

Knowles humanist learning theory (1984; 1988a; 1988b) states that adults want to be in control of their own learning process as they will have their own goals based on

their individual needs. A study conducted by Pittaway et al. (2011) explored the role of student entrepreneurship clubs and societies to discover whether they impacted student learning and stimulated entrepreneurial learning. It was found that 'increased action leads to reflective practice' (Pittaway et al., 2011, p. 38). From this, it could be seen that courses that follow humanist learning theories could encourage self-assessment through reflection. This is due to the fact that the learner will be actively participating in their learning by directing what they learn and having increased opportunities to learn by doing. Examples of this could include participating in a business activity instead of being given the information by the educator on the course, which they are then required to memorise. However, the activity needs to be of interest to the learner, and therefore they should be able to decide on the direction they want to take, for example, what topics they want to focus on based on their own goals.

From this, we can see that many of the learning practices associated with entrepreneurial learning courses are positioned within a humanist learning theory where the learner is responsible for directing their learning, and the educator's role is that of a facilitator. It appears that following a humanist learning theory provides an environment where self-assessment can take place more effectively as learners are in charge of the direction of their learning and participate in learning by doing. This gives them the opportunity to reflect on the experience.

The theory surrounding experiential learning 'proposes a constructivist theory of learning whereby social knowledge is created and recreated in the personal knowledge of the learner' (Kolb and Kolb, 2005, p. 194). Social constructivism theory interprets learning as 'an active construction of knowledge and meaning by the learner and based on experiences in the world'. This process of education was put forward by Bruner (1986, 1990) when he outlined the principles of his theory of constructivism. Bruner suggested that students should be encouraged to discover

knowledge by themselves. He believed that learners construct new ideas or concepts based upon their past experiences, and therefore each person will assign meaning to the knowledge differently. Conversely, Gentry (1990) believed that care needs to be taken when following an experiential learning process to ensure that learning does not occur in error and that students are learning effectively. He, therefore, outlined a range of criteria that can be used to 'help evaluate whether a particular teaching method can be classified as facilitating experiential learning' (Gentry, 1990, p. 14). It is believed that experience varied between individuals and stated 'each student's experience will be individualised based on past experiences, and not all students will take away the same outlook of the concept. Thus, the experiential learning classroom mimics society, where all people have different views of topics and information.

This theory was further developed by Dale (1969) when he developed a model called the cone of experience in the 1960s. Dale produced a visual model that presents bands of experience arranged according to degree of abstraction and not degree of difficulty. Dale (1969) theorised that learners retain more information through direct experiences instead of information passed onto them from another source. A study conducted by Davis and Summers (2015) explored how Dale's cone of experience is employed to impact student learning in a foundational leadership course positively. They investigated this by designing an experiential learning model using the cone of experience. Students were required to interactively evaluate effective leadership skills/characteristics by creating surveys, interviewing practitioners, summarising the results and developing a leadership guidebook with practical recommendations. Their research confirmed the theories outlined by Bruner (1986; 1990) and Dale (1969). They concluded that 'experiential activities increase the learning outcomes of a course and the ability to transfer knowledge to the workplace'. Chairam et al., (2009) argued for the need to move away from traditional passive learning styles towards more constructionist perspectives that focus on entrepreneur's centred learning. In other words, learning through experience and reflection should have greater priority

than the methods and teaching styles that have been traditionally employed in the past. ‘While experiences shape our learning, without impulse, purpose and means they are unlikely to result in meaningful and intelligent outcomes’ (Hodges et al., 2014, p. 195). Dewey (1938) stressed that teachers are responsible for creating learning environments that result in purposeful action of the student where they become aware of their capacities, needs, and past experiences.

Theory of Learning	Similarities to the Team Academy Philosophy	Differences to the Team Academy Philosophy
Social Theory of Learning	The programme is based on teams of students	
Experiential Theory of Learning	The students learn about business by running their own businesses	
Humanist Theory of Learning	Focus on personal development, where the subject matter is relevant to the learner	
Behaviourist Theory of Learning	The students learn from those around them (peers and role models) through observation	Within a Behaviourist Theory of Learning, positive and negative reinforcement from the teacher is used to condition the learner to behave in the desired way. The learning environment encourages reproduction rather than a reflection

*Table 2.13: Theories of Learning and the Team Academy philosophy*

Table 2.13 demonstrates that the Team Academy philosophy is grounded in social, experiential, humanist, and behaviourist learning theories. The Team Academy educational model and its learning method have developed significantly since its development by Partanen (1993, cited in Tosey et al., 2015), who was inspired by several theories of learning, management and organisations. One of the theories of learning that inspired Partanen’s design of the Team Academy philosophy is learning by doing.

Learning by doing is the basic process in the learning method of Team Academy. It is an approach of learning that was already advocated by Dewey (1938) in the early



20th century, who criticised the traditional school teaching methods. This educational approach is currently known as problem-based learning. Learning by doing in business education also has the advantage of connecting the students to real-world issues and learning from field experiences.

Team Academy learning theory also draws from the humanistic learning theory as it emphasises learning as an individual process (even if developed mainly within teams) based on the learner's experiences and their capability to reflect on them (Kolb, 1984). Learning is considered as an inborn human quality and needs to be satisfied after the basic needs as presented by the well-known hierarchy of needs by Maslow (1987; 1993). Partanen (1993, cited in Tosey et al., 2015) acknowledged that his most significant sources of inspiration were respectively: Kolb's (1984) learning cycle known as the experimental learning model, Senge's (1990) theories about learning organisations and Nonaka's and Takeuchi's (1995) views of the nature of knowledge and the creation of new knowledge. Then through experimenting in practice, he processed them into a new model, which he called the 'brain-industrial model' (Leinonen et al., 2004).

From his observations, Partanen (1993, cited in Tosey et al., 2015) became convinced that experimenting and testing are the most important learning methods. He, therefore, developed a learning method for business students in which practical projects played a key role. Partanen (1998, cited in Belet, 2013) combined the two models of the learning cycle of Kolb (1984) and the knowledge creation process of Nonaka and Takeuchi (1995) into a four-box model that illustrate his 'brain-industrial model:

The four-box model	Description
The 'chat' box	Refers to the sharing of ideas of the team members, their exchange of experiences, their problems, their talks about their projects and various discussions, including their feelings. This is mainly tacit knowledge.
The 'knowledge creation' box	Refers to the experiences of the students and their learning results. They are reflected on, evaluated and formulated, and therefore new knowledge is created.
The 'theory' box	Refers to the explicit knowledge acquired from reading books, articles, research reports, websites, clients, business professionals, etc.
The 'do' box	Refers to the learning coming from implementing real-world projects and experiences and the ability to transfer this knowledge.

Table 2.14: The four-box model by Partanen (1998, as cited in Belet, 2013, p. 44)

Table 2.14 demonstrates the four-box model, which was created based on theories of learning. The model outlines the different learning experiences that a student can engage in during the learning process. Belet (2013, p. 44) discusses how Partanen believed that there is an emphasis on 'real-life projects and doing things in practice are the most prominent and efficient part of learning as they give motivation'. However, it is important to recognise that delivering experiential learning in an educational setting can be challenging:

Providing a student with 'real-life' experiences can be time consuming, hard to assess, tough to scale, and expensive thus immersive learning simulations have become increasingly attractive to number of educators to provide authentic experiential learning opportunities that are engaging, scalable, and provide built-in assessment mechanisms. (Beckem and Watkins, 2012, p. 61-62).

However, the Team Academy philosophy was designed to mitigate these problems by providing a framework in which experiential learning can be delivered within an educational environment.

The assessment of experience can be complex. From this review, we can identify that students gain experience from different sources. It is important to value all sources of experience, and these will differ for everyone. For example, each person undertaking a group project will come into it with a different viewpoint based on their past experiences. It has been argued that an experiential learning method can lead to problems as it can be challenging to determine when experiential learning occurs. However, I would reason that entrepreneurial learning does not just occur through activities in the classroom but is happening all the time through the world we engage in. This is demonstrated further in Wenger's theory of communities of practice (1998).

Theories of learning can provide an insight into how entrepreneurial knowledge, skills and competencies can be taught in an education setting. Howorth et al., (2012, p. 373) believe that 'social theories of learning provide the framework to understand our approach to developing programmes for social entrepreneurs, as well as providing the tools for analysis'. This is due to the fact that social entrepreneurs participate in a social world that involves the community. As a result, social theories of learning can replicate this environment in the classroom. Social theories of learning highlight that 'learning arises from participation in a community and gaining recognised membership within that community' (Helyer, 2015, p. 193). The following section attempts to further our understanding of social theories of learning by exploring how individuals learn from communities of practice.

### **2.2.7 Learning from communities of practice**

At the centre of many entrepreneurial learning courses is the concept of students working in teams, such as those that follow the Team Academy learning ethos. This

can involve a process of team building in which a level of trust and accountability is generated between the students on each team. 'A constructivist view of knowledge is that individuals construct new knowledge from interactions with the world around them. Social constructivists consider that learning occurs within a social context (Hodges et al., 2014, p. 196). Many academics refer to groups in which learning takes place as 'communities of practice' (Warren, 2004; Farnsworth et al., 2016; Pyrko et al., 2017). Hilden and Tikkamäki (2013, p. 79) believe that 'organisations can be viewed as communities of learning' where individuals take part in the processes of 'participating, constructing and sharing knowing, socially supporting and reflecting'. As such 21<sup>st</sup> century, entrepreneurial learning courses have been designed with the purpose of replicating a business organisation where knowledge sharing is a key aspect of generating ideas and learning (Hilden and Tikkamäki, 2013). Agbim et al., (2013, p. 121) define communities of practice as 'groups of people sharing an interest in an issue who meet periodically to discuss problems, brainstorm and share knowledge'. From this definition, we can see that these groups need to have a common interest. In addition to this, people can have different levels of engagement within a group. Interestingly this definition includes learning as a main goal of the group. In contrast to this, Wenger (1998) believed that learning might be an incidental outcome of members' interactions rather than the primary goal of the group.

'In simulating entrepreneurial learning as a process of co-participation, a relationship-based approach in which argument, debate, and collaboration with others is central' (Pittaway and Cope, 2007, p. 213). Despite the significance of social learning when simulating a business environment, Cope and Down (2010, p. 7) believe that an:

Individualised focus similarly pervades a good deal of entrepreneurial learning literature, with many theorists focusing on the individual entrepreneur in relative isolation from the wider socio-cultural context. (Cope and Down 2010, p. 7)

The implications of social and cultural construction of learning for assessment means attention is given to how learning is both situated and distributed across cultural settings within communities of practice. This requires assessment to consider the emergent, informal learning that occurs within a community of work practice, rather than the pre-determined, formal learning that occurs within a community of education practice (Hodges et al., 2014).

### 2.2.8 Three Dimensions of Learning

As there are many different theories of learning, it can be difficult to understand how they interact with one another. Illeris (2002; 2003; 2007) has conducted work that helps us to draw the different theories together, which we can use to increase our understanding of how individuals learn.

Year	Development of three dimensions of learning
2002	All learning comprises three different dimensions; cognitive process, emotional process and a social process. Learning always consists of two integrated processes of interaction and internalisation.
2003	Two fundamental assumptions. (1) All learning includes two essentially different types of process, an external interaction process between the learner and his or her social, cultural and material environment, and an internal psychological process of acquisition and elaboration in which new impulses are connected with the results of prior learning. (2) All learning includes three dimensions, namely, the cognitive dimension of knowledge and skills, the emotional dimension of feelings and motivation, and the social dimension of communication and co-operation, all of which are embedded in a societally situated context.
2007	All learning in an integrated way includes two different processes: an interactive process between the individual and the environment and internal mental acquisition and processing through which impulses from the interaction are integrated with the results of prior learning. Acquisition always includes content and incentive. This produces the three dimensions of learning: content, incentive and interaction.
2009	The three dimensions were updated and were now referred to as content, incentive and interaction. All of these take place within a social environment. Applied to the three dimensions of learning in order to describe competency development which demonstrates how the three dimensions are applied in practice.

Table 2.15: The development of Illeris' three dimensions of learning. (Illeris, 2002; 2003; 2007; 2009)

Table 2.15 demonstrates how Illeris' three dimensions of learning developed over time, whilst they were originally referred to as cognitive process, emotional process and social process; they were updated in 2009 to content, incentive and interaction. All of the learning theories and models discussed in this section fit in with Illeris' three dimensions of learning. This was first introduced by Illeris (2002) in his book *The Three Dimensions of Learning*:

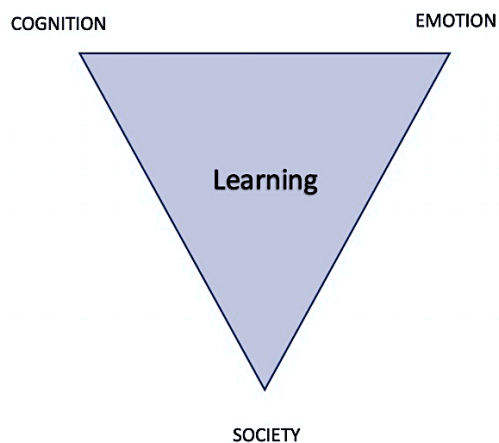


Figure 2.3: The tension field of learning. (Illeris, 2002, p. 19)

In Figure 2.3, we can see that Illeris (2002) outlines how cognition and emotion are two psychological processes, positioned at the top of the tension field, with society and the social process being placed at the bottom. Furthermore, Illeris (2002, p. 20) believes that 'all three dimensions are always integrated parts of the learning process and do not exist as separate functions'. This demonstrates how each theory of learning discussed in this section is integrated and does not happen in isolation. Illeris (2003) built on this understanding of learning by stating how he believes that there are two fundamental assumptions and that all learning has an external interaction process and an internal psychological process.

Fundamental assumption	Description
External	External interaction process between the learner and his or her social, cultural and material environment.
Internal	Internal psychological process of acquisition and elaboration in which new impulses are connected with the results of prior learning.

Table 2.16: *The two fundamental assumptions of learning.* (Illeris, 2003)

Table 2.16 shows that Illeris (2003) believes that there are two fundamental assumptions of learning: external and internal. Illeris (2003, p. 18) also discussed his tension field of learning and stated that ‘all learning comprises three different dimensions’ and may be ‘looked at and analysed from three different perspectives’. This version of the tension field of learning was referred to by Illeris (2003) as the three dimensions of learning. In this, he discussed each of the three dimensions in greater detail and how they relate to each other.

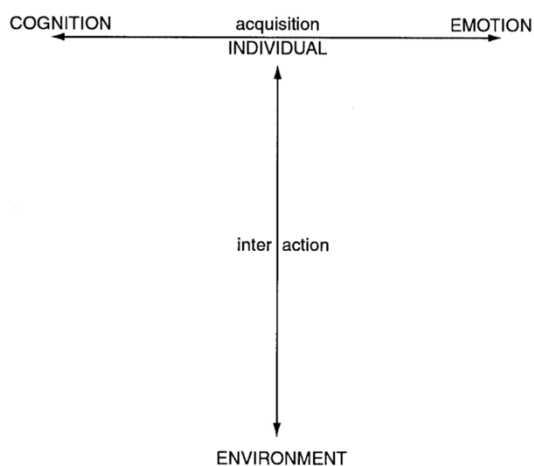


Figure 2.4: *The fundamental processes of learning.* (Illeris, 2003, p. 19; 2007, p. 22)

Figure 2.4 shows the fundamental processes of learning produced by Illeris (2003). The cognitive dimension is the dimension of the learning content, which may be

described as knowledge or skills and builds up the learner's understanding and ability. The emotional or psychodynamic dimension is the dimension encompassing mental energy, feelings and motivations. These two dimensions are always initiated by impulses from the interaction processes and integrated in the internal process of acquisition and elaboration. Therefore all cognitive learning is influenced by the emotions of the learner, for example, 'whether the learning is driven by desire, interest, necessity or compulsion' (Illeris, 2003, p. 399). Similarly, emotional learning is always influenced by the cognition or understanding of the individual. For example, the acquisition of new knowledge can have an impact on the emotional condition. The link between the cognitive dimension and the social dimension has been discussed by various psychologists, such as Vygotsky (1962; 1978) in his cognitive development theory. The social dimension is the dimension of external interaction such as participation, communication and co-operation. It serves the personal integration in communities and society and thereby also builds up the sociality of the learner. However, this building up necessarily takes place through the two other dimensions.

Illeris' model demonstrates how he believes that learning is a holistic process that unites these three dimensions and always includes an individual and social element. This is due to the fact that learning does not happen in isolation. This is in keeping with the research into communities of practice and further supports the argument that working in teams significantly impacts an individual's learning.

Illeris updated the three dimensions in 2009. The three dimensions were now referred to as content, incentive and interaction:

1. The content - knowledge, understandings, skills, abilities, attitudes, etc.
2. The incentive - emotion, feelings, motivation and volition
3. Interaction - communication and cooperation



All three will take place within a social environment, which is represented as the circle.

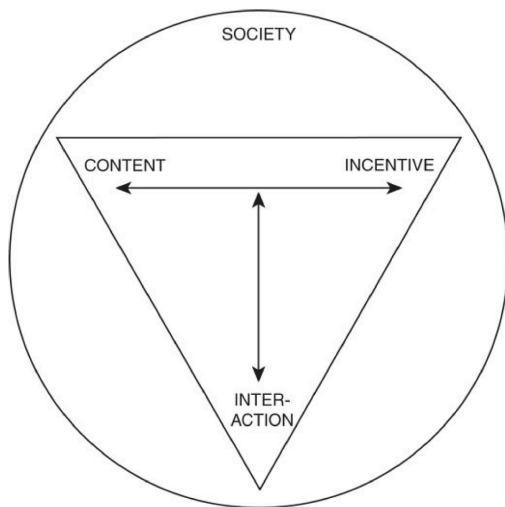


Figure 2.5: The three dimensions of learning. Illeris (2009; 2017)

Figure 2.5 provides a depiction of the three dimensions of learning by Illeris (2009; 2017). Illeris (2009; 2017) applied this revised version of the three dimensions of learning to describe how competence development can take place in order to demonstrate how the different dimensions can be applied in practice.

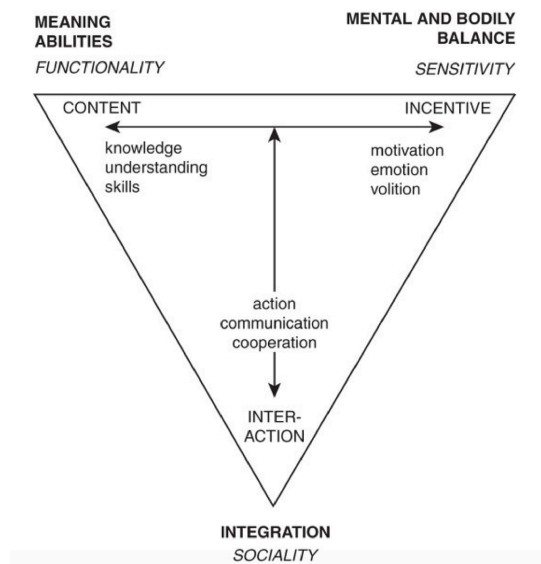


Figure 2.6: Learning as competence development. (Illeris, 2009; 2017)

Figure 2.6 provides a depiction of how learning that develops competence in the learner can occur. Illeris (2009, p. 126) believes that 'competence is thus a unifying concept that integrates everything it takes in order to perform a given situation or context'. In the updated three dimensions of learning, the signal words for each dimension are included. Outside of the angles are written the keywords that are used in relation to each of the dimensions, to sum up the aim of learning in the dimension in question (regular type) and what we develop on a general level in this way (in italics). Illeris states that:

The concept of competence also contains some extremely positive openings for making a contribution to a general or holistically oriented understanding of the far-reaching perspectives and requirements embedded in the current discussion about learning. (Illeris, 2009, p. 128)

This quote from Illeris demonstrates why he decided to update his three dimensions of learning model in order to explain learning as competence development, 'where the competence concept in relation to the learning dimensions, in general, was presented as a combination of functionality, sensitivity and sociality' (Illeris, 2009, p. 128).

This demonstrates why it has been important to consider theories of learning for this study as research question one, in particular, is concerned with the development of competencies in learners through self-regulation and self-assessment and provides evidence to suggest that researching this area could contribute to our understanding of learning.

The Three Dimensions of Learning	Application to the Team Academy Philosophy
Content	Competencies are developed on the team academy course through a process of learning by doing.
Incentive	Learning driven by the emotions of the learner.
Interaction	Working in a team where the student learns to cooperate and communicate. Illeris believes that all learning takes place within a social environment.

*Table 2.17: Illeris' three dimensions of learning and the Team Academy Philosophy*

Table 2.17 displays how Illeris' (2009; 2017) three dimensions of learning can be applied to the Team Academy Philosophy. Each of the three dimensions of learning takes place within a social environment. For the Team Academy philosophy, this would be the space in which the learning occurs.

### **2.2.9 Section Summary**

This section has discussed four theories of learning: behaviourist, cognitive, experiential and humanist. This was done with the purpose of understanding how entrepreneurial competencies are developed from each theoretical perspective, which can then be used in the design of entrepreneurial learning courses.

By reviewing Bandura's (1986) social theory of learning (as part of the review of cognitive learning theories), gaps in the literature have been identified. For instance, it would be interesting to look at this concept further in relation to entrepreneurial learning to see if learners experience increased self-efficacy through modelling their behaviour on someone whom they view to be entrepreneurial. This could be demonstrated in this study by looking at whether or not the learners discuss people they view as entrepreneurial when discussing their competencies. This is important

with Illeris' model (2002; 2003; 2009; 2017), outlining how learning is a holistic process that always includes an 'individual and social element'.

The discussion of Kolb's experiential learning model in this section has demonstrated how the fourth stage could be adapted for use in an entrepreneurial learning environment to include an element of assessment in which the learner sets up a scenario to test the new insights. This section has also identified all of the different theories of learning that can be applied to increase our understanding of learning; this was identified through reviewing Illeris' work on the three dimensions of learning, but looking at the theories of learning in relation to entrepreneurial learning and self-assessment has found some new insights, for example how the social learning theory and experiential learning theory work together in the case of entrepreneurial learning and self-assessment. It has been argued that an experiential learning method can lead to problems as it can be difficult to determine when experiential learning is taking place. However, I would reason that entrepreneurial learning does not just occur through activities in the classroom but is happening all the time through the world in which we engage. This is due to the fact that social entrepreneurs participate in a social world that involves community, and as a result, social theories of learning can replicate this environment in the classroom.

### **2.3 Examining the role of assessment in entrepreneurial learning**

This section will investigate the existing literature on the role of assessment in entrepreneurial learning and will lead to an understanding of where this study is positioned. This will be achieved by addressing how self-assessment has emerged as an important research theme and the opportunities and challenges that it poses in higher education. It will outline why self-assessment is an important research topic and whether or not it is significant in entrepreneurial learning. Themes relating to self-assessment and entrepreneurial learning will be discussed in terms of understanding the what, when and who of self-assessment, what is self-assessment, when is the self-

assessment carried out and who is taking part in the self-assessment. Namely, these are self-assessment typologies (what), assessment of learning vs assessment for learning (when), who is carrying out the assessment (who), peer-assessment (who), receiving feedback (what) and the assessment of reflection (what).

### **2.3.1 Opportunities and challenges of self-assessment**

Assessment practice is seen in educational research as an important part of academic practice, and this can be illustrated through journals dedicated to the subject. Two examples of this are 1) Educational Assessment and 2) Educational Assessment, Evaluation and Accountability. Furthermore, the importance of conducting assessments in an educational setting has increased in response to a need to prepare individuals for the 21st-century workplace, which now requires different skills that will ensure sustainable development in the future (European Commission, 2016).

'Assessment implies observing the outcomes of something and assigning a value to what is observed' (Huber and Skedsmo, 2016, p. 201). There are two main categories of assessment; they differ on the outcomes that each is focused on. For instance, summative assessment is used for public reporting, certification, for selection and for system accountability, whilst formative assessment is designed to support teaching and learning (Looney et al., 2017). This makes evident the contrasting demands of different stakeholders in the educational system (Pittaway et al., 2009). In entrepreneurial learning, summative and formative assessment can be defined as education 'in' entrepreneurship and education 'for' entrepreneurship (Lackeus, 2013). Summative assessment would be focused on knowledge that the individual has acquired about the subject of entrepreneurship. In contrast, formative assessment is more focused on the learner's competencies, with Nicol and McFarlane-Dick (2006, p. 199) developing this further by adding that 'formative assessment and feedback should be used to empower students as self-regulated learners'. It is important to be aware that there are overlaps between the two categories, for example, on many

university entrepreneurship courses, which include formative assessments such as presentations and project-based activities that are graded using summative assessment practices, with the student either passing or failing the course based on their performance.

When designing assessments, it is vital that there is clarity about what is being measured. This will then inform the best type of assessment to use. This is why many courses use summative assessments, as they are primarily concerned with how much knowledge an individual has gained during the learning process. Through exams, the individual answers questions and they are graded on how much knowledge they can recount. This information is then used for grading, qualification classifications and reports. As the aim of entrepreneurial learning is to develop the entrepreneurial identity which will increase their entrepreneurial intention, a summative approach is not effective as it does not fit in with the innovative approach of the course. Suñol et al., (2016, p. 624) believe that there is an opportunity to not only assess 'cognitive but also procedural and attitudinal competencies'. This is particularly relevant to entrepreneurial learning, in which learners can use their metacognitive awareness skills to review an activity they have taken part in. Through this, they could explain the steps taken to reach their goal and how they felt about the process.

It has been suggested that the emphasis of assessment is focused on the characteristics of the programme rather than the student (Penaluna et al., 2012). Duval-Couetil (2013, p. 397) states that 'entrepreneurship education has several characteristics that differentiate it from other academic disciplines, and which make assessing it particularly difficult'. With a variety of learning methods, it can be difficult for course leaders to develop an assessment that is consistent across the board. Brown (2005, p.82) argues that there should be a 'learner-centred assessment' that looks at 'evidence of achievement rather than the ability to regurgitate information'. Entrepreneurial learning is a complex process. To begin, there is confusion over the

terminology used with entrepreneurial learning and entrepreneurial education being used interchangeably. Therefore, it is important to specify the meaning of each term. Entrepreneurial learning is an experiential and social learning process whilst entrepreneurship education focuses more on taught knowledge of the topic. This project focuses on entrepreneurial learning.

The Quality Assurance Agency for Higher Education believes that the ultimate goal of entrepreneurial learning is to develop entrepreneurial effectiveness. Entrepreneurial effectiveness can be achieved through the following key stages:

- Enterprise awareness: understanding 'what enterprise means to me'.
- Developing an entrepreneurial mindset: participating in enterprising learning and activities.
- Developing entrepreneurial capability: developing capability and confidence through guided experience and practice.
- Entrepreneurial effectiveness: independent self-direction progressing individual goals and approaches.

(The Quality Assurance Agency for Higher Education, 2012, p. 11)

There has been limited research that looks at how students on entrepreneurial courses can be assessed effectively in these key stages (Penaluna et al., 2012). It would be interesting to look at how a student could demonstrate and develop these skills through varying modes of assessment. Instead, there are many existing models which explain how students learn.

### **2.3.2 Self-assessment typologies**

There can be several different definitions of self-assessment. As a result, another way of understanding what constitutes self-assessment practices and how these work could be needed. For example, the Self-Directed Learning Readiness Scale was developed by Guglielmino (1977) (cited in Long and Agyekum, 1983). It measures

the level of self-direction that an individual exhibits. This is achieved through a Likert measurement scale, where the individual rates how much they agree with various statements such as I can tell whether I am learning something well or not (Long and Agyekum, 1983). It has been identified that successful entrepreneurs display characteristics related to self-direction, for example, a belief in their own abilities and showing initiative (Premand et al., 2016). Therefore the self-directed learning readiness scale could be used when assessing a student's capabilities.

Another early self-assessment typology was produced by Boud and Brew (1995), and many academics (Ozarslan and Ozan, 2016; Panadero et al., 2016; Andrade, 2019) refer to this as being relevant due to the fact that there have been a limited number of self-assessment typologies produced. Boud and Brew (1995, p. 135) proposed a 'classification of self-assessment practices based on the different knowledge interests which they serve'; they categorised self-assessment according to three knowledge interests; technical interest, communicative interest and emancipatory interest. 'Different kinds of knowledge interests are served by different kinds of learning and assessment tasks' (Boud and Brew, 1995, p. 134). Their idea of knowledge interests was influenced by the views of Habermas, who believed that knowledge is always shaped by the needs and desires of human beings and that different kinds of knowledge give expression to different knowledge constitutive interests (Habermas, 1987).

Panadero et al., (2016, p. 807) believe that a 'useful approach to defining a field is the creation of a typology in which systematic and universal distinctions, similarities, and ordered classifications are generated across multiple student self-assessment practices'. Several academics (Boud and Brew, 1995; Tan, 2001; Alonso-Tapia and Panadero, 2010; Panadero et al., 2013; Brown and Harris, 2013) have produced self-assessment typologies, with Panadero et al., (2016) summarising these taxonomies of self-assessment and calling for the development of a comprehensive typology:



Author	Description of typology
Boud and Brew (1995)	Organised self-assessment around three different formats; technical interest, communicative interest and emancipatory interest.
Tan (2001)	Proposed a typology of student self-assessment formats according to the continuum of teacher involvement, which he related to formative and summative assessment purposes.
Taras (2010)	Identified different student self-assessment typologies based on the idea of power balance between the students and their teacher and transparency of the student self-assessment format.
Alonso-Tapia and Panadero (2010) Panadero et al., (2013)	Developed and empirically tested a typology that proposed three student self-assessment formats based on the presence and form of the assessment criteria.
Brown and Harris (2013)	Classified student self-assessment according to the format of how the self-assessment was carried out.

Table 2.18: Summary of self-assessment typologies

Table 2.18 shows a summary of self-assessment typologies, which demonstrates how many different typologies there are. Andrade (2019, p. 2) proposed the following taxonomy of self-assessment, which ‘depicts self-assessment as serving formative and/or summative purposes, and focuses on competence, processes, and/or products’.

Competence		Processes		Products	
		Standards		Standards	
		Yes	No	Yes	No
Formative	Task-specific self-efficacy ratings	Judgments of progress toward specific targets	<ul style="list-style-type: none"> <li>Traffic lights</li> <li>Comprehension checks</li> <li>Self-monitoring; metacognition</li> <li>Reflective journal writing</li> </ul>	<ul style="list-style-type: none"> <li>Rubric- or checklist-referenced self-assessment</li> <li>Self-testing</li> </ul>	Open-ended critique of one's own work or understanding
Summative	Post-task judgments of ability based on performance		Post-task judgments of effectiveness of procedures	<ul style="list-style-type: none"> <li>Self-grading</li> </ul>	<ul style="list-style-type: none"> <li>Self-grading</li> </ul>

Figure 2.7: Andrade’s taxonomy of self-assessment. (Andrade, 2019, p. 3)

In Figure 2.7, we can see the taxonomy produced by Andrade in response to Panadero et al., (2016) call for a comprehensive typology, and it focuses on:

The what (competence, process, or product), the why (formative or summative), and the how (methods, including whether or not they include standards, e.g., criteria) of self-assessment. (Andrade, 2019, p. 3)

Andrade (2019) aims to simplify our understanding of how self-assessment can be carried out by learners; however, it does not take into account all of the factors which were identified from the five typologies as reviewed by Panadero et al., (2016), for instance, teacher involvement (Tan, 2001), the power balance between the students and their teacher (Taras, 2010) and assessment criteria (Alonso-Tapia and Panadero, 2010; Panadero et al., 2013). This demonstrates how there can be confusion when looking at self-assessment typologies as each academic focuses on a different factor; however, there is no approach to conducting and understanding self-assessments favoured over another. With the increasing use of these types of assessments being carried out in the learning environment, there is a requirement for more research into this area as we need to ensure that self-assessments are being designed and implemented to benefit the learner as much as possible. Whilst these self-assessment typologies are discussed in relation to formative and summative purposes and the differences that exist between each, they have not been discussed in relation to how they are impacted by different theories of learning and how this may impact upon the self-assessment that is being carried out.

### **2.3.3 Summative and Formative Assessment and Feedback**

Assessment for learning is an approach to teaching and learning that creates feedback used to improve the learner's performance; this is commonly referred to as formative assessment. If we can agree that the purpose of assessment is to provide data to revise planned instruction, then the only type of assessment that is not assessment for learning is assessment of learning, commonly referred to as summative assessment.

The assessment and feedback lifecycle model is an academic model initially developed by Manchester Metropolitan University, and it has been used and adapted by several other universities.

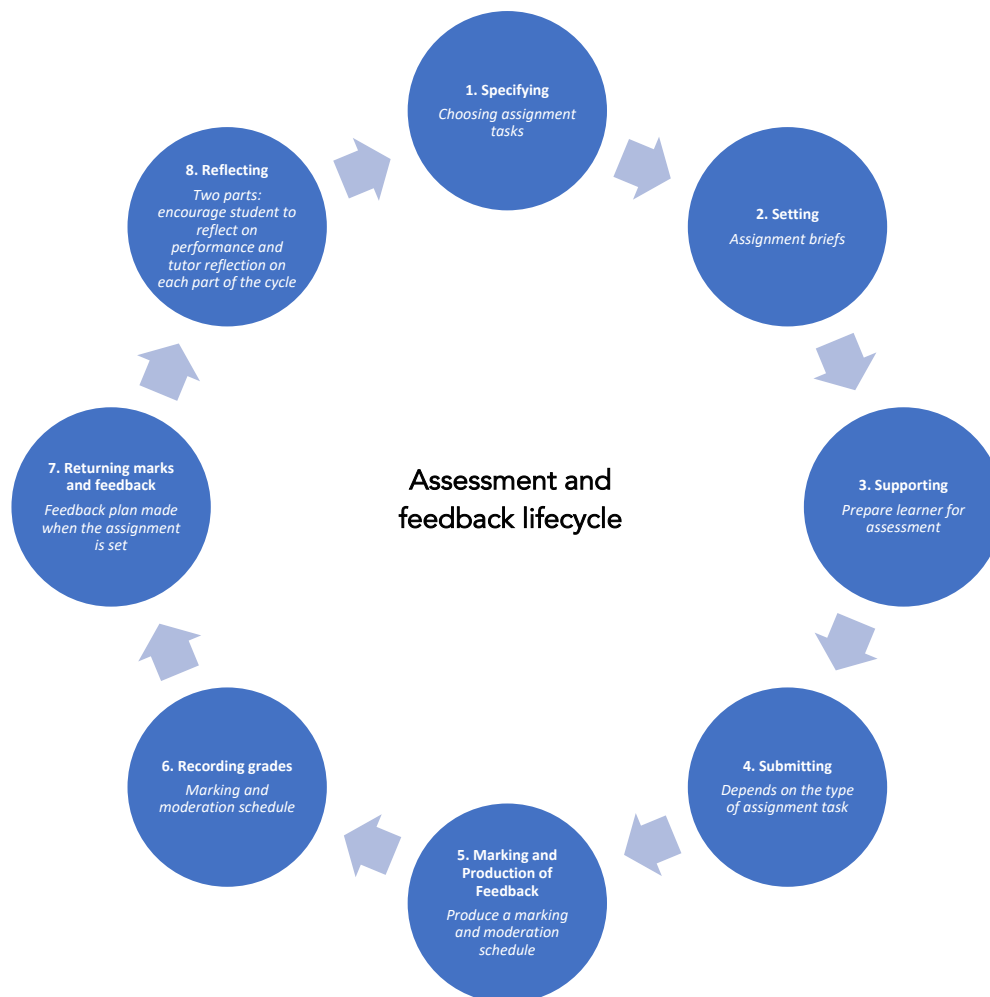


Figure 2.8: The assessment and feedback lifecycle (adapted from an original framework by Manchester Metropolitan University).

The lifecycle is an end-to-end model of the stages of the assessment and feedback process. 'Use of the model has therefore been central to cross institutional research in terms of serving as a framework to gain a holistic picture of institution wide activity' (Ferrell and Gray, 2015, p. 2).

Schuwirth and Van der Vleuten (2011, p. 478) believe that 'in educational settings assessment for learning should take priority over assessment of learning'. Schuwirth and Van der Vleuten (2011, p. 482) asked the question of how does assessment influence learning and found that 'the amount of research actually studying this educational impact is scarce, especially in light of the strength of the shared opinion that assessment does impact on learning and teaching'.

<b>Formative Assessment (throughout)</b>	<b>Summative assessment (at the end)</b>
<b>Assessment for learning</b>	<b>Assessment of learning</b>
Asking a learner to produce a concept map	Examinations
Reflective writing	Written work (final essays, final project)
The use of peer and self-assessment	Presentations
Receiving feedback (individualised)	Receiving feedback (standardised)
Encouraging learner talk	Portfolios

*Table 2.19: Differences between formative and summative assessment*

Table 2.19 shows several different examples of formative and summative assessments; this is useful in identifying the difference. It has been produced as a summary based on the literature on formative and summative assessment that has been reviewed.

Formative feedback is 'defined as information communicated to the learner that is intended to modify his or her thinking or behaviour to improve learning' (Shute, 2008, p. 153). 'Formative assessment encompasses a whole host of tools that provide feedback to teachers or students to help students learn more effectively' (Dixson and Worrell, 2016, p. 154). Formative feedback provides the educator with the opportunity to provide a learner with feedback throughout the learning process, while summative assessment often is used as part of the formal grading structure and happens at the end of a learning module and goes towards a learner's final degree classification. Academics (Planar and Moya, 2016; Webb and Moallem, 2016) have

discussed how providing high-quality formative feedback and assuring that students engage with the feedback facilitates and promotes learning. Therefore, research has investigated how the learning process can be adapted to increase learners' engagement with the feedback they receive. For instance, Hatziapostolou and Paraskakis (2010) believe that quality formative feedback needs to be timely, motivating, personalised, manageable, and directly related to assessment criteria.

It is believed by academics (Rowe et al., 2014; Richards, 2020) that emotions play a role in assessment for learning. A qualitative study conducted by Rowe et al., (2014) explored the role and functions of emotions in feedback. Interviews were conducted with 36 participants from an Australian university, made up of 15 teaching staff and 21 students. Rowe et al., (2014) found that a learner who experienced feelings of joy and happiness was associated with individual achievement and would motivate a learner to aim for further success, while love-related emotions were associated with the caregiving aspects of feedback such as feelings of closeness and concern.

Through his research, Lackeus (2013; 2015) developed the proxy theory of assessing entrepreneurial education. Lackeus (2013; 2015) believed that an individual could take part in an action-based activity that had been designed to trigger an emotional event. This new assessment strategy suggests that we can assess these emotional events instead of the developed entrepreneurial competencies. This would be a way of incorporating assessment for learning into the educational process. For example, it is understood that a competency like creativity can be difficult to measure. Lackeus (2013; 2015) believes that by measuring the emotional events that lead to the creativity, we can identify whether or not the competency has been developed. Instead of assessing the entrepreneurial competencies themselves, which is very difficult, the assessment could focus on certain activities leading to the development of entrepreneurial competencies, such as meeting potential customers, presenting for investors, managing other master thesis students and searching for funding.

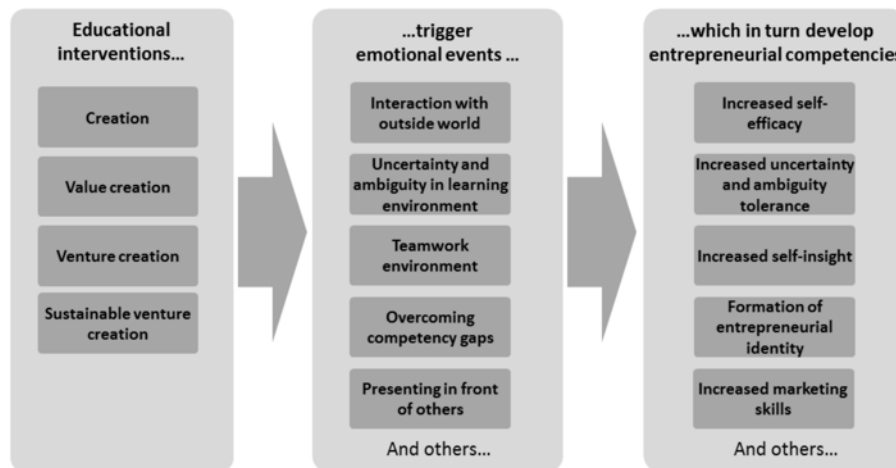


Figure 2.9: The proxy theory of assessing entrepreneurial education (Lackeus, 2015, p. 27)

Lackeus (2015) investigated the links between strong emotions and entrepreneurial learning outcomes in order to identify what emotions trigger learning. From this investigation, the proxy theory of assessment entrepreneurial education was developed, which can be seen in Figure 2.9. The theory regards emotional events as a proxy between educational intervention and developed entrepreneurial competencies. The proxy theory of assessing entrepreneurial education was developed from research conducted in an educational environment known as a venture creation programme. A venture creation programme is defined as a formal credit-giving educational programme where a team of students is required by curriculum to try starting a real-life venture with the explicit intention to continue running the venture post-graduation as lead entrepreneurs and co-owners (Lackeus and Williams Middleton, 2015; Williams Middleton, 2013). As the proxy theory of assessing entrepreneurial education was designed from research conducted on venture creation programmes, its application in other entrepreneurial learning courses is unknown. However, Lackeus and Williams Middleton (2015) believed that as this type of programme is positioned between formal entrepreneurial education and informal entrepreneurial learning, it could have implications for both types of learning environments.

The role of technology is also frequently discussed in the literature relating to summative and formative assessments, in particular surrounding the discussion on feedback. Feedback can be communicated to students in several different ways, both traditional and electronic. Traditional tactics include handwritten comments on students' assessed work and print-outs of word-processed feedback forms, which are returned to the students. However, these traditional ways of communication do not seem efficient since they suffer from the problem of not reaching the student.

Parkin et al., (2011) Investigated tutor delivered feedback and how technological interventions can enhance practice and found the following:

Online publication of grades and feedback	'The learners appreciated increased flexibility at being able to access their grades and feedback at a time and place of their choosing' (Parkin et al., 2011., p. 967)
Adaptive release of grades and feedback	'The adaptive release of grades is a process by which feedback is given to students for them to reflect upon prior to them receiving their grade' (Parkin et al., 2011, p. 971)
Linking feedback to assessment criteria	'Linking feedback to assessment criteria can help students make better use of the assessment criteria as targets' (Parkin et al., 2011, p. 974)

*Table 2.20: Tutor delivered feedback and technical interventions (adapted from Parkin et al., 2011).*

In Table 2.20, we can see three ways that technology can enhance the feedback provided to learners from their tutors: online publication of grades and feedback, adaptive release of grades and feedback and linking feedback to assessment criteria. It is important to note that studies surrounding feedback do not typically define the different uses of feedback as relevant to summative or formative assessments in particular. This would demonstrate that even where summative assessments take priority on a course due to university regulations, feedback can be designed to benefit the learner. For example, Taras (2005, p. 466) argues that 'all assessment begins with summative assessment (which is a judgement) and that formative

assessment is, in fact, summative assessment plus feedback which is used by the learner'.

This was investigated by Lewis and Sewell (2007), who examined the effectiveness of providing formative feedback for summative computer-aided assessment. Two groups of first-year undergraduate life science students in pharmacy and neuroscience studying an e-learning package in a common pharmacology module were presented with a computer-based summative assessment. A sheet with individualised feedback derived from each of the five results sections of the assessment was provided to each student. Students were asked via a questionnaire to evaluate the form and method of feedback. The students were able to reflect on their performance and use the feedback provided to guide their future studies or revision. There was no significant difference between the responses from pharmacy and neuroscience students. Students' responses on the questionnaire indicated a generally positive reaction to this form of feedback. The findings suggest that additional formative assessment conveyed by this style and method would be appreciated and valued by students. This research is from 2007, and the topic has not been addressed in recent years; therefore, the theory and practice are out of date, with advancements in the technology and software available for educators to use. When conducting a review of the literature on summative and formative assessment and feedback, it is important to note that research conducted into this area was popular a decade ago with a lack of research in recent years.



	<b>Key themes in the research relating to assessment and feedback</b>
<b>Summative and formative</b>	Schuwirth and Van der Vleuten (2011, p. 478) believe that 'in educational settings assessment for learning should take priority over assessment of learning'. Taras (2005, p. 466) argues that 'all assessment begins with summative assessment (which is a judgement) and that formative assessment is in fact summative assessment plus feedback which is used by the learner'.
<b>Differences in feedback</b>	Hatziapostolou and Paraskakis (2010) believe that quality formative feedback needs to be timely, motivating, personalised, manageable, and directly related to assessment criteria.
<b>Impact on emotions</b>	Generating an emotional response in the learner has been found to increase a learner's engagement with the assessment and subsequent feedback. Rowe et al., (2014) found that a learner who experienced feelings of joy and happiness was associated with individual achievement and would motivate a learner to aim for further success, while love-related emotions were associated with the caregiving aspects of feedback such as feelings of closeness and concern.
<b>The role of technology</b>	Feedback can be communicated to students in a number of different ways, both traditional and electronic. Parkin et al., (2011) Investigated tutor delivered feedback and found that three technological interventions can enhance practice; online publication of grades and feedback, adaptive release of grades and feedback and linking feedback to assessment criteria.

*Table 2.21: Key themes relating to summative and formative assessment*

Table 2.21 provides an overview of the key themes relating to summative and formative assessment that have been identified in the literature and discussed in section 2.3.3. It can be seen that there are four main themes that have emerged from reviewing the literature: summative and formative, differences in feedback, impact on emotions and the role of technology. The next section will review the literature on feedback in more detail by exploring its relation to self-assessment.

#### **2.3.4 Receiving feedback on self-assessments**

The relationship between self-assessment and feedback can be viewed through definitions in which their relevance to one another is mentioned:

The primary purpose of engaging students in careful self-assessment is to boost learning and achievement. It does so by serving as a readily available source of feedback about the students' own understandings and performances. (Andrade, 2010, p. 92)

Peterson and Irving (2008, p. 241) believe that there are three types of feedback that are focused on in education research: outcome feedback (knowledge of results), corrective feedback (provision of the correct answers), and process feedback (explicit information for adapting study strategies)'. Peterson and Irving (2008) believe that this can demonstrate the link between assessment and feedback, with different types of feedback being more applicable to formative assessments and other types being more applicable to summative assessments.

Type of feedback	Type of assessment
Outcome feedback	Summative assessment
Corrective feedback	Summative assessment
Process feedback	Formative assessment

*Table 2.22: The link between assessment and feedback (adapted from Peterson and Irving, 2008, p. 241).*

Table 2.22 depicts the link between assessment and feedback by outlining whether a particular type of feedback is more suited to summative or formative assessment. Self-assessments require learners to provide themselves with self-feedback on their performance which could lead to a bias if they ultimately decide to assess themselves more positively than how they have actually performed. As a result, some academics (Boud, 1999; Dijks et al., 2018) have stated that external feedback from educators and their peers needs to be given to ensure that these biases do not occur.

Researchers have also investigated how self-feedback processes can be encouraged in the learning environment. Ross (2006, pp. 4-5) applied strategies for teaching self-assessment in four stages:

1. involve students in defining assessment criteria
2. teach students how to apply the criteria
3. give students feedback on their self-assessments
4. help students use assessment data to develop action plans

Ross (2006) believes that external feedback needs to be given to the learners, so therefore self-feedback cannot solely be used in isolation in the learning environment. Learners will benefit from being given help and time to participate in the self-assessments, with self-feedback being more beneficial when used as a formative assessment and should therefore not be used as an evaluatory measure that goes towards final grades. Panadero et al., (2016) build on this point by stating that summative assessment cannot be used on its own and should include formative self-assessments, which result in self-feedback. Adding another interesting point to the argument, Panadero et al., (2016, p. 819) state that learners should not be expected to participate in self-assessment fluently until they have developed the necessary skills, and therefore 'skill development should be embraced throughout the self-feedback process'.

If formative assessment is exclusively in the hands of teachers, then it is difficult to see how students can become empowered and develop the self-regulation skills needed to prepare them for learning outside the university and throughout life. (Nicol and Macfarlane-Dick, 2006, p. 200). It is believed that learners can develop self-regulatory skills through the feedback obtained through self-assessments. Nicol and Macfarlane-Dick (2006, p. 199) positioned the research on formative assessment and feedback within a model of self-regulated learning, as they believe that 'in higher

education, formative assessment and feedback should be used to empower students as self-regulated learners'. Nicol and Macfarlane-Dick (2006, p. 199) identify seven recommendations for supporting and developing learner self-regulation, which is included in their model of self-regulated learning:

1. Clarify what good performance is
2. Facilitate self-assessment
3. Deliver high-quality feedback information
4. Encourage teacher and peer dialogue
5. Encourage positive motivation and self-esteem
6. Provide opportunities to close the gap
7. Use feedback to improve teaching

When looking at Nicol and Macfarlane-Dick's (2006) seven recommendations in their model of self-regulated learning, it is interesting to note the similarities with Ross' (2006) six guidelines, with both highlighting the importance of feedback.

### **2.3.5 Who is carrying out the assessment?**

In assessment for learning, the role of the educator is to facilitate entrepreneurial competence development as it happens. The teacher's primary role is to achieve student approval of the learning contract and to identify the theory-based competencies to be mastered. The mastery learning approach focuses on the learning process and not just the grade. In Bloom's mastery learning approach (1968), students learn with their class fellows cooperatively, and the teacher controls the delivery and flow of instruction. Bloom (1968) proposed a specific teaching-learning strategy known as 'learning for mastery', and later it was condensed to simply 'Mastery Learning'. According to the mastery learning approach produced by Bloom (1968), the materials and concepts are divided into smaller units with predetermined objectives. Then instructional process begins to learn a unit by adopting appropriate

teaching methods. After teaching the said unit, students' performance is assessed by giving a quiz assessment in order to provide information or feedback on their learning. Students must exhibit and achieve mastery on the unit before moving on to the next unit. Students who fail to achieve mastery are subjected to receive remediation through additional sources like tutoring, textbooks, alternative materials, peer monitoring, study guides, learner-centred activities or additional assignment. Sufficient time for learning is provided for those needing remediation. Students continue the cycle of studying and testing until mastery is achieved and then move to the next unit (Bloom, 1968).

Interestingly, mastery learning has frequently been looked at by academics (Mitee and Obaitan, 2015; Megahati and Yanti, 2017, Adeniji et al., 2018) in relation to secondary school level learners and those studying science-based programmes. For example, Mitee and Obaitan (2015, p. 34) conducted an experimental study to explore the effect of mastery learning on senior secondary school students cognitive learning outcome in quantitative chemistry and concluded that 'mastery learning is a very effective method of teaching and better than the conventional teaching method'. Hutcheson (2015) carried out an experimental study to determine the effect of the mastery learning approach on learner motivation in middle-level science and arrived at the result that students showed an overall increase in their motivation and academic achievement when taught through the mastery learning approach. Udo and Udofia (2014) conducted an experimental study to investigate the effects of mastery learning strategy on learner achievement in symbols, formulae and equations in chemistry and found that learners taught using mastery learning strategy performed significantly better than those taught using the traditional expository method and that gender had a significant influence on the learners' performance with the males outperforming their female counterparts.

Assessment in the mastery learning classroom is not used to discover the performance level of the learner but instead allows the educator to identify any weaknesses in the learning process. This evidence can be used to guide future instruction by modifying activities to serve each learner best. This helps inform us about the importance of using self-regulation in assessment, as it can be used as a learning tool, where the educator's role is to provide feedback and guide the correction of learning errors. In the entrepreneurial learning environment, this could help the educator identify which competencies a learner has not mastered and subsequently put activities in place that help to develop these. Despite all of the positives of this learning theory, a summative assessment practice has often been seen as preferable due to the difficulties in implementing this approach. In order to have a successful mastery learning classroom, the educator needs to have a good understanding of the method. In addition, most courses have time restraints in place, which make using this theory problematic. This could be a result of most assessments taking place at the end of the teaching process once the learning has been completed. It would be interesting to see how the mastery learning approach could be used for assessments that take place during the learning process:

Delegation of learning activities to students can introduce more variety and surprises into the classroom, each of which can alleviate boredom. It also provides teachers an opportunity to work more closely with students as they attempt to understand theory in anticipation of their classroom assignment to lead the learning activity'. (Fiet, 2001, p. 102).

The responsibility for deciding which activities are most appropriate for teaching a competency may be assigned to groups of students, a single student, or retained by the instructor. The activities should assist students to understand and apply underlying course concepts. A common characteristic of each of these activities is that they must involve every student. This enables students to receive immediate

feedback from those in the class, which can be used in the learners' self-assessment of their competencies. In this setting, the teacher may move around the classroom as a coach rather than an evaluator of student performance. Educators are ultimately the key construct that impacts the learner's attitude, thinking and willingness to take the plunge of new venture creation. Facilitators plan how to combine the construct mix, organise the learning, lead the participant through the self-learning process and control the learning process (Pretorius, 2008, p. 17).

### **2.3.6 Peer assessment**

Peer assessment has been discussed by various academics (Lavery et al., 2015; Zou et al., 2017; Ratten and Jones, 2018) in relation to entrepreneurial learning courses other subject disciplines, such as pharmacy, as it is believed that it can enhance the learning of an individual as they will go through a range of cognitive, motivational and emotional processes (van Gennip et al., 2009). 'Peer assessment occurs when people of equal status assess each other's work; most commonly in education, the peer is a classmate or a student from the same institution' (Pandro, 2016, p. 248).

Voet et al., (2017, p. 145) believe 'that there are good reasons to also involve students' peers in the assessment process. This is due to the fact that one of the main goals of education is to create self-regulated learning, which can be achieved through the learner evaluating performance; this will, in turn, improve the learners' competencies. It is interesting to note the connection between peer assessment and self-assessment, which has been put forward by Reinholz (2015), who theorised a model of how peer assessment activities support self-assessment.

The assessment cycle produced by Reinholz (2015) builds on Kollar and Fischer's (2010) framework, centred around four phases: (1) task performance, (2) feedback provision, (3) feedback reception, and (4) revision. The framework has been extended

to include peer analysis and peer conferencing and also emphasise the roles of learning processes, not just learning products in assessment.



*Figure 2.10: Reinholz's assessment cycle (Reinholz, 2015, p. 305)*

Figure 2.10 shows the six stages of Reinholz's assessment cycle. The assessment cycle aims to make the connection between peer and self-assessment in a domain-general way, contrasting with domain-specific models (e.g. Pulman, 2009).



Component	Examples of how it supports self-assessment
Task engagement	<i>Performance awareness</i> : students explain their ideas <i>Gap closure</i> : Revisions during engagement/problem solving
Peer analysis	<i>Goal awareness</i> : experience analysing a variety of examples
Feedback provision	<i>Performance awareness</i> : explaining ideas and receiving feedback on explanations <i>Gap closure</i> : developing constructive feedback to improve work, not just critique it
Feedback reception	<i>Performance awareness</i> : students are able to view their own work from another's perspective
Peer conferencing	Opportunities to discuss analyses and feedback can increase the impact of peer analysis, feedback provision and feedback reception.
Revision	<i>Gap closure</i> : students use analyses and feedback to improve their work

*Table 2.23: Key aspects of peer assessment and how it supports self-assessment (adapted from Reinholz, 2015, p. 308).*

Table 2.23 provides examples of how the key aspects of peer assessment support self-assessment. The assessment cycle and key aspects of peer assessment produced by Reinholz (2015) describe how peer assessment supports self-assessment. Implementing the six activities does not guarantee learning; instead, the way in which the activities are implemented is important. For example, Reinholz (2015) demonstrated how each activity supports Sadler's (1989) three components of self-assessment; performance awareness, goal awareness and gap closure. Sadler (1989) identified three necessary conditions that should be implemented in order for learners to benefit from feedback in academic tasks:

The learner has to (a) possess a concept of the standard (or goal, or reference level) being aimed for, (b) compare the actual (or current) level of performance with the standard, and (c) engage in appropriate action which leads to some closure of the gap. (Sadler, 1989, p.121)

From these three necessary conditions, Sadler (1989) observed that for a learner to compare actual performance with a standard and take action to close the gap, they must already possess some of the same evaluative skills as their teacher.

Through a review of the literature on peer assessment, van Zundert et al., (2010, p. 270) made four conclusions on how a learner could improve their evaluative skills;

- peer assessment psychometric qualities are improved by the training and experience of peer assessors
- the development of domain-specific skills benefits from peer assessment based revision
- the development of peer assessment skills benefits from training and is related to students' thinking style and academic achievement
- student attitudes towards peer assessment are positively influenced by training and experience

A study conducted by Li and Gao (2015) explored the relationship between peer assessment impact and student learning to determine how these two factors influence a learner's performance in a project. One hundred and thirty teacher education students participated in this quasi-experimental study. When working on a technology-integrated lesson plan project, the experimental group completed an online peer assessment process while the control group followed the traditional discussion method. Students' learning levels were measured and divided into low-, average- and high-achieving according to the quality of their draft lesson plans. Data analysis suggested that the impact of peer assessment on students' lesson plan projects seemed to vary according to students' learning levels. While low and average-achieving students showed significantly improved performance right after the integration of a peer assessment model, the model seemed to have had less impact on the performance of high-achieving students. This demonstrates that there could be different benefits for learners who have different achievement levels, and there is a need to make sure that those who are high performers are not excluded from the learning process, and that assessment is conducted in a way that is also beneficial for them. In addition, a learner may be a low achiever at the beginning of

a course when they are unfamiliar with the learning material and therefore could receive a greater benefit from participating in peer assessment, however as they progress through the course and their level of knowledge and skills enhances, they may receive less benefit from this type of assessment. This demonstrates a need to consider what types of assessment are most beneficial at different points in the learning process. However, this is an area that received a lack of research, and therefore it is difficult to make conclusions as to whether other types of assessment, such as self-assessment or summative assessments, provide impact learners with different achievement levels or whether they would provide greater benefits if they are conducted at different intervals throughout the learning journey.

### **2.3.7 The assessment of reflection**

There is a broad consensus among learning theorists that reflection is at the core of adult learning and professional growth, transformation and empowerment (Hilden and Tikkamäki, 2013). 'Studies have shown that classroom environments that actively involve students in their learning process and provide opportunities to reflect on their learning experiences have the potential to enhance students' academic success' (Menekse, 2019, p. 183).

Numerous definitions for reflection exist, but often, they are related to individuals' cognitive processes, such as becoming conscious of, analysing, evaluating, questioning and criticising experiences, assumptions, beliefs or emotions (Hilden and Tikkamäki, 2013, p. 77).

Author	Definition of the term reflection
Dewey (1933)	Reflective thought is defined as 'active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the further conclusions to which it tends'.
Kolb (1984)	Reflection is referred to in Kolb's experiential learning model as reflective observation, where an individual observes and reflects on the situation and identifies any problems in the process.
Boud, Keogh, and Walker (1985)	Reflection is a fundamental learning activity in which people 'recapture their experience, think about it, mull it over and evaluate it'.
Schon (1987)	Reflection can be different into two concepts; (1) reflection on action and (2) reflection in action.
Hatcher and Bringle (1997, p. 153)	Reflection is defined as the intentional consideration of an experience in light of particular learning objectives.
Moon (2007, p. 192)	'Reflection/reflective learning, or reflective writing in the academic context, is also likely to involve a conscious and stated purpose for the reflection, with an outcome specified in terms of learning, action or clarification'.
Harvey et al., (2016, p. 9)	'Reflection is a deliberate and conscientious process that employs a person's cognitive, emotional and somatic capacities to mindfully contemplate on past, present or future (intended or planned) actions in order to learn, better understand and potentially improve future actions'.
Shaw et al., (2018, p. 2)	In education, it is useful to distinguish self-reflection from reflection upon other material. Students can reflect upon their own learning, which includes their personal experiences, perspectives, beliefs and claims. Alternatively, but often additionally, they can reflect upon the experiences, perspectives, beliefs and claims of others and on study material presented as factual knowledge. Hereafter, we refer to this second type of reflection as 'reflection upon other material'.

*Table 2.24: Summary of definitions of the term reflection*

Table 2.24 provides a summary of the definitions of the term reflection, as identified in the literature reviewed. From the definitions shown above in Table 2.23, we can see that reflection can be defined based on whether it takes place as reflection on action or reflection in action (Schon, 1987). Shaw et al., (2018, p. 2) expand on this and state that there can be a second type of reflection which they refer to as 'reflection upon other material'. There is a distinction between when the reflection takes place, for example, during

the activity or on completion of the activity. This highlights that if reflection is being used as a self-assessment tool, then it is important to understand the best time for the learner to engage with this process and what the overall goal of the reflection is. If reflection occurs after an activity has taken place, it gives individuals the opportunity to review their actions and identify best practices. This can result in the learner understanding how to carry out a task in a more productive way. Therefore this will increase their knowledge, abilities and subsequent behaviour. However, there is also an argument to be put forward as to why a learner who reflects during the activity taking place can also experience benefits, as they will be able to identify competencies that they need to improve on or ways in which a task could be conducted in a better way, thus improving the overall outcome. This demonstrates that a learner can experience a range of different benefits depending on when the reflection occurs (during a task or on completion of a task).

Kolb's experiential learning model (1984) outlines reflective observation as the second stage. During this stage, an individual observes and reflects on the situation and identifies any problems in the process. Whilst this demonstrates the link between reflection and experiential learning, this stage is discussed in terms of reflection being used after an activity has been completed and does not consider how reflection can be used during the learning process. Harvey et al., (2016, p. 14) believe that 'by reflecting on the relationship between reflective practise and experiential learning, we are aiming to make sense of the empirical world'.

The use of reflection has been used in the curriculum of a range of subjects and disciplines:

Reflective practice is widely adopted across the field of experience-based learning subjects in higher education, including practicums, work-integrated learning, internships, service-learning and community participation. This adoption of reflective practice implies that it supports student learning through experience. (Harvey et al., 2016, p. 1)

A learner needs to have the ability to participate in reflective practice. The gap between students' current and desired skills in reflective practice in their learning context can be seen as analogous to their zone of proximal development (Vygotsky 1978); therefore, students can be scaffolded to develop a higher level of reflective skill. Many tools, strategies and resources may be used to scaffold the development and practice of reflection for learning through experience at each of four stages:

1. Learning to reflect;
2. Reflection for action;
3. Reflection in action; and
4. Reflection on action

Bhatt and Bhatt (2016, p. 26) believe that 'assessment should also involve reflection of self, peers and other stakeholders'. Reflection can be used as a tool in the learning process as it allows students to express themselves:

Reflection in learning is necessary for students to revisit what they have learned for improvement and for in-depth learning. It gives students an opportunity to document their learning journey and provide references and suggestions for future students. (Chang, 2019, p. 95)

We may be critically reflective of assumptions when reading a book, hearing a point of view, engaging in task-oriented problem solving (objective reframing), or self-reflectively assessing our own ideas and beliefs (subjective reframing). (Mezirow, 1997, p. 7)

Main findings	Study
Reflection in higher education	Hilden and Tikkamäki (2013)
Encourages transformational learning	Carroll (1963; 1971)
Definitions of reflection	Dewey (1933); Kolb (1984); Boud, Keogh and Walker (1985)
Distinction of when the reflection takes place (during or after a learning activity)	Schon (1987)
Reflection and experiential learning	Kolb (1984)
Skills needed to participate in reflective practice	Hervey et al., (2016)
Reflection of self, peers and other stakeholders	Bhatt and Bhatt (2016)
Reflection as a tool in the learning process	Chang (2019)
Learner should be critically reflective	Mezirow (1997)

*Table 2.25: Overview of the main findings relating to the literature on reflection*

Table 2.25 provides an overview of the main findings relating to reflection that were discussed in this chapter. From this, we can see that there is a large body of literature present on the topic of reflection, with the studies included in Table 2.25, dating from 1963 to 2019. Therefore, we can conclude that reflection in higher education has been a popular topic of research and debate, in relation to the benefits it has on the learner (transformational learning), the relationship between reflection and theories of learning (experiential learning), who is conducting the reflection and what they are reflecting on (themselves, the performance of their peers or other stakeholders) and how reflection can be used as a tool in the learning process, which helps us to understand why there is a need for learners to be able to critically reflect.

### **2.3.8 Section summary**

In order to understand how self-assessments can be incorporated more effectively into higher education courses, self-assessment typologies (Table 2.18, p. 96) and Andrade's taxonomy of self-assessment were reviewed. The themes relating to self-assessment were identified, and these were explored further through a review of the literature, which is discussed in section 2.3. The following table provides a summary of how the main themes identified in the literature related to entrepreneurial learning courses and self-assessment.



Theme relating to self-assessment	How the main themes identified in the literature related to entrepreneurial learning courses and self-assessment
Summative and Formative Assessment and Feedback	Schuwirth and Van der Vleuten (2011, p. 478) believe that 'in educational settings assessment for learning should take priority over assessment of learning'. Taras (2005, p. 466) argues that 'all assessment begins with summative assessment (which is a judgement) and that formative assessment is in fact summative assessment plus feedback which is used by the learner'.
Who is carrying out the assessment?	The role of the educator is to facilitate entrepreneurial competence development as it happens. The responsibility for deciding which activities are most appropriate for teaching a competency may be assigned to groups of students, to a single student, or it may be retained by the instructor. This enables students to receive immediate feedback from those in the class, which can be used in the learner's self-assessment of their competencies.
Peer-assessment	Peer assessment can enhance an individual's learning as they will go through a range of cognitive, motivational, and emotional processes. Evaluating performance can create self-regulated learners and improve their competencies.
Receiving feedback on self-assessments	Self-feedback and external feedback can be used in conjunction with each other in order to avoid the learner discussing their competencies in a biased way. There should be a focus on skill development (providing learners with the required skills to participate successfully in self-assessments), and this should be embraced throughout the self-feedback process.
The assessment of reflection	When reflection is being used as a self-assessment tool, then it is important to understand the best time for the learner to engage with this process and what the overall goal of the reflection is.

*Table 2.26: Overview of the literature on the themes and how they can be applied to impact the learner in higher education*

Table 2.26 provides an overview of the literature on the role of assessment in entrepreneurial learning. The table shows that five themes emerged during a review of the literature on the role of assessment in entrepreneurial learning. These five themes are either related to the type of assessment, who is carrying out the assessment or the feedback received after completing the assessment.

From the literature, it can be seen that academics (Dixson and Worrell, 2016; Ahmed et al., 2019; Torres, 2019) define assessment in two ways, either as a summative assessment or as a formative assessment. It is important to be aware that there are overlaps between the two categories, for example, on many University entrepreneurship courses, which include formative assessments such as presentations and project-based activities that are graded using summative assessment practices, with the student either passing or failing the course based on their performance. Academics (Rodriguez and Gallardo, 2017; Villarroel et al., 2017) have concluded that assessments are designed for a course based on the characteristics of the course, and therefore they do not focus on the benefits that other types of assessment, such as self-assessments, can have for the learner. Instead, they are focused on assessments that can be quantified and graded to show the success of a course in numerical terms, which is used for the learner's classification of their degree and in promotional materials, such as course prospectus, that can be used to promote a particular course.

From reviewing the literature, which is presented in this section, it was discovered that peer-assessment could be used as a tool for generating self-regulated learners. Self-assessment can be used as a tool for generating self-regulated learners. It is believed that self-assessment is a fundamental skill for self-regulated learning. Importance of self-assessment interventions to promote students' use of learning strategies and its effects on motivational variables such as self-efficacy. This is due to the fact that the process of self-assessment increases metacognition (Siegesmund 2016); students also become more proficient at evaluating their progress toward completing a task, a key facet of self-regulated learning (Ambrose et al., 2010). strategies for using self-assessment to help increase student metacognition and self-regulated learning.

## 2.4 Self-regulation

Self-regulated learning is not a mental ability or an academic performance skill. Self-regulation refers instead to the self-directive process through which learners transform their mental ability into task-related academic skills. Self-regulated learning is an area of learning comprised of a considerable number of variables that influence learning. This holistic approach helps to explain the processes that take place during the learning process.

Models of self-regulated learning describe how students become responsible learners by regulating their learning and performance. These models include those of Winne and Hadwin (1998), Boekaerts (1999) and Zimmerman (2000). Whilst all of these models outline that learners use meta-cognitive strategies to control and regulate their academic learning, some have been used more frequently in the research than others. For example, Zimmerman's (2000) social cognitive view of self-regulation identified three self-enhancing learning cycles: forethought, performance and self-reflection. In entrepreneurial learning, an individual would think about the task and their abilities at the forethought stage; they would then participate in an activity at the performance stage; finally, self-reflection would be used at the assessment stage. Self-reflection would form the basis of self-assessment, in which an individual could discuss their competencies in relation to the activity that they have just participated in. This would encourage self-regulated learners in the classroom. This demonstrates that assessment can help learning occur.

Self-regulation is widely seen as a systematic process of human thought and behaviour that involves setting personal goals and steering oneself towards the achievement of those goals (Bryant, 2006, p. 280). This is the method or procedure that learners use to manage and organise their thoughts and convert them into skills used for learning. It is of interest to think about whether the assessment process can be used to promote learning further and enhance the outcomes of the course.

Previous research in education has examined the regulation strategies of learners; for example, a study conducted by Meier and Vogt (2015) investigated the cognitive processes of primary school students by interviewing them about the regulation of their learning processes. However, research into the self-regulation strategies of learners on entrepreneurial learning courses is limited. Following a study which aimed to understand the development of learners professional self-regulation during pedagogical practice, Senovska and Pryshliak (2020, p. 689) recommended that future research investigate 'whether there are differences in the formation of professional self- regulation among students of different faculties and areas of preparation'. Bryant (2009, p. 506) contends that 'entrepreneurs with stronger self-regulatory characteristics, for example, appear to be more aware of moral issues relating to personal ideals and potential gains within entrepreneurial situations'.

#### **2.4.1 Emotional intelligence and the role of emotion in self-regulation**

Mayer and Salovey (1993) define the term emotional intelligence as an individual's ability to self-regulate their own and others' feelings and emotions. This information is then used to guide their thinking and actions. Goleman suggests that there are five underlying factors of emotional intelligence are:

(a) empathetic response, the facility to pick up on others' feelings; (b) mood regulation, the capacity to control negative emotions; (c) interpersonal skill, social competence to interact smoothly with others; (d) internal motivation, the ability to delay gratification in pursuit of a goal; and (e) self-awareness, psychological insight into one's own true feelings. (Goleman, 1995, p. 200).

We can see that these are skills that are commonly found in business environments and demonstrate that individuals do not need just to have knowledge about conducting business ventures where the goal is to make money, emotions play a big part in this process as well, with how the individual feels impacting on their ability to

participate in business activities. For example, they need to be able to regulate their mood and control their negative emotions if they experience failure in a business venture.

It is believed that emotions play an influential role in self-regulation (Salerno et al., 2015). Pekrun's control value theory (2006) looks at the role that emotions play in the learning process. Moreover, some students experience both positive and negative emotions in relation to an event, whereas others report only negative emotions. The performance of those students who interpret any arousal as negative would be more impeded than the performance of students who label the increased level of arousal in terms of both negative and positive emotions. Mega et al., (2014) proposed a theoretical model that links emotions, self-regulated learning and motivation to attain academic achievement. They carried out a study of 5,805 undergraduate students using several measurement models: self-regulated learning questionnaire, emotions questionnaire and motivation questionnaire. This was a good piece of research as Mega et al., (2014) included a number of measurement models to ensure the reliability of their findings. Their findings suggested that emotions are closely linked to self-regulated learning, motivation, and academic achievement. This is in keeping with Illeris' (2002, 2009, 2017) three dimensions of learning which states that learning includes an emotional process.

Whereas the research of Mega et al., (2014) looked at the effects of positive emotions, research surrounding entrepreneurial learning has looked into how people can learn from experiencing negative emotions associated with the failure of a task. Research conducted by Cope (2011) found that experiencing failure in entrepreneurial activities resulted in people learning more about their skills and increased their level of entrepreneurial preparedness. According to Morris et al., (2012), an individual is more likely to develop an entrepreneurial mindset when experiential processing results in more intense and positive affective states. Positive states encourage

experimentation and explorative learning, whereas negative states drive local and more exploitative learning. Therefore, through experiencing critical events, an individual will undergo a transformative learning process. Assessing a student's transformation through a critical event could provide an indicator of their competencies. However, a challenge exists in designing an entrepreneurial learning environment where students recognise failure as an opportunity to learn, especially in an educational setting. It is put forward that perceptions and beliefs play a significant role in shaping the development of competencies and entrepreneurial intention.

#### **2.4.2 Self-efficacy and self-regulation**

'Self-efficacy is not concerned with what someone believes they will do, but about what someone believes they can do' (Maddux and Kleiman, 2016, p. 89). The concept of self-efficacy was introduced by Bandura (1977) in his social learning theory, which theorises how he believes that people come to hold about their capabilities and the outcomes of their efforts powerfully influence not only the ways in which they will behave but also the cognitive and affective processes that accompany their functioning. Self-efficacy has been discussed in the research on self-regulation (Zimmerman, 2002), and as a result, has been incorporated into many models of self-regulation, as it believed that 'students who have a high self-efficacy for accomplishing academic tasks have proficient self-regulatory skills' (Bradley et al., 2017, p. 518). It is believed that there is a direct correlation between an individual's level of self-efficacy and their self-regulatory skills; however, Maddux and Kleiman (2016) note that there can be negative impacts for the individual if their self-efficacy is too high, and therefore this can lead to challenges in the learning environment that need to be addressed by educators:

- It can lead to failure in tasks due to an individual overestimating their abilities and choosing to engage in tasks that they are not going to be successful in. This can be due to them not having the required skill set to complete a task and setting unattainable goals.
- The individual can become disengaged with their learning as they can become complacent. In addition, due to having a high level of self-efficacy, they may feel that they do not need to put in as much effort, which can have a negative impact on their performance over time; this could also lead to the learner setting lower goals.
- The learner may not seek help and support from third parties, such as the educators on their course or their peer group. This can be a result of the individual believing that they already have the required skills to complete a task and therefore do not require additional guidance.

In a study conducted by Jafarkhani et al., (2016), 350 high school students in Iran completed three questionnaires in order to investigate the mediation role of study habits in the relationship between progressive motivation and self-regulated learning in first-grade students. The research found that:

There is a positive and significant relationship between student's progress and self-regulation in student learning, so that when the motivation for student progress is high, they will be more self-regulated and vice versa. (Jafarkhani et al., 2019, p. 37-38)

This introduces the concept of motivation. Zimmerman (2008, p. 167) outlines how 'a number of instruments were developed during the 1980s that assessed self-regulated learning as a metacognitive, motivational, and behavioural construct'.

Name of instrument	Author	Description
The Learning and Study Strategies Inventory (LASSI)	Weinstein et al., (1987)	The Learning and Study Strategies Inventory (LASSI) is a 10-scale, 80-item assessment of students' awareness about and use of learning and study strategies related to skill, will and self-regulation components of strategic learning.
Motivated Strategies for Learning Questionnaire (MSLQ)	Pintrich et al., (1993)	The Motivated Strategies for Learning Questionnaire (MSLQ) was developed to measure the types of learning strategies and academic motivation used by college students. This is a 44-item instrument that uses a 7-point Likert scale.
Self-Regulated Learning Interview Schedule (SRLIS)	Zimmerman and Pons (1986, 1988)	The Self-Regulatory Learning Interview Schedule (SRLIS) identifies 14 classes of self-regulated behaviour that can occur in six learning contexts. It asks learners to indicate how they participate in class, how they study and complete their assignments.

*Table 2.27: Description of the instruments used to measure self-regulation in learners*

By comparing these older instruments described in Table 2.27, to more recent instruments, described in Table 2.28 below, we can begin to identify how our understanding of self-regulation, self-efficacy and motivation has developed over time.

Name of Instrument	Author	Description
Self-Regulated Online Learning Questionnaire (SOL-Q)	Jansen et al., (2017)	The Self-Regulated Online Learning Questionnaire was developed to measure self-regulated learning in online educational contexts. It is a 24-item scale with a 5-point Likert-type response format.

*Table 2.28: Description of a new instrument used to measure self-regulation in learners*

Table 2.28 provides a description of a recent instrument that has been produced to measure self-regulation, the Self-Regulated Online Learning Questionnaire (SOL-Q).



Whilst new research has been conducted into self-regulation, there is a gap in the literature when it comes to determining if there are any positive impacts for a learner who experiences failure on their level of self-efficacy and self-regulatory skills. A deeper understanding could be found by investigating whether or not the negative impact of experiencing failure from having a high level of self-efficacy could have a positive impact on the self-regulatory skills of a learner.

### 2.4.3 Self-regulation and critical thinking

‘Critical thinking assists individuals to think critically about their own learning and professional development’ (Phan, 2010, p. 289). Strategies to encourage critical thinking have been discussed by academics (Daley et al., 1999; Miri et al., 2007; Kim et al., 2009; Tseng et al., 2016; Sholikh et al., (2019).

Critical thinking strategy	Author
This study demonstrated that concept maps could significantly improve students’ critical-thinking abilities as a metacognitive learning strategy.	Daley et al., (1999)
This study found that students’ CT skills and related capabilities are significantly advanced by incorporating teaching strategies, such as students’ question asking, self-investigating of phenomena, exercising open-ended inquiry-type experiments, and making inferences.	Miri et al., (2007)
Active learning strategies were found to help enhance students’ critical thinking and engage their critical thinking process.	Kim et al., (2009)
The results of this study indicated that online students who have higher perceptions of learner-centred approach are more likely to have higher motivated strategies for learning, especially critical thinking skills.	Tseng et al., (2016)
The results of the study indicate that there is an influence of learning strategies on improving critical thinking skills. Students who are taught by cooperative learning blended assisted by Google Classroom tend to have higher critical thinking skills after learning than students taught with direct lesson instruction.	Sholikh et al., (2019)

Table 2.29: Overview of critical thinking strategies

Table 2.28 provides a summary of the studies that have been conducted which examine the relationship between learners critical thinking and their self-regulation. Zimmerman (1990) asserted that evaluation and reflective thinking abilities could be considered self-regulatory components in learning processes. A study conducted by Phan (2010, p. 188) investigated and found that 'critical thinking as a cognitive practice, helps in self-regulation in learning and teaching', and that engaging in this practice would lead to a learner experiencing growth and development. Phan (2010, p. 284) suggested two important points:

- (i) critical thinking acts as another cognitive strategy of self-regulation that learners use in their learning
- (ii) critical thinking may be a product of various antecedents such as different self-regulatory strategies.

#### **2.4.4 Section summary**

Section 2.4 has discussed the literature surrounding self-regulation and self-regulated learning. From reviewing the literature, it has been found that this is an area that requires future research. However, the literature discussed in this section has revealed that entrepreneurs who have good self-regulation skills possess many positive characteristics that successfully help them participate in entrepreneurial activity. Therefore, the following conclusions can be made from this section:

- It is believed that emotions play an influential role in self-regulation. Emotional intelligence is an individual's ability to self-regulate their own and others' feelings and emotions.
- It is believed that there is a direct correlation between an individual's level of self-efficacy and self-regulatory skills.
- It is believed that engaging in the practice of critical thinking would lead to a learner experiencing growth and development.

From this, it can be seen that there is a need to increase our understanding of how emotions, self-efficacy and critical thinking are demonstrated in the process of self-assessment and the impact this could have on a learner's self-regulatory skills. In addition, there is a suggestion that the literature could benefit from more of an awareness of how negative experiences, such as experiencing business failure in a task, will impact self-regulation and have a positive result. For instance, whether or not the negative impact of experiencing failure from having a high level of self-efficacy could have a positive impact on the self-regulatory skills of a learner.

## **2.5 The learning environment**

The learning environment has been investigated by academics (Geng et al., 2019; Moubayed et al., 2020) in order to answer questions such as whether or not the environment has an impact on a learner's approach to their learning and the outcomes from their course, such as improving their competencies, or if a learner's achievement is irrespective of their environments. The learning environment and its impact on a learner are frequently discussed in the literature relating to theories of learning.

Theory of learning	Discussion on the learning environment
Experiential learning	Need for the learner to engage with their environments (Dewey, 1938). Learners should have an opportunity to participate in real-life business environments; therefore, the learning environment needs to re-create this type of situation.
Behavioural learning	Learning environment encourages reproduction rather than reflection.
Social learning	Behaviour is learned from the environment through the process of observational learning.
Humanist learning	Stimulating learning environment would create a more meaningful learning environment. Through interactions with the environment, the learner develops a self-concept that can be either positive or negative (Rogers, 1994; 2004).
Three dimensions of learning	Assumption all learning includes an external interaction process between the learner and his or her social, cultural and material environment (Illeris, 2007). The three dimensions were updated and now are referred to as content, incentive and interaction. All of these take place within a social environment (Illeris, 2009).

*Table 2.30: Theories of learning and the learning environment*

Table 2.30 provides an overview of the relationship between theories of learning and the learning environment. Those designing university courses need to understand the nature of learning environments to achieve the most benefit for learners and improve their overall performance, this could be achieved by designing the learning environment based on theories of learning, which show us how learners acquire knowledge. For example, if we take social learning theories, and apply this to the learning environment, a space where peer learning, observation and collaboration could take place, would need to be designed. The relationship between the learning environment and approaches to learning was first established by Ramsden and Entwistle (1981). Academics (Clapper, 2010; Roddy et al., 2017) have followed on from this by investigating how the learning environment can be created in a way that benefits the learner. For example, Kolb and Kolb (2005) establish these nine educational principles for the creation of learning spaces:

- 1) Respect for learners and their experience.
- 2) Begin learning with the learner's experience of the subject matter.
- 3) Creating and holding hospitable spaces for learning.
- 4) Make space for conversational learning.
- 5) Making space for development of expertise.
- 6) Making spaces for acting and reflecting.
- 7) Making spaces for feeling and thinking.
- 8) Making space for inside-out learning.
- 9) Making space for learners to take charge of their own learning.

These nine principles suggest how the educator can improve the experience for the learner by making space for them to engage in different types of learning and practices. A study conducted by Lizzio et al., (2002) investigated the relationships between characteristics of the academic environment, students' approaches to learning and the outcomes achieved. It was found that elements of the learning environment that are under the educator's control have a positive impact on the way a learner approaches their study and the learning outcomes that they achieve. This is in keeping with Kolb and Kolb's (2005) nine principles for the creation of learning environments and further builds on the argument that the educator has a key role in designing an appropriate learning environment. Lizzio et al. (2002) also discussed how workload and assessment are two factors that need to be investigated further when reviewing the learning environment as they can directly impact the learner. A study by Ndoye (2017) investigated students' perceived ways in which peer and self-assessment can help engage them in their own learning, make them take responsibility for it, and develop their collaborative learning skills by promoting positive and supportive learning environments. It was found that peer and self-assessment contribute to a supportive learning environment. In other words, the willingness and desire to seek feedback will depend on a supportive learning environment where each member values collaboration and perceives him or herself

as a learning resource for their peers. Similarly, a learning environment is perceived as supportive based on the availability of feedback and the ability of the members of a community to collaborate and support each other. These can be referred to as social learning environments.

How learners access information and course materials are now changing, this has been referred to by academics as smart learning environments (Huang et al., 2013; Elhoseny et al., 2017). For example, in a traditional classroom, the teacher is the main source of information and students are required to stay in the same place and participate simultaneously in the same activity, whereas, in a situation of ubiquitous learning, activities can be conducted in a different space and time for each student. In addition, teaching materials are available at all times and are accessible from any device. a ubiquitous learning environment is one in which the student may be learning without even being fully aware of the situation.

According to Spector (2014), it is also highly desirable for the design of smart learning environments to provide motivation for a variety of learners, recognising learners' competencies, learning styles and interests. Moreover, the learning environment must provide personalised assignments and formative feedback, with a pedagogical strategy that supports this:

- Conversation: the learning environment can engage the learner in a dialogue or facilitate a group dialogue on a relevant topic or problem;
- Reflection: the learning environment can generate self-assessment based on student progress and performance, preferably suggesting activities and attributes in the learning environment that can be adjusted to improve overall effectiveness;

- Innovation: the learning environment uses new and emerging technologies and leverages innovative technologies in creative ways to support learning and instruction;
- Self-organisation: the learning environment can rearrange resources and control mechanisms to improve its performance over time based on data that are automatically collected and used to refine how the environment interacts with learners in various circumstances.

From this, we can see that smart learning environments can encourage self-assessment to take place, as they can provide an opportunity for the learner to reflect. However, due to the important nature of social learning environments, we can see the importance of ensuring that a smart learning environment includes an opportunity for learners to participate in conversation with their peers and educators through group dialogue.

In order to apply these principles to entrepreneurial learning environments, it requires the creation of an uncertain and ambiguous context encouraging students to step out-side taken-for-granted assumptions' (Pittaway and Cope, 2007, p. 213). Although, again, this is reflective of the business environment, however, there can be problems when trying to re-create such an environment within an entrepreneurial learning course:

In that learning through entrepreneurship includes not only the learning by engaging the process of developing an idea into a business, but also learning from testing the viability of the idea as a business and re-starting again when the idea fails. (Williams Middleton and Donnellon, 2014, p. 182)

Environment	Application to self-assessment and entrepreneurial learning courses
Quality learning environment	Principles for establishing a quality learning environment
Supportive learning environment	Peer and self-assessment will lead to a supportive learning environment
Social learning environment	A learning environment is perceived as supportive based on the availability of feedback and the ability of the members of a community to collaborate and support each other.
Smart learning environment	Smart learning environments can encourage self-assessment to take place, as they can provide an opportunity for the learner to reflect.
Entrepreneurial learning environment	Need to re-create the uncertainty found in the business environment. There is a requirement for learners to experience discontinuous events.

*Table 2.31: A summary of the literature on learning environments*

Table 2.31 provides a summary of five types of learning environments that have been identified through a review of the literature: quality learning environment, supportive learning environment, social learning environment, smart learning environment and entrepreneurial learning environment, with a description of their application to self-assessment and entrepreneurial learning courses, due to the focus of the research.

### **2.5.1 Entrepreneurial learning**

Entrepreneurship education in universities should consider teaching techniques that require students to have hands-on enterprise experience as well as to practice an entrepreneurial directed approach in improving university students' entrepreneurial mindset (Pihie and Sani, 2009). Entrepreneurial learning may be considered a complex process requiring various types of learning opportunities, such as social interaction and reflection, which has been adopted in entrepreneurship pedagogical methods (Pittaway and Cope, 2007). Therefore, educators may need to look at entrepreneurship education through a comprehensive and holistic approach so that it accommodates various aspects of developing students' attitudes toward entrepreneurship (Jensen, 2014). Entrepreneurship education provides a learning



environment for trial and learning processes that allow students to test and allocate their learning in experiential situations. Reflection on such practical learning processes is considered to be highly valuable for enabling the learner to create an inner connection to their learning needs as part of their personal development process. In this sense, learning is student-centred and constructed by the learner grounded on their individual experiences.

Formal and non-formal learning remain important foundations for entrepreneurial competence development, delivered through designed content-centric structures. Informal learning, particularly mentor supported socialised learning, centring around the learner, is key to solidifying learning towards entrepreneurial competence through know-how and access to resources. Thus, the university emerges as an entrepreneurial learning space where students constitute and integrate learning gained through different forms.

A single negative experience, for example, a tutor emphasising business failure, is enough to serve as a deterrent, at least for some students. This illustrates a strong emotional rather than purely rational basis to entrepreneurial intentions (Nabi et al., 2018).

Entrepreneurial learning process	Description
Teaching techniques	Novel and innovative teaching techniques that require students to have 'hands on' enterprise experience. This challenges traditional teaching methods.
Learning opportunities	Entrepreneurial learning is not just about creating a business venture. There is a need for various types of learning opportunities, such as social interaction through role models and reflection through self-assessment.
Formal and non-formal learning	There are opportunities for formal and non-formal learning in entrepreneurial competence development. University can be the entrepreneurial learning space, however, can be argued that non-formal learning can take place outside of the university through everyday experiences and interactions that the learner has.
Positive and negative experiences	This brings in the role that emotions play in the entrepreneurial learning process and how a learner's intention to participate in entrepreneurship can be encouraged. There is a belief that negative experiences such as experiencing business failure can discourage learners from participating in future entrepreneurial activities.

*Table 2.32: A summary of the literature on entrepreneurial learning processes*

Table 2.32 provides a summary of the literature that has been discussed in relation to entrepreneurial learning processes. Four entrepreneurial learning processes have been discussed: teaching techniques, learning opportunities, formal and non-formal learning and positive and negative experiences. All of these processes have an impact on the self-assessment and learning experiences of an individual, as they can have an influence on the learner's engagement.

### **2.5.2 Section summary**

This section has looked at the key literature surrounding the learning and environment and the role that its design plays in the delivery of self-assessment practices. The process of entrepreneurial learning and how this can be structured was also investigated. These areas of the learning environment and the process of

entrepreneurial learning are directly related as the environment needs to be designed to allow for the process of entrepreneurial learning, such as spaces that allow for social interaction to occur between peer groups on a course. It was discovered through the literature that different types of learning environments need to be available in order for self-assessment to take place successfully; these were summarised in Table 2.30 (p. 135). It can be determined that each of the different entrepreneurial learning processes can occur in different learning environments based on the learner's task. The learner would then conduct the self-assessment based on the task that they had carried out. Peer learning was found to be a component of a supportive learning environment where a learner would feel comfortable seeking out feedback from other people on their course. This is in keeping with the social theory of learning by Bandura (1986) and strengthens the argument that self-assessments are not a wholly isolated process. Instead, the process of giving and receiving feedback to and from their peer group can encourage self-regulatory skills (discussed in section four), which they can then use in their self-assessments in order to improve their learning.

## 2.6 Literature and Development of the Research Questions

Through a review of the literature, gaps in the knowledge have been identified. This has informed the development of the research questions for this study.

Research question	The gap in the literature which has informed this question
RQ1: Can self-regulatory skills be used in the self-assessment of entrepreneurial learning competencies?	There is a need to increase our understanding of how emotions, self-efficacy and critical thinking are demonstrated in the self-assessment process and the impact this could have on a learner's self-regulatory skills. Gentry (1990) believes that abilities associated with evaluation and reflective thinking can be considered self-regulatory components in the learning processes; however, there is a gap in the research that explores the link between self-regulatory skills and self-assessment when evaluating entrepreneurial learning competencies. Senovska and Pryshliak (2020, p. 689) recommended that future research investigate 'whether there are differences in the formation of professional self-regulation among students of different faculties and areas of preparation'.

RQ2: What skills do learners need to self-assess their own learning?	There is a need for the learner to have the ability to participate in reflective practice (Harvey et al., 2016). There is currently a gap in our knowledge when it comes to understanding the skills that a learner needs to participate in self-assessments.
RQ3: Do learners benefit from taking part in self-assessment?	It has been concluded that assessments are designed for a course based on the characteristics of the course, and therefore they do not focus on the benefits that other types of assessment, such as self-assessments, can have for the learner. There is literature that identifies several benefits for learners who participate in reflections. Therefore, there is an opportunity to expand on our knowledge of how this links to self-assessment; in order to 1) provide a justification for incorporating self-assessment into more courses as we will be able to understand the reasons for doing this, and 2) ensure that the assessments on a course provide the most benefit for the learner.
RQ4: What is the nature of existing self-assessment practices on entrepreneurial learning courses?	It was discovered through the literature that different types of learning environments need to be available for the learning in order for self-assessment to take place successfully. There is a need to understand how self-assessment practices currently take place on entrepreneurial learning courses in order to understand the learning environment better that this currently takes place in and whether improvements need to be made that will better enable self-assessment to take place. In addition, the process of entrepreneurial learning was discussed in the literature. Peer learning was found to be of importance in the entrepreneurial learning process. In particular, the process of giving and receiving feedback as can encourage the development of self-regulatory skills, which can be used in self-assessments. There is a need to understand existing practices on entrepreneurial learning courses to identify if effective processes are in place that will allow for self-assessments to be conducted effectively by learners. A review of the literature also found that research conducted on summative assessment, formative assessment, and feedback was popular a decade ago with a lack of research in recent years. This study will therefore seek to explore this gap in the literature and produce new knowledge.
RQ5: What is the role of the educator in the facilitation of self-assessment practices?	The literature found that educators play a key role in encouraging a learner to participate in entrepreneurial activities. The educator is also responsible for designing the learning process and how this takes place (Pretorius, 2008). Despite the educator playing an important role in the learning process, there is currently a gap in the literature regarding the role of the educator in the facilitation of self-assessment practices.

*Table 2.33: Development of the research questions from the literature review*

Table 2.33 shows how the research questions have developed from a review of the literature, which has been presented in Chapter Two. Figure 2.11 below conceptualises the findings from the literature review into a model. This demonstrates

the interaction between the different themes identified in the literature that are relevant for this study.

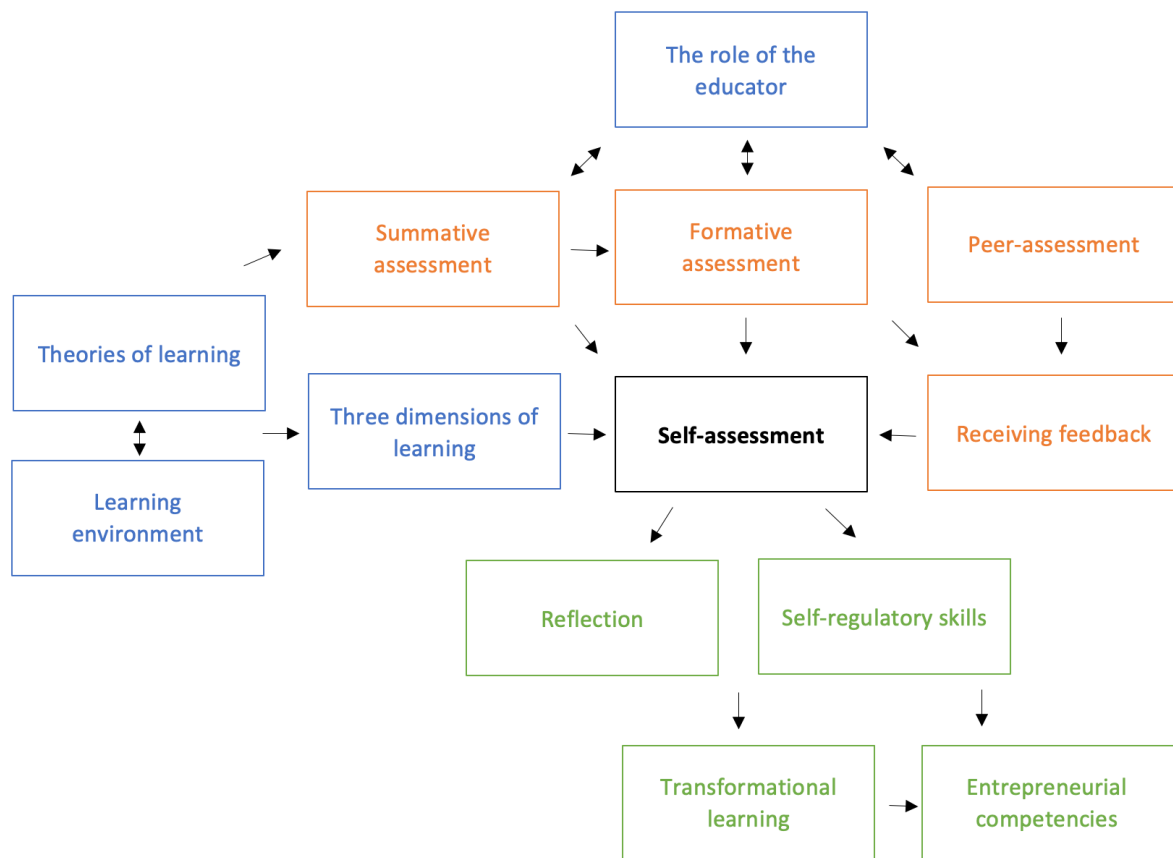


Figure 2.11: Conceptual model produced from the literature review

Figure 2.11 displays a conceptual model produced from important variables relating to self-assessment that were identified from a review of the literature. The conceptual model can be split into three characteristics:

- the input (blue) (those variables that have a direct impact on the ability for a self-assessment to be conducted by an individual)
- the process (orange) (the interaction between the learner and a) the type of assessment being conducted and/or b) their peers and the educator on the course, and how this process generates feedback that can subsequently be used in the self-assessment)

- the output (green) (the variables that relate to the opportunities that the self-assessment provides the learner, such as providing a platform to reflect on their learning and demonstrate/develop their self-regulatory skills), and the benefits that this can have on the learner (engaging in a process of transformational learning can develop the learners' entrepreneurial competencies).

Input	Process	Output
Education inputs are the means used in an education system to achieve educational objectives, such as the number of teachers, school facilities, teaching materials	The processes are the methods of delivery of contents (Salam, 2015, p. 1)	Education outputs are the product of learning or, in other words, the demonstration that learning has occurred
Theories of learning	Summative assessment	Reflection
Learning environment	Formative assessment	Self-regulatory skills
Three dimensions of learning	Peer-assessment	Transformational learning
The role of the educator	Receiving feedback	Entrepreneurial competencies

Table 2.34: The three sections of the conceptual model and the individual variables

Table 2.34 provides an overview of the inputs, processes and outputs identified in the conceptual model. The conceptual model has been developed in this way, based on research conducted by Garira (2020, p. 2), who states that previous educational research has focused on the quality of education 'which relates to the entire characteristics of education (inputs, processes and outputs)', with there being a gap in the literature regarding the relationship between the three characteristics.

Theories of learning and the learning environment have a direct impact on the ability for self-assessments to be effectively conducted (Table 2.30, p. 137), and therefore, the design of the course based on these two variables is where the conceptual model begins. Through reviewing the literature, it was found that theories of learning are directly related to self-assessment and entrepreneurial learning. In addition to this, the Team Academy philosophy was designed using different theories of learning. It

was identified in the literature (Leigh and Spindler, 2004; Pittaway and Cope, 2007) that the social learning theory and experiential learning theory work together in the case of entrepreneurial learning and self-assessment. Academics believe that the design of assessments could be grounded in a research-based theory of learning as increasing our understanding of how people learn can help explain how assessment takes place (Baird et al., 2017; Shepard et al., 2018). Studies (Gibb, 2002; Ross, 2006) have shown that classroom environments that actively involve learners in the learning process and provide opportunities to reflect can enhance academic success. This demonstrates a link between the learning environment and self-assessment, with Robinson et al., (2016, p. 663-664) stating that a 'learning environment should encourage reflection, rather than reproduction'. Illeris (2007; 2009) states that all learning includes an external interaction process between the learner and his or her social, cultural and material environment. The three dimensions were updated and now are referred to as content, incentive and interaction. All of these take place within a social environment (Illeris, 2009). In assessment for learning, Ilie (2014, p. 295) believes that the role of the educator is to facilitate entrepreneurial competence development as it happens, where the learner is responsible for directing their own learning and the educator's role is that of a facilitator, showing how the literature suggests that educator plays an important role in designing the course and delivering summative and formative assessments. The role of the educator is an input on the conceptual model, as they are required to have the ability to co-ordinate the theories of learning used on the course, the learning environment and the type of assessments that are conducted. There is also a link between theories of learning and the role of the educator, with the literature discussing the mastery learning approach by Bloom (1968), which focuses on the learning process and not just the grade. Hutcheson (2015) found that this approach helped learners experience an increase in their motivation and academic achievement. In the conceptual framework, theories of learning and the role of the educator are inputs that can be used to achieve the

educational objectives. In the conceptual framework, these objectives are the development of entrepreneurial competencies in the learner and how these can be enhanced through engaging in the process of self-assessment.

The assessments that take place in an educational setting can be either formative or summative (Table 2.19, p. 105). Feedback received from the learners' peers, and the educator on their course could be used in their own self-assessments, with academics (Hitziapostolou and Paraskakis, 2010; Senge, 2008, p. 129) investigating how the learning process can be revised so that the learner experiences a higher level of engagement with the feedback. Voet et al., (2017, p. 145) believe 'that there are good reasons to also involve students' peers in the assessment process'. This is due to the fact that one of the main goals of education is to create self-regulated learning, which can be achieved through the learner evaluating performance; this will, in turn, improve the learners' competencies. It is interesting to note the connection between peer assessment and self-assessment, which has been put forward by Reinholz (2015), who theorised a model of how peer assessment activities support self-assessment. The assessment cycle produced by Reinholz (2015) builds on Kollar and Fischer's (2010) framework, centred around four phases: (1) task performance, (2) feedback provision, (3) feedback reception, and (4) revision. The framework has been extended to include peer analysis and peer conferencing and emphasise the roles of learning processes, not just learning products in assessment. In the conceptual model for this study, peer-assessment and feedback have been included as they have been identified in the literature as processes that support self-assessment.

The research identified through a review of the literature does not discuss feedback as being of significance to summative or formative assessment, demonstrating that even on courses where summative assessments are primarily used to evaluate the performance of the learner, the feedback can be designed in a beneficial way (feedback that the learner can subsequently use in their own self-assessment).



Self-assessments allow the learner to reflect on their learning, which leads to the learner experiencing transformational learning (Table 1.4, p. 34), which subsequently develops their entrepreneurial competencies. Reflection is an output as engaging in a self-assessment gives the learner the opportunity to reflect on their own learning and develop their ability to conduct their own reflections. A study conducted by Bryant (2006) investigated self-regulation as one important aspect of entrepreneurial cognition and related it to education and training. This study has been used by researchers to confirm the position that self-regulation does improve a learner's educational and entrepreneurial outcome, and as a result, researchers have used it to justify that there is a need to conduct research on self-regulation, education and assessment (Venesaar et al., 2011). 'Classroom environments that actively involve students in their learning process and provide opportunities to reflect on their learning experiences have the potential to enhance students' academic success' (Menekse, 2019, p. 183). Through a review of the literature, it has been found that reflection encourages transformational learning (Carroll, 1963; 1971). Lackeus (2013) has investigated how learners experience personal growth and transformation during the education process. Lackeus (2013) outlines that during an entrepreneurial learning course, an individual will take part in action-based activities. It is the participation in these events that an educator assesses in order to understand if competency development has taken place. The development of entrepreneurial competencies is an output and demonstrates that the learning has occurred. Engagement in self-assessment practices by the learner can help to identify if transformational learning has occurred, which could result in the individual developing entrepreneurial competencies.

Based on a literature review, the conceptual model shows that self-assessment could be used as a tool of reflection throughout a learner's education to develop their entrepreneurial competencies. The self-assessment involves a process of receiving

feedback from the educator on their course or the peers in their group, which can be used in the self-assessment. Alternatively, the role of the educator is discussed in the literature as being an important factor in enabling effective formative assessments to take place, of which self-assessment could be included. This is in keeping with Illeris' (2007; 2009) three dimensions of learning, which states that all learning occurs within a social environment.

## **2.7 Chapter Conclusion**

From this review of the literature, it can be seen that whilst Lackeus (2013) defined the events that take place as 'emotional events', these could be better defined as 'critical events' which lead to a transformation in the learner taking place. It has been found that self-reflection is an integral part of transforming the learning, and therefore we can see that self-assessment could play an important part in the learning process, as this would encourage the learner to develop and display self-regulated skills. For example, where they show that they believe in themselves to carry out a task, they display self-efficacy. Metacognitive awareness could be encouraged through a reflection of the learning process, especially if it includes elements that elicit both positive and negative emotions, such as the failure of a task. It is proposed that this will demonstrate that the learner has the ability to regulate their thoughts and feelings. Social learning can play a part in the process, with learners replicating the behaviour of those they see as displaying entrepreneurial competencies.

To conclude, I would propose that self-assessment could help inform the learning process by providing the learner with an opportunity to facilitate their own learning, as identified through a discussion of the mastery learning process in this chapter. Through reflection, the learner could use self-regulation skills to identify areas in which they require further instruction. The educator could then design activities that encourage the development of these competencies. This brings us back to the question of whether entrepreneurship can be taught. I would argue that we are

teaching the learners to be entrepreneurial through a process that enhances their self-regulation skills and subsequent competencies. This process gives learners the confidence and self-awareness to participate in enterprising behaviour.

## Chapter 3: Methodology

### 3.1 Introduction to the research design

This chapter describes the research methodology and methods that have been used to answer my research questions:

1. Can self-regulatory skills be used in the self-assessment of entrepreneurial learning competencies?
2. What skills do learners need to self-assess their own learning?
3. Do learners benefit from taking part in self-assessments?
4. What is the nature of existing self-assessment practices on entrepreneurial learning courses?
5. What is the role of the educator in the facilitation of self-assessment practices?

This research is positioned in a similar way to previous entrepreneurial learning studies that have been framed by an interpretivist philosophical position (Kenny, 2015; Schimmel, 2016), and this has guided my qualitative research design. I chose a qualitative approach as I wanted 'to answer questions about experience, meaning and perspective' from the viewpoint of my participants (Hammarberg et al., 2016, p. 499). The chosen methods are semi-structured interviews of educators and learners and document analysis, which provide an understanding of the phenomenon by looking at the way in which the participants interpret their learning through self-assessment practices based on their individual thought processes.

### **3.2 Philosophical position**

The philosophical position of this research is interpretivist. Interpretivism is based on a naturalistic approach to data collection; therefore, data collection methods such as interviews and observations are frequently used when taking this philosophical position (Chowdhury, 2014). It has been identified by a number of academics (Leitch et al., 2010; Higgins and Elliott, 2011) that early research in entrepreneurial learning followed the same principles of the management research of the early 20<sup>th</sup> century, where there was a 'tendency toward positivism' (Leitch et al., 2010, p. 69). This changed in the last decade of the 20<sup>th</sup> century and the early 21<sup>st</sup> century, where academics conducting investigations into entrepreneurial learning have adopted an interpretivist approach to knowledge creation, which aims not to just discover a causal relationship between two variables (Tubey et al., 2015). The use of an interpretivist approach to research can be demonstrated by looking at a study by Kenny (2015), who adopted an interpretivist philosophical standpoint when exploring the entrepreneurial learning needs of professional rugby players preparing for a career transition. In this case, the use of interpretivism allowed the researcher to understand the different learning needs and styles of the participants through their own words. As an interpretivist researcher, I aimed to understand rather than explain the role of self-assessment in entrepreneurial learning, with my goal being to 'understand, explain, and demystify social reality through the eyes of different participants' (Cohen et al., 2007, p. 19).

Crucial to the interpretivist epistemology is that the researcher adopts an empathetic stance. The challenge here is to enter the social world of our research subjects and understand their world from their point of view (Packard, 2017). My research was a qualitative study design of educators and learners, consisting of semi-structured interviews and document analysis data collection methods, as I wanted to understand the participants' views based on their experiences of the courses and assessment methods in which they participate.

My interpretivist approach was based on the following beliefs: a relativist ontology and a subjectivist epistemology. Table 3.1 below depicts the ontological and epistemological positions of my research project.

Ontological position	Relativism	This approach perceives reality as intersubjectivity that is based on meanings and understandings on social and experiential levels, e.g. each individual learner and educator will have a different experience and view of self-assessment practices as they will each interpret and make their own meaning of events.
Epistemological position	Subjectivism	According to this approach, people cannot be separated from their knowledge; therefore, there is a clear link between the researcher and research subject, e.g. that I will be generating the meaning of the phenomena by interpreting my findings based on my own beliefs.

*Table 3.1: Ontological and epistemological positions of my research project*

From Table 3.1, it can be seen that my research followed a relativist ontological position, where I took the approach that each participant would have a different perception due to their experiences and beliefs surrounding self-assessment, and a subjectivist epistemological position, where I interpreted the findings of the research based on my own beliefs. The following section will discuss the ontological position of this study in more detail.

### **3.3 Ontological position**

When discussing ontology, we are concerned with understanding what constitutes reality and how we understand existence (Ansari et al., 2016). The ontological position of this research was relativism; this is the view that reality is subjective. Social reality is constituted through the social interactions of multiple people, and these multiple people interpret events differently, leaving multiple perspectives of an incident

(Ansari et al., 2016). In terms of entrepreneurial learning, this means that each individual student and educator will have a different experience and view of self-assessment practices as they will each interpret and make their own meaning of events. This research did not set out to explain or predict, there is not considered to be an objective truth to find nor hypotheses to prove, but instead, the aim was to enhance understanding of the phenomenon explored within its given context.

This is a description of the key concepts of my research project, which are entrepreneurial learning courses, the educator and the learner, and provides an explanation of how I classified them in the selection of my sample.

### **3.3.1 Entrepreneurial learning courses**

The entrepreneurial learning courses that I focused on in my research were situated in England. My sampling strategy consisted of reviewing course prospectus' and focusing on those that included keywords such as entrepreneurial mindset, enterprise and self-assessment. I looked for courses that were student-led and excluded those that followed a traditional business studies model where the educator delivered the content, and the students were assessed predominantly by exams. A large percentage of the evaluation practices of the chosen courses were self-assessments.

### **3.3.2 Educator**

The educators that I included were responsible for the delivery of an entrepreneurial learning course (as detailed in Section 3.3.1). I only included educators who taught on the programme on a regular basis and were responsible for conducting assessments with their learners. This ensured that they had a good level of knowledge of facilitating self-assessments and the challenges associated with this.

### **3.3.3 Learner**

I selected learners who were in their second year of an entrepreneurial learning course (as detailed above), as they have had enough experience of the teaching and

assessment practices and were available for follow up questions if needed. However, due to the availability of the participants at the universities who took part in the research, one first-year learner and one third-year learner were interviewed as part of my research.

Year of Study	Number of Learners
First	1
Second	5
Third	1

*Table 3.2: The year of study of the learners*

Table 3.2 outlines the number of learners who were in their first, second or third year of study, with the majority (five participants) being in their second year.

### **3.3.4 The relationship between the key concepts**

Each individual learner and educator had a different experience and view of self-assessment practices as they each interpreted and made their own meaning of events. It is proposed that a student-led approach to learning cannot happen without the influence and direction of the educator. The context of the entrepreneurial learning course was used in order to understand how the learner and educator experience events in their own environment where the learning takes place, as this is an environment that encourages self-directed learning and reflection through the implementation of self-assessment practices.

### **3.4 Epistemological position**

Epistemology refers to what constitutes valid knowledge and how we can obtain it. A subjectivist epistemology takes the stance that knowledge is generated from the mind. Subjectivists reject the idea that subject and object, observer and observed, or mind and world can be separated, assuming instead that each individual observes the world from a specific place of purpose and interest (Moon and Blackman, 2014,



p. 1172). In aiding our understanding of subjectivism, it is useful to compare it to the opposing position of objectivism, with Pratt (1998) believing that where the motto of objectivism might be seeing is believing, the motto of subjectivism might be believing determines what is seen. In my research, this meant that I would generate the meaning of the phenomena by interpreting my findings based on my own beliefs and the literature review in chapter two.

### 3.5 The nature of ‘evidence’

In order to justify the findings that I produced, there was a need to provide ‘evidence’. Firstly, we need to be clear about what evidence we had for concluding that a certain variable is, in fact, evidence of the phenomenon that we are looking at. Miller and Fredericks (2003, p. 40) acknowledge that ‘determining whether an x is an x raises both important ontological and epistemological concerns’. Table 3.3 below depicts the relationship between the nature of evidence and ontological and epistemological issues in research, based upon work conducted by Miller and Frederick (2003).

Ontological	How a socially constructed construct exists, or in what sense its existence is expressed
Epistemological	How the concept of evidence relates to qualitative research findings by addressing the question of ‘when do findings become evidence?’

*Table 3.3: The relationship between the nature of evidence and ontological and epistemological issues in research*

I accepted themes as evidence when they were discussed by multiple participants, and therefore these were used to answer the research questions.

### 3.6 Methodological overview

The methodological overview depicts the key areas which made up my research design. Each area will be discussed in more detail in the next section.

Purpose of the dissertation	To explore the role that self-assessment plays in developing a learner's competencies on entrepreneurial learning courses
Aim of the research	Theory building which will generate new data about the participants
Research design	Semi-structured interviews as the primary data collection method and document analysis
Unit of analysis	Individual educators and learners on entrepreneurial learning courses at University level in the UK
Sampling strategy	Purposive sampling (n=15)
Types of data	In-depth qualitative interviews plus document analysis of course prospectuses, module guides and grading structures
Analytic approach	Thematic analysis (qualitative)
Ethical issues	Ensuring all participants understand the research (choice of English speaking courses) Storage of data in a secure location

*Table 3.4: A methodological overview of my research design*

In Table 3.4, a methodological overview of my research design can be visualised. This covers the main methodological decisions and considerations I made before undertaking this research: purpose of the dissertation, aim of the research, research design, unit of analysis, sampling strategy, types of data, analytical approach and ethical issues.

### **3.7 Overview of the study**

This study focused on exploring the research questions, which investigate how self-assessment facilitates the process of generating entrepreneurial competencies in learners who are studying on entrepreneurial learning courses. The focus is on how learners experience personal growth and transformation through the learning process and how this can be demonstrated through self-assessment practices. This was achieved by looking at the cognitive processes that a learner needs to engage with in order to conduct self-assessments, and the relationship between these and self-regulation. As identified through an extensive review of the literature, it has been concluded that entrepreneurial learning courses aim to generate entrepreneurial

competencies in the learner. From the literature, it was clear that entrepreneurial competencies are strongly related to self-regulatory skills and that self-regulation could be used in the process of self-assessment to demonstrate that a learner has developed a particular entrepreneurial competency (Bryant, 2006; An and Carr, 2017). In addition, students could use self-regulation during the learning process through self-assessment to identify gaps in their learning. The educator could then focus future learning in these areas to build entrepreneurial competencies to the required level. It considers the views of the learner, but also the educator, who plays a pivotal role in delivering the course content and directing the learning, for example, outlining the tasks that need to be completed and outlining the assessment criteria.

### **3.7.1 Alternative research methods**

This section describes the alternative research methods I considered in order to collect data for my study. This was the process that I undertook when deciding upon a suitable research method to answer my research questions. This process demonstrates my thinking and the stages that I went through before deciding upon a qualitative research design with the use of semi-structured interviews. I considered the use of case studies as they have successfully been used in previous entrepreneurial learning research (Harkema and Popescu, 2015; Ramsgaard and Christensen, 2016). However, from a review of the literature, I identified that case studies are more appropriate when the focus is on a particular learning environment, course or business setting; a specific case. Yin (1994, p. 13) defines a case study as 'an empirical enquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident'. In recent years, the role of assessment in entrepreneurial learning has only emerged in the literature in response to an increase in entrepreneurship courses that aim to develop competencies. As a result, there is a lack of understanding about how self-assessment can impact the learning process. A case

study approach would have allowed me to investigate my research questions when there is little known about how self-assessment impacts the development of competencies. This was further demonstrated by Darke et al., (1998), who suggest that the use of the case study in research is useful in newer, less well-developed research areas, particularly where examination of the context and the dynamics of a situation are important. My research is interested in gathering an understanding of the events that occur in entrepreneurial learning courses, and therefore looking at these in a real-life setting would have allowed for a good understanding of the factors that impact the phenomenon.

Oates (2006) presents four characterisations of case study research which explain how this method can help us to investigate entrepreneurial learning further:

- (1) Focus on in-depth rather than breadth;
- (2) Natural setting: the instance is studied in its natural setting, not in a laboratory;
- (3) Holistic study: the researcher recognizes the complexity of social truths;
- (4) Multiple sources and methods: the researcher employs a number of data sources.

The defining feature of case study research is its focus on how and why questions (Myers, 2009). All of my research questions are interested in answering these types of questions. Case studies focus on 'describing process(es), individual or group behaviour in its total setting, and/or the sequence of events in which the behaviour occurs' (Stake, 2005, p. 450). A study conducted by Ramsgaard and Christensen (2016) investigated how facilitators of entrepreneurial learning courses can design learning spaces. They used a case study method to explore the learner's beliefs and perspectives. Fifty health science students who participated in a 10-week innovation and project management course were chosen for the sample. In order to collect data, they conducted focus groups which were based on a semi-structured interview guide. This approach allowed them to study their research aims in the natural setting, where

the phenomenon occurs. This is a key component of case studies, and from this they were able to observe how the learners interact within the learning environment they were investigating. I focused on the individual learners and educators and concluded that semi-structured interviews would be a more appropriate choice for my qualitative study, as I did not want to gather information about how the participants behave in their natural setting or investigate the processes of entrepreneurial learning and self-assessment as a whole, but instead wanted to collect data on the participants' individual experiences and thoughts. If I decided to use the case study method, then I would need to identify what the case was going to be. When looking at previous research that has used a case study method (Ramsgaard and Christensen, 2006), the case chosen could be the particular course that the participants are studying or teaching on. I did not want to focus my research on a particular course or learning environment but wanted to collect data that came from the experiences of individuals. When analysing the data from each participant, I did not do this based on the courses they were studying on to look for similarities and these were not analysed from the perspective of a whole course; the research was collected and analysed on an individual basis. Semi-structured interviews allowed me to collect data from participants on different types of entrepreneurial learning courses rather than focusing on one single case, with Tellis (1997, cited in Zainal, 2007, p. 5) stating that 'a common criticism of case study method is its dependency on a single case exploration making it difficult to reach a generalising conclusion'. Therefore, using semi-structured interviews instead of a case study method increased the generalisability of my research.

A second research method that I considered using for my study was stimulated recall. This would have been used in conjunction with semi-structured interviews. Stimulated recall is a research method that allows for the investigation of cognitive processes. This is achieved by asking participants to recall their concurrent thinking during an event. Participants are shown a video sequence of some other form of visual recall

and asked to reflect on their actions and decision-making. Topics that can be explored with the use of stimulated recall relate to the declarative and procedural knowledge of participants, to the strategies they use when learning, and to their cognitive processes while working on a task (Gass and Mackey, 2000). Stimulated recall is classified as one of the introspective methods, in which learners are asked to articulate their thoughts while performing a task or after the task has been completed. Data collection for stimulated recall consists of two main phases: first, learners would be video-recorded while working on a task, and second, this video-recording is shown to the learners and educators in individual semi-structured interviews. After viewing the videos of the recorded classroom task each participant would have been asked to discuss their thoughts and feelings through questions that were outlined in a semi-structured interview schedule. These questions would have been designed to gather the thoughts and feelings of the research participants relative to the themes identified in my research (Bruggeman et al., 2022). This first stage of my research would have been an observation of participants interacting in their natural environment, the entrepreneurial learning classroom. Stimulated recall would have been chosen as the method for this observation.

It is argued by Gass and Mackey (2000, p. 92) that participants should be trained in the use of stimulated recall as a research method before the study takes place, where they state that 'participants should be trained by being shown videotapes of other people carrying out stimulated recall session or being given diagrams or transcriptions'. Despite this, other academics believe that this training has no impact on the data that is produced. I would not have been an active participant in the research. To clarify, I would not have engaged as a participant in the observation, where I was also taking part in the same activity as the participants. Instead, I would have observed what was happening in the classroom and recorded my findings through the use of field notes, which would have been made in real-time and went over directly after my observations had taken place. I would have engaged with the

participants whilst the observations took place; however, this would have been more in the role of an educator, where I would go around the classroom and ask questions about what the participants were doing.

Data collection for my stimulated recall method would have consisted of two main phases: First, students would have been video-recorded while working on the task; and second, this video-recording would have been shown to the students and educators in individual semi-structured interviews. After viewing the videos of the recorded classroom task, the learner would have been asked to self-assess their performance, and the educators would have been asked to demonstrate times when a self-assessment occurs. After the students had taken part in the video-recorded task, I would have asked learners and educators to reflect on what they had been doing. This would have been achieved through semi-structured interviews, which would have allowed the participants to reflect on their experiences with the benefit of the recording. Video-stimulated recall may be conducted in several different ways. For example, the video may be shown in its entirety prior to a semi-structured interview, or the participant may be asked to comment on specific areas of interest during playback.

The interval between the event and the stimulated recall has to be as short as possible to preserve the availability of the memory traces and prevent the memory of the learning process from being disturbed by intervening events (Ericsson and Simon, 1987). For this reason, I would have conducted the recordings on day one and played the recording to the participants, followed by the interviews on day two. However, I decided against using simulated recall and chose to primarily use semi-structured interviews, as there are several limitations when using simulated recall; Meier and Vogt believe that:

'It is not possible to distinguish between the knowledge constructed during the recall, triggered by the recall questions or sequences, and the cognitions while working on the task. As with many other methods capturing regulation, the mere asking about regulation processes in the interview might initiate a response which does not necessarily reflect the regulation of working on the task but rather the reflection on the regulation in hindsight.' (Meier and Vogt, 2015, p. 52).

From reviewing the literature by (Meier and Vogt, 2015), it could be identified that using simulated recall could lead to difficulties when analysing the data collected, as it can be hard to tell how much impact the recall has had on the participants' responses. For example, when looking at self-assessment and self-regulation, it could be difficult to identify how much of this was generated through the recall, such as the questions the participant has been asked and their subsequent recall on a task, or how much was generated through working on the task. In addition to this, participants also have the opportunity of adding tacit knowledge and therefore, possibly providing inaccurate reasons for their actions (Sime, 2006). Finally, the stimulated recall needs to happen soon after the task has taken place, as 'once information is established in the long-term memory it ceases to be a recall or a direct report of the experience but rather reflection or a combination of experience and other related memories' (Fox, Turnbull, 2011, p. 206). This is interesting as when looking at my research project and the focus on self-assessment and reflection. I did not want just to investigate the participants' recall of experiences in the short term but investigate how the process of reflection (which could be a participant reflecting on events that have occurred sometime in the past, depending on when the self-assessment is taking place) could be used in self-assessment practices, and therefore stimulated recall as a method was rejected due to its focus on participants short term memories.



### **3.7.2 Qualitative study design**

This was a qualitative study comprised of in-depth qualitative interview data from educators and learners on entrepreneurial learning courses. A strength of qualitative research is that it allows 'researchers to explore the views of homogenous as well as diverse groups of people help unpack these differing perspectives within a community' (Choy, 2014, p. 102). This was an appropriate method for this study, as although all of the participants are learners or educators on entrepreneurial learning courses, they may still have different perspectives based on their individual beliefs and experiences. However, as each participant was interviewed separately, it is important to note that collecting qualitative interview data is a time-consuming process compared to quantitative surveys (McGrath et al., 2019), which can be distributed to a larger population through more time-effective methods. This directly impacted the number of participants who were able to participate in the study due to the time restraints involved with collected data for a PhD research project. However, Queiros et al., (2017, p. 370) state that 'qualitative research is not concerned with numerical representativity, but with the deepening of understanding a given problem'.

Before conducting the full study, I carried out a pilot study to test the approach and reviewed this before the full study took place. The pilot study was conducted over one day with educators and learners from the Team Entrepreneurship course at Bishop Grosseteste University. Educators and learners took part in the proposed interviews and then provided feedback on the interview schedule. This gave me the opportunity to confirm that the questions in the interview schedules would produce the data that I required to answer the research questions. From this, I was able to refine the interview schedules used in this study.

My participants for the full study were chosen using purposive sampling. The primary data collection method for the study were semi-structured interviews, and these all

took place in the natural setting, which was the university learning environment where the educator worked, or the learner was enrolled on their entrepreneurial learning course. The aim was to understand the role of self-assessment in facilitating the development of entrepreneurial competencies in learners on entrepreneurial learning courses. The research questions are as follows:

1. Can self-regulatory skills be used in the self-assessment of entrepreneurial learning competencies?
2. What skills do learners need to self-assess their own learning?
3. Do learners benefit from taking part in self-assessments?
4. What is the nature of existing self-assessment practices on entrepreneurial learning courses?
5. What is the role of the educator in the facilitation of self-assessment practices?

This study used an interpretative research approach. This is a frequent approach used in qualitative studies, where the aim is to gather rich insights into people in order to understand their social world and give meaning to it (Packard, 2017). This approach ensured that gathering the views of the participants was central to the study design, and for each phase of the study, from the design to the implementation and subsequent analysis, I ensured that my main objective was to understand the world that the participants live in and the meaning that they give to this. I took the stance that only those who are part of the environment in which the phenomenon occurs are able to provide the level of understanding that I wanted to achieve through my study. However, it is important to note that 'there is a tension in interpretative research between maintaining the voice of the participant and interpreting what they are saying' (Douglas, 2017, p. 9), as a result, one of the main weaknesses of an interpretative research approach is researcher bias. There are also difficulties with

generalising the data collected, as it is often specific to the individuals who have participated in the study and can be heavily impacted by personal viewpoints and values (Pulla and Carter, 2018). Despite this, it is believed that interpretivism allows for a high level of validity due to the rapport built up between the researcher and the participant. Therefore, it is believed that the data is trustworthy.

Unlike a positivist approach, an interpretivist approach to research considers that research is value bound and is the result of a particular set of circumstances and individuals at a specific time (Ryan, 2018). In my research, I looked at educators and learners from entrepreneurial learning courses in England. I was aware that I was capturing the events of a certain moment in time, and therefore the research differed from a longitudinal study.

### 3.7.3 Summary table of research questions and methods

Research Question	Method(s) used to answer the question	Example of Learners Research Instrument	Example of Educators Research Instrument
1. Can self-regulatory skills be used in the self-assessment of entrepreneurial learning competencies?	Qualitative study with learners and educators using semi-structured interviews as the data collection method	Example of semi-structured interviews question from the interview schedule for learners:  Please describe how much you agree with the following statement and explain your reasons for this; I think of alternative ways to solve a problem and choose the best one.	Example of semi-structured interviews question from the interview schedule for educators:  Can participating in self-assessment activities have a positive impact on a learner's self-regulatory skills?
2. What skills do learners need to self-assess their own learning?	Qualitative study with learners and educators using semi-structured interviews as the data collection method	Example of semi-structured interviews question from the interview schedule for learners:  Do you think you have all the required skills to self-assess your own learning?	Example of semi-structured interviews question from the interview schedule for educators:  What skills do learners need to participate in self-assessments?
3. Do learners benefit from taking part in self-assessments?	Qualitative study with learners and educators using semi-structured interviews as the data collection method	Example of semi-structured interviews question from the interview schedule for learners:  Do you think this type of self – assessment is beneficial to your learning?	Example of semi-structured interviews question from the interview schedule for educators:  Do you think there are benefits for learners who take part in self-assessments? Please explain.
4. What is the nature of existing self-assessment practices on entrepreneurial learning courses?	Qualitative study using semi-structured interviews as the data collection method plus document analysis of course prospectuses, module guides and grading structures	Document analysis aims to understand:  What are the current assessment practices that learners take part in on entrepreneurial learning courses?	Document analysis aims to understand:  What is the role of the educator in delivering the assessments on the course?
5. What is the role of the educator in the facilitation of self-assessment practices?	Qualitative study using semi-structured interviews as the data collection method plus document analysis of course prospectuses, module guides and grading structures	Example of semi-structured interviews question from the interview schedule for learners:  What is your course tutor's role during the self-assessment?	Example of semi-structured interviews question from the interview schedule for educators:  How do you prepare learners to take part in self-assessments?

Table 3.5: Summary table of research questions and methods

Table 3.5 is a summary table of the research questions and the methods that would be used to answer each question. Examples from the interview schedules have been

included in the table to show the types of questions that the participants were asked, and how these questions were designed in relation to each of the five research questions.

### 3.7.4 Sampling

There are various forms of sampling which are dependent on the purpose of the study. The underlying principle in selecting appropriate cases is the preference for cases that are information-rich with respect to the topics under investigation (Patton, 2002). As a result, I will explain how the participants were chosen for my qualitative study. Within the specified population, participant selection was achieved through purposive sampling. Purposive sampling is a type of non-probability sampling that selects cases based on their characteristics and the objective of the study (Staller, 2021).

Strengths of Purposive Sampling	Weaknesses of Purposive Sampling
Cost-effective and time-effective sampling method	Vulnerability to errors in judgement by researcher
Suitable to use when there are a limited number of primary data sources who can participate in the study	Low level of reliability and high levels of bias
Effective method to use when looking to investigate anthropological situations where an intuitive approach is suitable to generate meaning	Inability to generalise research findings

*Table 3.6: The strengths and weaknesses of purposive sampling (adapted from Dudovskiy, n.d.).*

Table 3.6 demonstrates the strengths and weaknesses of purposive sampling. It can be seen that this was a suitable sampling strategy to use for this study due to the time constraints involved and the limited amount of time available to collect and analyse the data. There are only a limited number of Team Academy courses in England, and therefore purposive sampling provided the opportunity to include these types of courses in the research project, as well as a range of entrepreneurial learning courses which are delivered in varying ways. This allowed for the inclusion of participants from

courses with different pedagogies, who may have different viewpoints based on their experiences on their particular course. Table 3.6 identifies that this is a suitable method to use when investigating anthropological situations; this means exploring the complexity and nuances of human interactivity and culture. As this study followed a holistic position, where all aspects of the individual were considered, this was believed to be an effective sampling strategy. However, it is important to be aware of the weaknesses of purposive sampling. There can be errors in judgement made by the researcher when selecting the sampling, resulting in participants who are not suitable to participate or participants who would have been suitable being excluded. There can be low levels of reliability and high levels of bias associated with purposive sampling due to the researcher being highly involved with the selection of the sample, as they may only select participants who are going to agree with their beliefs and confirm their research hypothesis. It can also be difficult to generalise the research findings to the larger population due to a sample being chosen who have specific knowledge about the research question (Staller, 2021).

The participants for this study were chosen based on their experience of self-assessment on entrepreneurial learning courses and how much information they would be able to provide when answering the research questions. I achieved this by reviewing entrepreneurial learning course prospectuses and detailed module information on university websites.

The participants were all volunteers and either entrepreneurial learning educators or learners at university level. Eight educators and seven learners took part in the study (see Table 3.2 on p. 157) from four universities in England.

To begin, I conducted document analysis which helped to identify which entrepreneurial learning courses would have participants with the required characteristics for my study. This involved me reviewing publicly available documents,

such as course prospectuses and module information. I found the courses through the Enterprise Educators UK membership network and through the use of the Google search engine, where I searched for a mix of keywords, for instance, entrepreneurial learning courses, enterprise, entrepreneurial mindset and self-assessment. From this, I was able to identify the participants who would be suitable to take part in the research. Following this, I approached the selected courses by email to see if they had educators or learners interested in participating in the study. To access the participants, I needed to obtain permission from senior management, heads of department and course leaders within the university that I approached. The first contact with the university was through a recruitment email (see appendix F). This was sent to the course leader who was responsible for the course. I only selected educators and learners from entrepreneurship courses that were taught in English, and this ensured that there were no problems with my participants understanding of the research.

### **3.7.5 Document Review**

The document review was conducted to help me identify courses that had a non-taught element, in keeping with the Team Academy philosophy. I was looking in the course descriptors for those with an element of learning by doing and included some form of self-assessment. Recruiting participants who taught and studied on these types of courses would mean that they should have a good level of knowledge about my research topic and would be able to answer the research questions based on their own experiences. I collected and reviewed a set of relevant documents in order to identify which courses would have suitable participants to take part in the study. The documents in the review were selected by looking at the online course descriptors for entrepreneurship courses in England and looking for those that contained certain keywords surrounding learning by doing and self-assessment. I decided to conduct a document review rather than a document analysis due to the availability of the

documents. In addition, I would be using qualitative interviews as the primary method of data collection, with Yanow (2007, p. 411) highlighting how reviewing documents can be used in conjunction with another research method in order to provide background information that the researcher can subsequently use:

‘Document reading can also be part of an observational study or an interview-based project. Documents can provide background information prior to designing the research project, for example prior to conducting interviews. They may corroborate observational and interview data, or they may refute them, in which case the researcher is ‘armed’ with evidence that can be used to clarify, or perhaps, to challenge what is being told, a role that the observational data may also play.’ (Yanow, 2007, p. 411)

Through a review of the online course prospectuses, I was able to identify the main characteristics of entrepreneurial learning courses in England. This increased my understanding of the design of these types of courses, the modules that the learners’ study and the subsequent assessment methods that are used. Next, I collected and reviewed a set of relevant documents. This was done in advance of the interviews with my participants and comprised of course perspectives, module guides and grading structures (needed to obtain from the course leaders any documents that were not publicly available). This increased my understanding of the different learning environments of my participants and their level of existing knowledge relating to self-assessment practice. I then drew upon this information in my semi-structured interviews to discuss a particular activity and subsequent assessment that they had participated in. In addition, the document review was used to answer one of my research questions; what is the nature of existing self-assessment practices on entrepreneurial learning courses.



The following table shows the course prospectuses that I reviewed. This was a sample of the universities in England that deliver entrepreneurship courses at the undergraduate and postgraduate levels. This number of documents was determined adequate as it provided an overview of the types of entrepreneurial learning courses available and included a selection of courses with different modes of delivery. I found that I reached theoretical saturation, which is:

The point in data collection when all important issues or insights are exhausted from data, which signifies that the conceptual categories that comprise the theory are 'saturated', so that the emerging theory is comprehensive and well-grounded in data. (Hennink and Kaiser, 2022, p. 1)

In other words, no new information was being identified through the document review that would increase my understanding of the characteristics of entrepreneurial learning courses in England. The following table shows the 13 online courses perspectives that I reviewed as part of my study.

University	Course Title	Website Link
University of Worcester	BA (Hons) Entrepreneurship	<a href="https://www.worcester.ac.uk/journey/entrepreneurship-ba-hons.html">https://www.worcester.ac.uk/journey/entrepreneurship-ba-hons.html</a>
University of Cambridge	Postgraduate Diploma in Entrepreneurship Master of Studies in Entrepreneurship	<a href="https://www.jbs.cam.ac.uk/entrepreneurship/">https://www.jbs.cam.ac.uk/entrepreneurship/</a>
University of Westminster	BA (Hons) Entrepreneurship	<a href="https://www.westminster.ac.uk/business-and-management-courses/2018-19/september/full-time/entrepreneurship-ba-honours">https://www.westminster.ac.uk/business-and-management-courses/2018-19/september/full-time/entrepreneurship-ba-honours</a>
University of the West of England, Bristol	BA (Hons) Business (Team Entrepreneurship)	<a href="http://courses.uwe.ac.uk/N191/business-team-entrepreneurship">http://courses.uwe.ac.uk/N191/business-team-entrepreneurship</a>
University of Roehampton	BA (Hons) Business Management and Entrepreneurship	<a href="https://www.roehampton.ac.uk/undergraduate-courses/business-management-and-entrepreneurship/">https://www.roehampton.ac.uk/undergraduate-courses/business-management-and-entrepreneurship/</a>
Coventry University	Enterprise and Entrepreneurship Education MA	<a href="http://www.coventry.ac.uk/course-structure/business-and-law/postgraduate/enterprise-and-entrepreneurship-education-ma/">http://www.coventry.ac.uk/course-structure/business-and-law/postgraduate/enterprise-and-entrepreneurship-education-ma/</a>
Bishop Grosseteste University	BA (Hons) Business (Team Entrepreneurship)	Course no longer running from September 2021, and therefore no URL is available.
Falmouth University	BA (Hons) Business Entrepreneurship	<a href="https://www.falmouth.ac.uk/business-entrepreneurship">https://www.falmouth.ac.uk/business-entrepreneurship</a>
Northumbria University, Newcastle	BA (Hons) Entrepreneurial Business Management	<a href="https://www.northumbria.ac.uk/study-at-northumbria/courses/entrepreneurial-business-management-ba-ft-uufebz1/">https://www.northumbria.ac.uk/study-at-northumbria/courses/entrepreneurial-business-management-ba-ft-uufebz1/</a>
Teesside University	BA (Hons) Team Entrepreneurship	<a href="http://www.tees.ac.uk/undergraduate_courses/Business_Accounting_&amp;_Marketing/BA_(Hons)_Team_Entrepreneurship.cfm">http://www.tees.ac.uk/undergraduate_courses/Business_Accounting_&amp;_Marketing/BA_(Hons)_Team_Entrepreneurship.cfm</a>
University of Bristol	MSc Innovation and Entrepreneurship	<a href="http://www.bristol.ac.uk/innovation/pg/">http://www.bristol.ac.uk/innovation/pg/</a>
University Campus, Barnsley	BA (Hons) Enterprise and Entrepreneurship	<a href="https://universitycampus.barnsley.ac.uk/course/enterprise-and-entrepreneurship-ba-hons/">https://universitycampus.barnsley.ac.uk/course/enterprise-and-entrepreneurship-ba-hons/</a>
Lancaster University	BSC (Hons) Entrepreneurship and Management	Entrepreneurial mindset module

*Table 3.7: The Universities and online course prospectuses that were reviewed*

Table 3.7 provides information about the universities and courses whose online prospectuses were reviewed as part of this study, as well as a link to further information about each course. I reviewed the online course prospectuses from the different Universities by looking for keywords that appeared, such as experiential

learning, self-assessment and entrepreneurial competencies. From this, I was able to identify the following features of entrepreneurial learning courses in England:

- Three categories of entrepreneurship course delivery identified
  1. BA (Hons) & masters level courses Entrepreneurship courses that require teaching through modules.
    - Learning by doing in some modules
    - Entrepreneurial mindset module
  2. BA & Masters courses that teach in a non-traditional way. Course perspective
    - Includes keywords such as entrepreneurial competence, mindset and learning by doing.
  3. Team Entrepreneurship courses.
    - No structure, student-led, focus of coaching
- Many courses have a residential phase at the start of the term.
- There are also centres at universities that focus on enterprise and students' starting their own business. One example of this is The Hive Nottingham.

From reviewing the online course prospectuses, I was able to identify the inclusion and exclusion criteria for the courses that I would select to take part in my study, which can be seen in Table 3.8 below.

Inclusion	Exclusion
All entrepreneurship undergraduate level courses with various categories of course delivery	Postgraduate level courses
Courses with and without a residential phase at the start of the course	Undergraduate courses at universities which are located outside of England
Courses that have access to facilities that focus on enterprise and students' starting their own business	Courses that only feature summative assessments
Undergraduate courses at universities which are located in England	Courses where the student does not have the opportunity to set up a real-life business which involves the exchange of money

*Table 3.8: Inclusion and exclusion criteria for my study*

The review of online course prospectuses helped me to select the sample for my study, rather than having an impact upon the results. As such, the inclusion and exclusion criteria were directly linked to the document review. Through identifying

the characteristics of entrepreneurial learning courses in England, I was able to confirm which courses the participants in my study should be selected from. I wanted to ensure that the participants had a good knowledge of self-assessment practices and, therefore, would be able to provide detailed answers to my research questions, which would help me to understand the phenomenon. Due to the different types of entrepreneurial learning courses, this was important as some courses were identified through the document review as only including summative assessments, and, therefore, if I selected participants on these types of courses, then they would not have any knowledge of delivering or taking part in self-assessments, impact on my results. The document analysis also provided detailed information about the design of entrepreneurial learning courses in England, which helped me identify areas that I wanted to investigate through my research. For example, I found that a distinction can be made between Team Academy courses that include a residential phase at the beginning of the course, and other types of entrepreneurial learning courses that do not, even though they have a learning by doing module that requires a learner to set up their own business. This was an area of interest, to understand more about the impact that these residential courses have on learners and is different linked to the learning environment, which was identified through the literature review and conceptual framework as being related to self-assessment.

I included entrepreneurship undergraduate level courses with various categories of delivery and excluded postgraduate level courses. This decision was made because learners on postgraduate courses could have a range of different backgrounds and experiences, which could impact their ability to conduct self-assessments. In addition, if I wanted to follow up after my courses, then participants who were postgraduate learners may have already completed their studies due to the shorter length of the courses. It was identified that many of the Team Academy courses had a residential phase at the start of the course, and therefore I would include these to find out more

about how this impacts the learners and the purpose for including this. I decided to include entrepreneurship courses that had contrasting approaches to delivery in order to ensure that a breadth of data was collected. I selected courses located in England due to the accessibility of courses. In addition, I wanted to ensure that my participants would be able to understand the research questions fully, and therefore participants located in other parts of the United Kingdom may have spoken different languages, which could have impacted on them fully understanding the topic. Courses that only include summative assessments were excluded due to the level of knowledge that the participants would have of self-assessment, as they would not have had direct experience of this. It was identified that courses that featured only summative assessments were more traditional in design and therefore focused more on a method of delivery where the educator took the lead role and the learners were responsible for memorising information, which was then assessed through written assignments and examinations, rather than through learning by doing, where participants took part in experiential learning, such as setting up their own businesses which exchanged real money. Therefore, courses that included these types of 'live' business activities were included, as it was concluded that participants would have real-life experiences that they would be able to reflect upon in their self-assessments. Learners on these types of courses are believed to be more responsible for their learning, with the educator taking more of a facilitator role. This would help me to understand what the role of the education was on entrepreneurial learning courses. A combination of document reviews and semi-structured interviews provided an in-depth understanding of the phenomenon, which was in keeping with my interpretivist research philosophy.

### **3.7.6 Semi-structured interviews**

Semi-structured interviews were used as the primary method of data collection for my study, which gave the participants the opportunity to reflect on their experiences.

According to Roulston and Choi (2018, p. 243), using interviews as the main data collection method is suitable 'if the research purpose is to learn about people's beliefs, perspectives, and meaning-making'. In keeping with the interpretivist approach of this study, I wanted to collect rich insights. Therefore, semi-structured interviews were chosen as they allowed me to 'seek deeper understandings of the human experience' (Bearman, 2019, p. 1).

Strengths of semi-structured interviews	Weaknesses of semi-structured interviews
Ability to follow up and scrutinise the responses of the participants to generate additional meaning where superficial answers have been given	Preparing, conducting and analysing the semi-structured interviews can be a time-consuming process
Additional information can be obtained on the thoughts and feelings of the participants from non-verbal responses, such as facial expressions, body language and pauses in their responses	The researcher is required to be skilled in conducting interviews and following up on responses from the participants
Greater level of flexibility in which the researcher can synthesise different themes or the participant can provide more information that was not in the original question	Small sample size compared to quantitative methods, such as surveys, due to how time-consuming and resource-intensive the process can be
Able to prepare questions in advance to guide the conversations and keep participants on topic	Open-ended questions can be difficult to analyse
More detailed information can be gathered from open-ended responses	Can be problems with validity (no way of knowing if the participant is being truthful in their responses) and with reliability (respondents may be asked different questions) as there can be issues with replicating a semi-structured interview due to the nature of open-ended questions

*Table 3.9: Strengths and weaknesses of semi-structured interviews (adapted from Queiros et al., 2017).*

Table 3.9 outlines the strengths and weaknesses of semi-structured interviews. Semi-structured interviews were chosen as they enabled me to use a schedule with questions and aspects that needed to be covered. According to Saunders et al., (2015, p. 391), 'the interview schedule for this type of interview will also be likely to contain some comments to open the discussion, a possible list of prompts to promote and further discussion, and some comments to close it'. The semi-structured interview gave me the opportunity to explore further the responses that my participants gave, which allowed for a deeper understanding of the phenomena, with Saunders et al.,

(2015, p. 391) stating that 'interviewees may use words or ideas in a particular way, and the opportunity to probe these meanings will add significance and depth to the data you obtain'. This was particularly important for my research as I wanted to understand the meanings that the participants attributed to self-assessment and the development of entrepreneurial competencies through exploring their own experiences. Therefore, semi-structured interviews an appropriate method for my data collection as they gave me an opportunity to gain a deeper understanding of my participant's thoughts and feelings and were in line with my interpretivist philosophy. This was the reason that I decided against using structured interviews, as they would not have allowed me to use follow up questions to probe further into what my participants had said.

The interview schedule was developed based on my research questions and the data I was interested in gathering. There were two interview schedules produced, one for the educators (appendix D) and one for the learners (appendix E). The questions for the two interview schedules were developed based on theories from the literature. The interview schedule for learners contained a section of questions that aimed to answer Research Question 1, which asked 'can self-regulatory skills be used in the self-assessment of entrepreneurial learning competencies'. The learners were asked to assess their self-regulatory skills by stating how much they agree or disagree with different statements. These statements were based on the self-regulated online learning questionnaire (SOL-Q). Whilst this questionnaire focuses on understanding self-regulation in online learning, it was identified as the most suitable questionnaire available to analyse self-regulatory behaviour and academic achievement, due to SOL-Q producing satisfactory results in other studies, and therefore was adapted to be used in face to face semi-structured interviews, as part of my study.

The interviews with educators covered many of the same topics as those with the learners; however, they focused more on the role that they played in the design and delivery of self-assessments within entrepreneurial learning courses. Educators were

identified as being an important part of the learning process during the literature review. Therefore, I decided that to generate the best understanding of the topic, I needed to capture their opinions of self-assessment and that of the learners, which would address this gap in the literature.

I visited each of the four universities that took part in the research for one day and conducted the interview with each learner or educator individually. Thus, a total of 15 interviews were conducted, eight with educators and seven with learners. The number of participants was decided partly based on the sample size of previous qualitative studies (e.g. Pittaway et al., 2011) into entrepreneurial learning that have produced meaningful findings and the research questions.

The interviews were conducted in a learning environment where the participant would feel comfortable. This was either in a separate room, in a teaching room or a communal space (dependent on the university that took part). The duration of the interviews was between 14 minutes and 50 minutes.



Participant	Duration of interview
1 (Educator, Course A)	39:18
2 (Educator, Course A)	47:50
3 (Learner, Course A)	42:09
4 (Educator, Course A)	36:36
5 (Educator, Course B)	32:42
6 (Educator, Course B)	14:28
7 (Learner, Course B)	33:18
8 (Learner, Course B)	28:51
9 (Educator, Course C)	38:30
10 (Educator, Course, C)	39:43
11 (Educator, Course C)	34:25
12 (Learner, Course C)	49:52
13 (Learner, Course D)	37:14
14 (Learner, Course D)	42:36
15 (Learner, Course D)	42:33

*Table 3.10: The length of each individual semi-structured interview*

Table 3.10 shows detailed information about the length of each individual semi-structured interview. The interviews that lasted for a shorter amount of time, in particular the interview with Participant 6, were a result of the schedules of the participants and the amount of time that they were available to take part in the interview. Each participant was provided with information about the study before

taking part when they were given a research information sheet; a separate one was given to educators (appendix B) and learners (appendix A). Following this, all participants were required to sign a consent form (appendix C) before the interview commenced and could ask any questions they had. At the end of each interview, the participant was debriefed. During each of my four university visits to conduct my interviews, I was able to find out more information about the courses that the learners studied on and was able to see the learning environment. At two of the universities, this was a purposely built environment designed with the nature of the entrepreneurial learning course in mind; for example, it was a space that was only accessible for those studying on the entrepreneurial learning course and had areas that enabled teamwork to take place. I also had the opportunity to sit in on one of the team coaching sessions at University A. This all provided my research with more context as I was able to gain a deeper understanding of the nature of the courses that my participants teach and learn on, as well as the environment that the learning takes place.

### **3.8 Data analysis and approach to coding**

Following the collection of data from each participant, I coded the transcripts using thematic analysis. Where learners and educators at the same institution or on the same programme were interviewed, the data collected was not mapped aligned for analysis. I let the themes emerge from the data gathered through the use of abductive reasoning when carrying out my thematic analysis. Following this, I looked for latent themes in the transcribed data. Thematic analysis was chosen as my method of data analysis, as this would provide me with the level of insight and knowledge from the data that my interpretivist philosophical position required, with Braun and Clarke (2006) arguing that thematic analysis is a useful method for examining the perspectives of different research participants, highlighting similarities and differences, and generating unanticipated insights. This had a direct impact upon my decision to let the themes emerge from the data gathered as the way in which my

participants viewed the social world they occupied, and the meaning they placed upon this was of particular interest.

I considered using a range of different data analysis approaches before deciding on the use of thematic analysis. This process included me looking at the use of grounded theory; however, I decided that this was not the right fit for my study, as it has been argued that grounded theory subscribes to a more positivist epistemology which is not in line with my philosophical position. Furthermore, it has also been argued that grounded theory does not consider the researcher's role and how their own perspectives are placed upon the emerging data (Timonen et al., 2018).

Thematic analysis was also chosen as it has frequently been used in studies surrounding entrepreneurial learning (Arpiainen et al., 2013; Cacciotti et al., 2016; Heurta et al., 2017). A recent study was conducted by Heurta et al., in 2017. This study used a reflection assignment as the method of assessing the impact on students' entrepreneurial mindsets. These reflections were analysed using thematic analysis as it was 'an exploratory study that sought to identify and report patterns within the reflections' (Huerta et al., 2017, p. 10) From their thematic analysis, Heurta et al., (2017) were able to identify five major themes from their collected data successfully. Similarly, I conducted an exploratory study, and from the above example, it can be seen that thematic analysis is a proven data analysis method for identifying new themes when there is little previously known about a topic. Thematic analysis is not linked to a particular epistemological or theoretical perspective, and therefore it benefits from being a very flexible method of data analysis (Braun and Clarke, 2006).

There was a need for me to have clear guidelines when conducting my thematic analysis to ensure that the data was consistently analysed for each of the participant transcripts. As a result, there are a number of decisions to make when carrying out a thematic analysis. Two important areas to consider are the method of reasoning to

be used and whether you are going to identify semantic or latent themes (Maguire and Delahunt, 2017).

When conducting thematic analysis, it is helpful to outline the method of reasoning that will be applied to the data collected. This is the mental process involved in creating generalisations from the observed phenomenon or principles and explains how themes or patterns within the data are identified (Braun and Clarke, 2006). Therefore, I needed to make an informed decision about how I would analyse the data that I collected. Inductive or deductive reasoning are the two primary ways of conducting thematic analysis. Braun and Clarke (2006, p. 88) distinguish between inductive reasoning as a 'top-down or theoretical thematic analysis' that is driven by the specific RQ's and the analyst's focus', and deductive reasoning that is a 'bottom-up or inductive' approach that is 'driven by the data itself'. Abduction was first systematised by Peirce (1955); however, it has become more prominent in the literature in recent years, with Shank (1998, p. 848-849) arguing for six distinct modes of abductive reasoning: they are (a) reasoning to the omen (or hunch); (b) reasoning to the clue; (c) reasoning to the metaphor or analogy; (d) reasoning to the symptom; (e) reasoning to the pattern and (f) reasoning to the explanation. These six modes of abductive reasoning were based on an analysis of past work carried out by Peirce in 1995, and there this demonstrates when academics began to take an interest in abduction and built on the past literature, and as a result, the use of abductive reasoning in research increased over the last 30 years.

Abductive reasoning is a way to conduct thematic analysis, which emerged to fill a gap that was identified when using deductive or inductive reasoning.

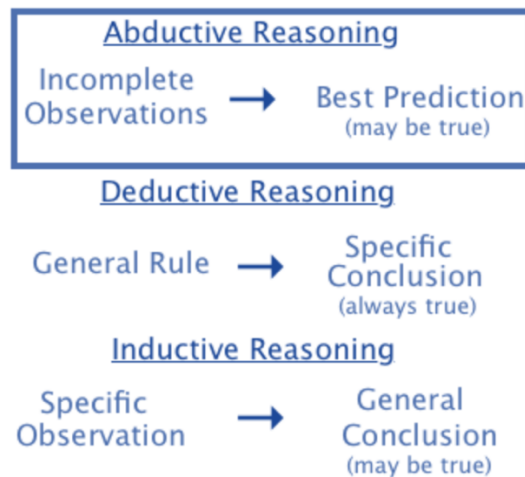


Figure 3.1: summary of abductive, deductive and inductive reasoning

Figure 3.1 provides a summary of abductive, deductive and inductive reasoning. Abductive reasoning begins with an assumption of the most likely reason for a phenomenon; the research then aims to find the best explanation. It is positioned between inductive and deductive reasoning, where some understanding has been identified from the literature, but this is limited and lacking in clarity. My research questions were based on information gathered in the literature review; however, the identified phenomena cannot be explained by the existing range of theories. Therefore, I let the themes emerge from what the participants reported in the semi-structured interviews, even if this went against my original assumption; that self-assessment would facilitate the development of entrepreneurial competencies.

### 3.8.1 Semantic or latent themes

The next decision I had to make was to decide whether I would be looking for semantic or latent themes in the analysed data:

With a semantic approach, the themes are identified within the explicit or surface meanings of the data, and the analyst is not looking for anything beyond what a participant has said or what has been written... In contrast, a thematic analysis at the latent level goes beyond the semantic content of the

data, and starts to identify or examine the underlying ideas, assumptions, and conceptualizations and ideologies that are theorized as shaping or informing the semantic content of the data (Braun and Clarke, 2006, p. 84).

In keeping with my interpretivist research philosophy, I was interested in understanding the meanings behind the data I had gathered, and therefore I followed a latent approach to increase our understanding of the participants beliefs.

I identified the steps that my thematic analysis took through the literature and followed Braun and Clarke's (2006) six-phase guide to conducting thematic analysis, as this is put forward by Maguire and Delahunt (2017, p. 3354) as 'a very useful framework for conducting this kind of analysis', the six steps are as follows:

Step 1: Becoming familiar with the data

Step 2: Generating initial codes

Step 3: Search for themes

Step 4: Review themes

Step 5: Define themes

Step 6: Write – up

I considered using NVivo software to assist my data analysis as I believed that this would have been a good tool to use to manage my data during the process of analysis. I had a large amount of complex data and a limited time during my PhD to complete this; however, I decided against the use of NVivo to code my data due to the limited number of participants in the study and the fact that I wanted to be as close to the data as possible, of which I had generated a good understanding throughout the interviews in which I made notes on themes that were emerging. This was an appropriate choice for my research as conducting a manual thematic coding of concepts allowed me to code both transcripts and audio files with rigour and consistency (Alhojailan, 2012).

### 3.9 Ethical Issues

There has been a growing academic interest in the areas of research ethics and academic integrity due to the changing research environment (Armond et al., 2021), and researchers should consider both at all stages of conducting research.

Key concept	Definition
Research ethics	Doing research with responsibility, particularly towards participants, colleagues, employers, funders and society.
Research integrity	Doing research in ways that underpin confidence in the results, the researchers, and the research community.

Table 3.11: The definitions of research methods and research integrity

Table 3.11 shows that a distinction can be made between the two key concepts, with research ethics concerned with research being conducted responsibly and research integrity covering how much confidence there is in the results of the study. My research project was judged to be at the low level of ethical risk.

I followed the Bishop Grosseteste University ethical guidance policy and the British Education Research Association's (BERA) Ethical Guidelines for Educational Research, which provided important recommendations for conducting my research, as they state that the underpinning aim of a researcher should be to follow the guidelines and 'apply them with integrity in their research activities so that their actions can be seen to be ethical, justifiable and sound' (BERA, 2018, p. 1).

Obtaining informed consent can be an issue in research as even if participants provide this, it can be hard to tell if they fully understand what they are consenting to. As a result, participants need to be provided with information about 'the purpose, methods, demands, risks, inconveniences, discomforts and possible outcomes of the research' (Israel and Hay, 2006, p. 60). All participants in my study were aware of the

aims of the research and were given an information sheet at the beginning of the research. I explained to all of my participants before they provided consent what the aims of the study were and how the results would be used in my PhD project. The research could inform future curriculum decisions around module design and the types of assessment used on courses, and so the research could have benefits for future learners. It has been argued that consent 'should not be limited to the beginning of the research project, but rather, should be dynamic and continuous' (Israel and Hay, 2006, p. 60). This is important as changes may occur throughout the research project, and, as a result, what the participant has originally consented to may change. I was available before, during, and after the research had taken place to answer any questions that my participants had. I ensured that no changes occurred from when the participants provided their informed consent that would make this invalid. I needed to ensure that I obtained consent from all relevant parties before conducting my research. As my research took place in a university with educators and learners, I needed to obtain permission from course leaders before commencing my research. At one university, I was required to obtain separate ethical approval by completing an ethics form, in addition to the ethical approval I had been granted by my university.

Debates exist in the literature around the benefits of conducting the research compared with the harm that it may do participants. It is the belief of Rebers et al., (2016) that some situations may not require consent from participants. In contrast, other researchers believe that they have a social responsibility, which is concerned with 'the pattern of responsible behaviour that is associated with basic research and the communication of results (Edsall, n.d., cited in Pimple, 2016, p. 25). This is of particular importance when looking at social psychology research conducted in the 1960s, which involved deceiving participants about the nature of the research. As a result, participants were not able to provide informed consent as they did not know the actual nature of the research. My research did not involve conducting any formal



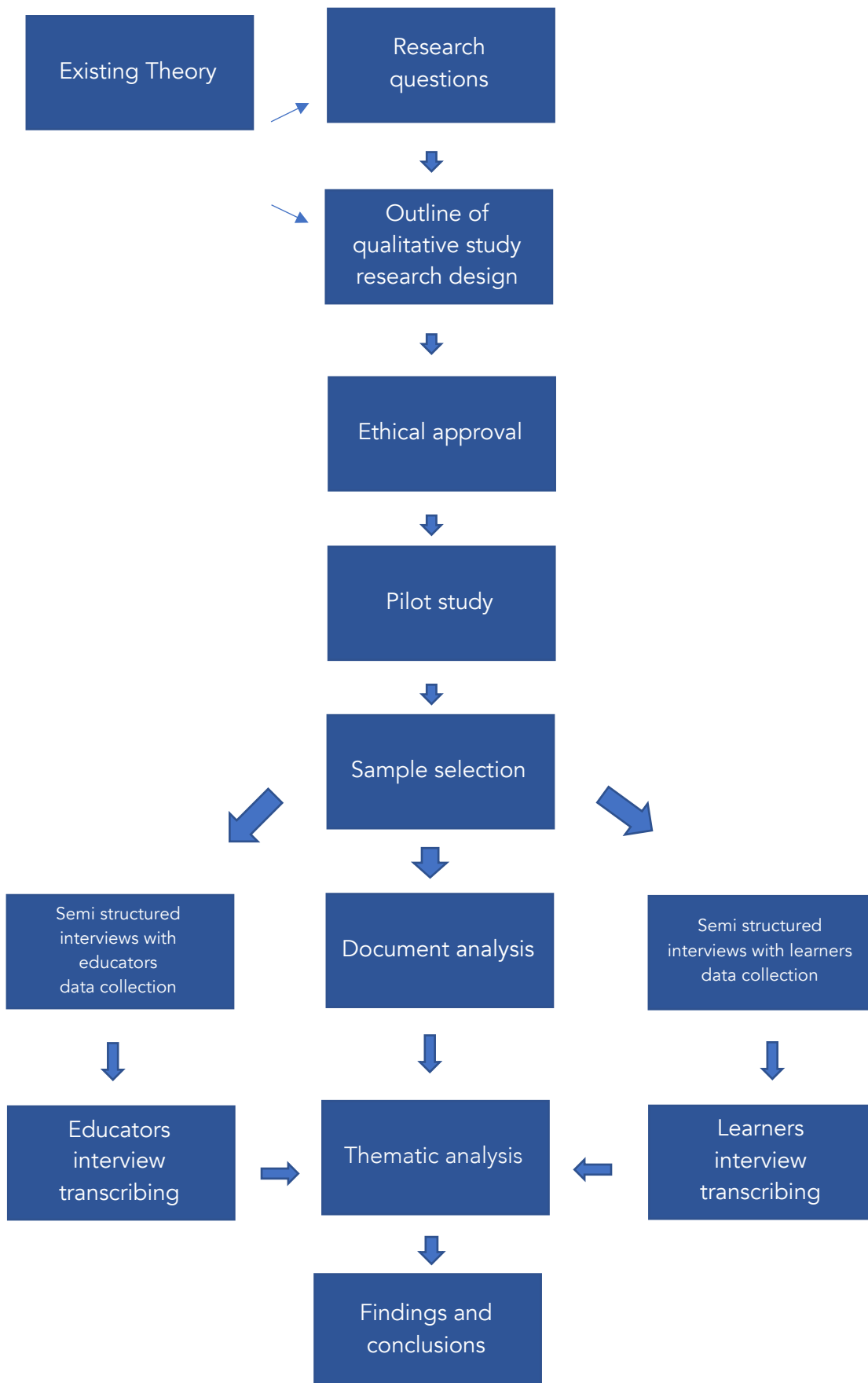
assessments. Despite this, participants could have become aware that they were not performing to the expected standards on their chosen course during the research. In addition to this, the participants could complain to the university about the quality of the research if they felt that they had come to harm due to taking part in the study. This could highlight organisational inconsistencies and a lack of expertise within the university. I reduced these potential risks through the way that I communicated with the learners and educators. I ensured that all of the participants were debriefed after the research had taken place. If they had any issues about how well they were performing on their course, they were referred to their course tutor, who could address their concerns. I made sure to follow all of the correct ethical procedures (gaining informed consent, providing information sheets, debriefing participants), which helped to minimise the risks to my university. If any of the participants felt that they came to harm due to taking part in the study, I would be able to demonstrate that all of the correct information had been provided and that they were fully aware of the risks and the nature of the study before they took part.

All of the data was saved as an encrypted file on a computer which was accessed through a password. In addition, hard copies were kept in a secure lockable drawer in the office at Bishop Grosseteste University. This data was kept for the duration of the research project, and at the successful completion of the doctoral programme will be destroyed. I was the only person who had the password to the computer and access to the key to the lockable drawer. All of the participants were referred to in my thesis using codes. No names or personal information that could be used to identify the participant was used. In addition, my research required the use of audio recording and observation of participants. I was the only person who had access to the recordings. They were stored on a password-protected computer, and once the process was completed, I wiped them off my voice recorder. The file in which they were stored was an encrypted file. Once I finished analysing the recordings, they were stored securely and will be destroyed upon successful completion of the PhD.

The participants could have benefited from engaging in this study as a direct result of taking part in the research process. The educators could have discovered different ways in which they could improve the assessments on their courses through an increased understanding of the needs of the learners. For the learners, the research gave them the opportunity to self-reflect on their learning and to leave a legacy beyond the university offering.

A copy of the university's ethical approval form for this study is shown in Appendix H.

### 3.10 General steps of the qualitative research design and timetable



*Figure 3.2: Steps of my qualitative research design*

Figure 3.2 demonstrates each of the steps that were taken in order to complete the research process for this study. This displays the order that the steps were taken and provided a timeline for the project. The research project developed from identifying the existing theory at the beginning of the study, which informed the research questions based on gaps in the literature, to outlining the qualitative research design and addressing important considerations such as gaining ethical approval, conducting the pilot study, selecting the sample and carrying out document analysis which identified suitable entrepreneurial learning courses. From this, the data collection took place through semi-structured interviews with eight educators and seven learners at four universities in England. Following the data collection, the interview transcripts were transcribed, and thematic analysis was conducted, which identified key themes relating to each of the five research questions. Chapter Four presents and discusses the findings from the data analysis.

## Chapter 4: Presentation, analysis and discussion of the data

### 4.1 Introduction

This chapter presents the research findings, analysis and discussion of the data for the study. Semi-structured interviews were conducted with fifteen participants, eight educators and seven learners from four different universities across England. These four universities followed a range of different teaching practices, from Team Entrepreneurship courses that follow the team academy learning ethos to more traditional taught courses where self-assessment comes in the form of an elective module. Participants from across these varying courses were selected in order to answer the research questions with as much insight as possible and to identify if the perspectives of participants from courses that follow multiple learning pedagogies would differ.

Research Question	Themes Identified
RQ1. Can self-regulatory skills be used in the self-assessment of entrepreneurial learning competencies?	<ol style="list-style-type: none"> <li>1. Self-awareness</li> <li>2. Value creation</li> <li>3. Conflict management</li> <li>4. Experiential learning</li> <li>5. Typology of forms of self-assessment</li> <li>6. Critical thinking</li> </ol>
RQ2. What skills do learners need to self-assess their own learning?	<ol style="list-style-type: none"> <li>1. Ability to reflect</li> <li>2. Self-assessment as a process</li> <li>3. Confirmation bias</li> </ol>
RQ3. Do learners benefit from taking part in self-assessment?	<ol style="list-style-type: none"> <li>1. Identity of the learner</li> <li>2. Receiving feedback</li> <li>3. Engagement of the learner</li> <li>4. Outcomes of the self-assessment</li> </ol>
RQ4. What is the nature of existing self-assessment practices on entrepreneurial learning courses?	<ol style="list-style-type: none"> <li>1. Learning environment</li> <li>2. Peer assessment</li> <li>3. Tools to encourage self-assessment</li> <li>4. Challenges of university regulations</li> <li>5. Learner priorities</li> <li>6. Opportunities to self-assess</li> <li>7. Factors that impact upon the success of a self-assessment</li> </ol>
RQ5. What is the role of the educator in the facilitation of self-assessment practices?	<ol style="list-style-type: none"> <li>1. Facilitating independent learning and reflection</li> <li>2. Grading of the self-assessments</li> <li>3. Ownership and responsibility</li> </ol>

*Table 4.1: Themes identified in relation to the research questions*

Table 4.1 displays the five research questions of the study and the themes that were identified in relation to each question, each theme will be discussed in more detail in this chapter.

#### **4.1.1 Overview of the themes identified for each research question**

This is an overview of the main findings and arguments that will be presented in this chapter in relation to each research question:

- **Research question one**

Evidence is presented that demonstrates how the participants believe that self-regulatory skills are developed through self-assessments. It will outline how self-awareness was the most frequently mentioned self-regulatory skill discussed by participants and the reasons for this. It was stated by participants that self-assessment creates value as it develops a learner's level of self-efficacy, which is a self-regulatory skill and is part of the self-regulatory framework for entrepreneurs. Self-regulatory skills can be developed in a learning environment that produces value; however, self-assessments in a learning environment can be difficult and may not work on more traditional courses. Participants believe two factors encourage the development of self-regulatory skills on entrepreneurial learning courses:

1. Participation in the process of conflict management has a positive impact on a learner's self-regulatory skills
2. Experiential learning facilitates the development of self-regulatory skills

A typology is presented that is based on the views of the participants. This typology explains the types of self-assessment that learners could participate in to develop their self-regulatory skills. Finally, it will outline how the participants

believe that critical thinking skills are an important part of self-assessments, and the relationship between critical thinking and self-regulation will be discussed.

- **Research question two**

This section will discuss how the participants do not believe that self-assessment on entrepreneurial learning courses can take place without the skill of reflection and the different levels of reflection that a learner can operate at. It will outline the multiple scenarios that participants mentioned when discussing reflection, for example, how reflecting on past experiences can help a learner to develop their skills and how learning and behavioural models are taught on entrepreneurial learning courses, which provide the learners with a context in which to reflect on their learning styles. The beliefs and experiences of the participants are used to define the process of self-assessment through five steps: self-assessment leads to action, positive outcome, benefits to the learner and increased motivation. It will discuss how participants believe that learners have different levels of ability to self-assess at different points in the process of the course, with the educator initially introducing a learner to this cycle and encouraging them through it, but over time how the learner will develop skills which enable them to self-assess more effectively through positive experiences with self-assessments, and as such they will begin to engage in self-assessments without being prompted by the educators on their courses. Finally, this section will outline how having a confirmation bias is one of the main problems that participants believe there is when asking learners to self-assess their skills, as they can tend to discuss their skills more positively or negatively rather than being objective.

- **Research question three**

This section discusses how participants believe that the process of self-assessment benefits the learner by shaping their identity as it helps them identify where they have been, where they are at, and where they want to go in the future. The reasons why

self-assessment has a benefit on the identity of a learner and why this type of assessment is able to achieve this compared to more traditional methods like examinations and assignments will be highlighted. It will outline the benefits that receiving feedback has on a learner and how a learner can still receive a successful grade based on the quality of their self-assessment even if they have performed inadequately in the task. Participants believe that learners will benefit from increased self-awareness by taking part in self-assessments if they increase their level of engagement. It will outline how participants believe this can be achieved by the learners taking advantage of opportunities that present themselves on the course and reflecting on these experiences. Finally, the outcomes of self-assessment will be presented; these are based on the participants' opinions and show the benefits for learners after they have participated in the self-assessment.

- **Research question four**

The nature of existing self-assessment practices on entrepreneurial learning courses will be discussed through several points, which were routinely mentioned by the participants and through the document analysis of the course prospectuses. The learning environment of the course is a key factor to consider when conducting self-assessments, and the reasons for this will be presented. The type of learning environments that are required for successful self-assessments to take place will be discussed. This section will also look at the learning environment from a different perspective when it outlines how a participant uses the environment in which an experience has taken place as the context for their self-assessment. It will introduce peer assessment and explain why this is frequently used alongside self-assessments on entrepreneurial learning courses and the benefits that learners have found from receiving feedback from their peer group, which they can then use in their own self-assessments. The tools used by educators that they believe develop skills and encourage self-assessment are discussed, and the reasons for why these are effective



methods of learning will be reviewed. The university culture will be discussed, with participants finding that university regulations have a significant impact on the inclusion of self-assessments on their courses, and as a result, most self-assessments are not used for formal grading practices. As a result, learners have to prioritise other types of assessments which will make up their formal grades as they believe these to be more important. The opportunities that are available to individuals to self-assess will be discussed, and how self-assessment is used in a non-formal way, combating the barrier of university regulations but also providing benefits to the learner. To summarise this section, the factors which impact upon the success of a self-assessment are presented. These factors were identified by looking at the nature of existing self-assessment practices on entrepreneurial learning courses.

- **Research question five**

The role of the educator as a facilitator will be discussed and how their role differs from the role of the educator on more traditional taught courses. It will outline how the educators not only grade the self-assessments but also prepare the learners on their courses to take part in self-assessments by equipping them with the skills needed for effective reflection and what the benefits are for the learner when the educator facilitates self-assessment practices. Ownership and responsibility are highlighted as critical themes by the participants in this study, and this describes how participants believe that the roles of the educator and learner change as the course progresses when the learner begins to take ownership and responsibility for their learning as they realise it is up to them to make it happen due to the educator's role on entrepreneurial courses as a facilitator.

## 4.1.2 Participants

	Description	Number of Educators	Number of Learners
<b>Course A</b>	<p>Team entrepreneurship course which follows team academy principles</p> <p>Learning environment is separate from the main university campus in a building occupied by businesses</p> <p>A learner sets up and runs their own business as part of the course</p> <p>The learner is part of a team; however, businesses can be run individually</p>	<p>3</p> <p>(Participants 1, 2 &amp; 4)</p>	<p>1</p> <p>(Participant 3)</p>
<b>Course B</b>	<p>Flexible business management degree where learners choose their own specialism in the second year of study. Learners who were selected to take part in this study had chosen the entrepreneurship elective</p> <p>Increased focus on industry engagement</p> <p>A learner sets up and runs their own business as part of a module and takes part in a self-managed learner module</p> <p>More traditional teaching methods compared to the team academy courses</p>	<p>2</p> <p>(Participants 5 &amp; 6)</p>	<p>2</p> <p>(Participants 7 &amp; 8)</p>
<b>Course C</b>	<p>Self-assessment undertook as an elective module which is non-compulsory</p> <p>Team entrepreneurship course which follows the team academy principles</p> <p>New purpose-built learning environment</p> <p>Work within team companies and supported by the team coach</p>	<p>2</p> <p>(Participants 9 &amp; 10)</p>	<p>2</p> <p>(Participants 11 &amp; 12)</p>
<b>Course D</b>	<p>Keep a learning log throughout the course 2-year degree programme</p> <p>Venture Creation Programme (VCP)</p> <p>New purpose-built learning environment</p> <p>Opportunity to 'pitch' for 'seed-corn capital of up to £5,000, enabling the learner to start and run their own business</p> <p>Establish and run the business whilst developing academic knowledge</p> <p>Visiting speakers</p> <p>Combination of lectures supported by seminars and tutorials, as well as practical workshops</p>	<p>1</p> <p>(Participant 15)</p>	<p>2</p> <p>(Participant 13 &amp; 14)</p>

Table 4.2: Overview of the participants and courses

Table 4.2 displays the distribution of participants and their courses. The participants were coded one to fourteen based on the order in which the interviews were conducted.

Participant	Description
<b>1 (Educator, Course A)</b>	Programme leader for a team entrepreneurship course and team coach for a second-year team. Also involved in teaching and has taught on this course since 2013. Previously worked for large business organisations.
<b>2 (Educator, Course A)</b>	Started teaching on the team entrepreneurship course as a guest lecturer two years ago. Now involved in the programme on a permanent basis teaching two modules after being a stand-in coach in the previous year. Early career researcher studying for a PhD as well as running their own marketing business.
<b>3 (Learner, Course A)</b>	Second-year learner on a team entrepreneurship course. The course appealed to them as it was very practical, and participant three felt that they learned more effectively by doing. Previously had tried to set up a video website with a friend before joining the course, which was unsuccessful. They had a family member who started their own business, which led to them seeing that self-employment is an option, and you do not need to work for someone else; this increased their interest in entrepreneurship.
<b>4 (Educator, Course A)</b>	Module tutor on a team entrepreneurship course since September 2015. Teaches on two modules: a first-year module focused on the learners developing a business, and a third-year module focused on a learner's own personal development for the future. Taking over programme leadership when their colleague goes on sabbatical. Previously worked at other universities in a careers service role and in a role that was involved with developing extra-curricular entrepreneurial activities.
<b>5 (Educator, Course B)</b>	Teaches the entrepreneurship stream for Course B, where learners are required to start and grow a business. A mentor for the learners self-managed learning. Successfully runs their own IT business.
<b>6 (Educator, Course B)</b>	Programme leader for the business programmes at their university, of which course B is a part of. Teaches on the self-managed learning module. Has been a staff member at the university for a year and a half.
<b>7 (Learner, Course B)</b>	Second-year learner on Course B. Switched to the entrepreneurship strand after their first academic year of studying business, as they believed that it was better suited to their needs. Started their own business at the beginning of year two on commencement of their entrepreneurship studies. Had previous business experience where they were involved with promoting a charitable event through social media as part of a team.
<b>8 (Learner, Course B)</b>	Third-year learner on Course B. Had business experience before commencing their studies, which led to them wanting to study on this course as they wanted to increase their business networking opportunities and business experience by working with an FTSE 100 company. Course B has strong links with industry, and this made the course appealing, with participant eight stating that 'the degree was a bit secondary'. Has their own business outside of the course and has set up and run multiple businesses previously.
<b>9 (Educator, Course C)</b>	Team coach on a team entrepreneurship course since July 2017. Previously involved in team entrepreneurship in Spain in a different role before coming to the UK. Recently taken module leadership which is a more academic role that focuses more on lecturing and academic-related tasks. Was previously a lecturer in their previous institution and wanted to combine the two areas of team entrepreneurship and a more academic role.
<b>10 (Educator, Course, C)</b>	Programme leader for course C for six years. Previously a lecturer in enterprise and entrepreneurship on more traditional programmes. Before entering academia, they were a business owner and created and developed a business over 15 years. Studied for a postgraduate diploma in management which was taught by self-managed learning in the 1990s, which they believe was very influential on their life, and this course had the same underpinning principles of the team entrepreneurship course that they now lead on.
<b>11 (Educator, Course C)</b>	Second-year learner on a team entrepreneurship course. Decided to study on this programme as they believed that their skillset and character were never suited to a more conventional kind of academic course and felt that this course would give

	them the opportunity to express some more original thinking. Has been involved in a number of business activities during the course and is now focusing more on a consultancy role working with businesses and learners.
<b>12 (Learner, Course C)</b>	Second-year learner on Course C. Has had positive experiences of the course as it has given them the opportunity to travel around Europe and visit other countries which offer the team entrepreneurship programme. Currently conducting research into successful entrepreneurs and working with a social enterprise.
<b>13 (Learner, Course D)</b>	Second-year international learner on Course D, after completing A levels in the UK, had initially wanted to study psychology but realised that it was not the right course for them. After looking at the online prospectus for Course, D online decided to study on the programme as they had never known that a course like it existed and that they could learn through real-world application by running their own business and completing a degree.
<b>14 (Learner, Course D)</b>	First-year learner on Course D. Had only studied on the programme for a month at the time the interview took place. They had not wanted to go to university, and none of the other courses at different universities were appealing. However, the practical experience of this course was of interest, as well as the fact that it was a two-year course. Participant fourteen said that they had 'always wanted to do their own thing'.
<b>15 (Learner, Course D)</b>	Has been a lecturer on Course D for a year. Primarily focused on teaching the early start of the course and runs two modules, one which focuses on getting students to develop their business ideas and the other which focuses on getting students to meet current entrepreneurs and then reflect on their meetings with them. At the present time is working towards a PhD and working with other academics to complete research into entrepreneurial learning courses. Has successfully run their own business.

*Table 4.3: Description of the characteristics of each participant*

Table 4.3 provides a description of each participant, the course that they studied or taught on and their main characteristics. The data from the interviews with these educators and learners are discussed in response to each of the five research questions, which will provide a description of the role of self-assessment on entrepreneurial learning courses.

## **4.2 Research Question 1: Can self-regulatory skills be used in the self-assessment of entrepreneurial learning competencies?**

### **4.2.1 Self-awareness**

Self-awareness was the self-regulatory skill discussed most frequently by the participants, with ten participants highlighting its importance, both as a self-regulatory skill needed to conduct self-assessments successfully and as a skill that was developed through participation in them. The term was not introduced through any of the semi-structured interview questions, and as such, the participants were all unprompted to talk about its relevance. The term was mentioned by participants in

response to various questions, such as 'what skills do you think learners need to participate in self-assessment? Following on from this, the flexibility of the semi-structured interviews allowed for the exploration of the topic further by asking the participant more detailed questions, such as 'how do you think learners could acquire self-awareness?', this led to a more detailed discussion on self-awareness:

So part of it, I think, is age. I think if you try to get teenagers to do self-assessment, like six formers, they just wouldn't be able to...it just takes a certain level of reality to build your brain up into doing it. (Participant five: Educator, Course B)

Participants viewed both self-assessment and self-awareness as being directly linked, and this is demonstrated through responses to the question 'what does the term self-assessment mean to you?', where participants stated that they believed it meant being self-aware:

That's kind of maybe part of self-assessment in the wider frame, you know, being self-aware, understanding the actions that you did, knowing why you felt the way that you felt and why you maybe behave the way that you behave. (Participant two: Educator, Course A)

My understanding of self-assessment would be that students are looking at their own...either a submitted piece of work in formal or informal or even an online psychometric test, anything where you're turning the mirror back and looking at yourself. (Participant one: Educator, Course A)

These two participants both discussed self-awareness in terms of the learners having the ability to look at themselves and understanding why they had behaved in a certain way. Previous literature has mainly defined self-assessment 'as a process, as well as an activity with a distinct identity' (Boud and Brew, 1995, p. 130). It is a practice in which to engage as well as a goal to which to aspire'. This is in keeping with research that has been conducted by Lackeus (2013), who believes that competencies are developed through a process, where a learner takes part in action-based activities and assignments, which trigger emotional events and in turn develop entrepreneurial

competencies. Lackeus (2013) believed that entrepreneurial competencies are developed through a learner looking back on these emotional events and understanding their performance. Likewise, both participants discussed how learners could take part in a self-assessment when they look back on their experiences, completed work and any activity they have taken part in. Having the ability to look back requires the learners to be self-aware and to understand their experiences. This highlights that these types of courses have not moved forward in providing opportunities that allow the learner to demonstrate self-awareness before and during a task, with much of the literature and practice being about how learners demonstrate their understanding through reflection after an event has taken place.

Participants believe that self-awareness plays an important role in relation to self-assessment on entrepreneurial learning courses. The importance of self-awareness in providing an answer to the research question can be discussed in two ways, both as a skill needed to take part in self-assessments effectively, but also as a self-regulatory skill that is developed throughout the learning process when a learner engages in formative and summative self-assessment activities:

That's really my objective in the programme is again to...I want the graduates to have the ability to think critically and to be self-aware because I think if you've got those two things, you can do anything, and the self-awareness comes with assessment, so it's all sort of hand in hand and everything I do try to develop those two attributes in my students. Participant one: Educator, Course A)

Participant one, who was an educator on a Team Entrepreneurship course, highlights how they use assessment as a tool to develop attributes in the learner. When looking to answer the question of how self-regulatory skills can be used in the self-assessment of entrepreneurial learning competencies, this is new information about the role of self-assessment on entrepreneurial learning courses, as it can be seen that self-assessments can be used as a mechanism to develop self-regulatory skills, such as

being self-aware. As identified in the literature review, increased self-awareness creates value for both the individual and society (Heinonen and Poikkijoki, 2006, p. 81). Despite self-awareness and self-assessment being intrinsically linked by the participants, there is a lack of literature that investigates the relationship between the two, and it is interesting to note that this is an area that has not been investigated further despite how significant the participants in this study believed it to be. Academics have concluded that it is important to promote self-awareness in students (McMillan and Hearn, 2008; Bryant, 2009); however, the role that self-assessment can play in promoting this has not been well researched. This could be due to the fact that several problems have been found by Andrade (2019), who have conducted research into self-assessment; namely, that it can be difficult to develop self-assessment as a skill that can generate accurate assessment results, realistic self-assessment can be difficult due to human nature and self-assessment is regarded as a less reliable indicator of student performance. However, it is important to note that whereas this has been the case previously when university courses followed a very traditional approach, the changing workplace and the introduction of entrepreneurial learning courses where learning takes place through practical activities have also changed the nature of assessment practices and more traditional methods do not allow the learner to display all of the skills that they have developed, like a greater sense of self-awareness, which could be difficult to achieve through an assessment method like an examination.

The following section will discuss how the participants believe that self-regulatory skills are developed by learners who participate in self-assessments which in turn creates value. This builds on research conducted by several academics (Howorth et al., 2012; Pache and Chowdhury, 2012) who identified many ways that entrepreneurial learning creates value for both the individual and society, such as an increase in their entrepreneurial intentions, self-awareness and economic benefits for their society. This study has outlined that having learners who are studying on

entrepreneurial learning courses participate in self-assessments can lead to the development of their self-regulatory skills, which creates value.

#### **4.2.2 Value Creation**

Value creation was discussed primarily by the educators in the interviews, in response to the question of 'whether they think self-assessment is a valuable tool when assessing learning' with seven out of eight of the educators interviewed believing that it is a valuable tool:

Yes, I mean, I think it's probably the bee all and end-all really because there's a lot around self-efficacy isn't it, you know, especially in entrepreneurship, and we see when there's a greater level of self-efficacy when they are really understanding themselves and self-assessing their own learning, that they're...that tends to produce much more entrepreneurial behaviours or intentional behaviours. (Participant four: Educator, Course A)

Participant four believed that self-assessment could lead to the development of entrepreneurial characteristics for the learner as it increases their level of self-efficacy, which is a self-regulatory skill. Self-efficacy is one of the competencies identified in the EntreComp model in the area of resources and is concerned with a learner trusting in their own ability to create value (European Commission, 2016). This finding is of importance when looking at career development, as it supports The Social Cognitive Career Theory (SCCT). SCCT, which was derived from Bandura's general social cognitive theory (Bandura, 1986), states that self-efficacy is seen as one of the building blocks of career development. The findings from this study are in keeping with the SCCT, with both believing that a learner who has a successful experience with a given task or performance will experience a higher level of self-efficacy. From this, it can be seen that this creates value for the learner by increasing their belief to carry out a given task. The findings from this study build on the SCCT by showing that self-assessment is a way to increase the self-efficacy of a learner. Self-efficacy and outcome expectation can impact their career development through their goal setting



and the level of effort they put into achieving this goal. Academics have discussed the benefits of entrepreneurial learning in terms of 'value creation' (Gedeon, 2014; Lackeus et al., 2016; Lackeus, 2018; McGuigan, 2016). A study conducted by Bryant (2006) investigated self-regulation as one important aspect of entrepreneurial cognition and related it to education and training. The results suggest that entrepreneurs possess a distinctive self-regulatory framework that integrates promotion pride, metacognitive knowledge of cognition, and entrepreneurial self-efficacy. This study has been used by researchers to confirm the position that self-regulation does improve a learners educational and entrepreneurial outcome. We can see that the participants believe that self-regulatory skills can be developed in a learning environment through self-assessment, which produces value for the learner as they are developing skills that can be applied to a business environment to improve their performance. However, the educators also discussed problems when it comes to self-assessment and value:

If it's too prescriptive, then it loses that value that it had before and tends to become formulaic. (Participant six: Educator, Course B)

This participant highlighted that self-assessments in a learning environment could be problematic if they are very structured, as this can lead to the learner not being able to demonstrate as much creativity. This is due to the fact that the learner feels like they need to answer the self-assessment in a way that fits in with particular guidelines. A learner feeling like they need to meet specific criteria and not displaying creativity could happen if self-assessment is used as a formal assessment as there will be standards that the learner needs to meet in order to reach a high grade, which can be highly subjective when it comes to self-assessment as they can be unique to each individual based on their experiences and overall expectations of the course.

Participant two discussed how self-assessments on their courses are very valuable; however, they did not know how valuable self-assessment would be if used on a more traditional course:

I think self-assessment from a learning perspective is very valuable...very valuable. I think that it's only when our students on this course self-assess that they realise they've learnt anything, because we don't teach them, but they do learn and that's really strange. I don't know how self-assessment would be as viable if you sit in a lecture theatre and get told accounting and there's a certain way of doing it. (Participant two: Educator, Course A)

This highlights two factors that participants believe would diminish the value of the self-assessment; when it is used as part of a more formal assessment and when it is used in a more traditional environment. Thinking about using self-assessments in these situations demonstrates that there is a problem with how self-assessments could be included in other university courses and subsequently how valuable they would be in this setting.

Participants also discussed the value generated from self-assessment in terms of creating value for the organisation and not just for the learner. This is important as all of the learners participating in this study who were required to set up and run their own businesses as part of their courses. Furthermore, recent government policies, such as The Entrepreneurship Competence Framework developed by the European Commission, have outlined the importance of graduates who have entrepreneurial competencies as they can contribute in a way that has both societal and financial benefits:

If entrepreneurship is realising that value, generating that value, the value generation tends to happen with and by organisations rather than just ideas on their own, people working on their own, therefore if entrepreneurs are creating organisations that generate value, then the ability to know myself is a key competence within that framework. (Participant ten: Educator, Course C)

Participant six outlined how the learner's become aware of how they can create value for an organisation through the self-managed learning module on their course; they outlined a task that the learner participates in, which has self-assessment embedded into it. This involves the learner having to construct a project or an area of learning with their manager or with their employer:

They have to be able to demonstrate what value they're adding to their organisation through that, and through that process, they then need to be reflecting on what they've done well, whether there are limitations in their knowledge, what would they do different next time, how do they think they've got on. (Participant six: Educator, Course B)

This section has highlighted the numerous ways in which participants believe that value can be created as a result of having learners participating in self-assessment, as it develops their self-regulatory skills, which they can then apply in business environments.

#### **4.2.3 Conflict management**

Conflict management is a challenge for many of the learners who were interviewed. They described these challenges as inherent in the nature of the entrepreneurial learning courses they are studying. Many learners work within teams and are actively encouraged by the educators to deal with any challenges that arise within their peer group:

Like conflict is good in business, it's how you resolve it which is really important. There's a couple of different techniques that we don't try shape people too much with how they write, so we get them to run in teams, and maybe we prompt them, we do want a good conflict resolution or system in place like there's such things as...there's a phrase which I use which is write your wrongs, which is w.r.i.t.e, as in write down your wrongs so if things haven't gone quite right you write them down, you know you really kind of talk through them in the hope that it'll be better next time. (Participant two: Educator, Course A)

Educators routinely discussed the benefits for their students going through the conflict management process on their self-regulatory skills, such as learning to control their emotions and increased self-awareness of their strengths and weaknesses. This example provided by participant two demonstrates how they believe that conflict management can be used as a self-assessment tool to impact the learner's self-regulatory skills positively. Conflict management was also discussed by the learners who were interviewed, with participant three outlining how their team has developed as a result:

The team itself has matured, that's how I'll put it, quite a lot in the year, I think initially last year we had, we certainly had some, certainly had some kind of conflict, and you know some people weren't pulling their weight and a few of us kind of pulled them up on it, and I think, but I think there's varying reasons why that happened. (Participant three: Learner, Course A)

This participant outlines how the process of conflict management enabled them to understand the other members of their team better, as they began to understand that there were other reasons why the individual might not have been performing adequately in a task:

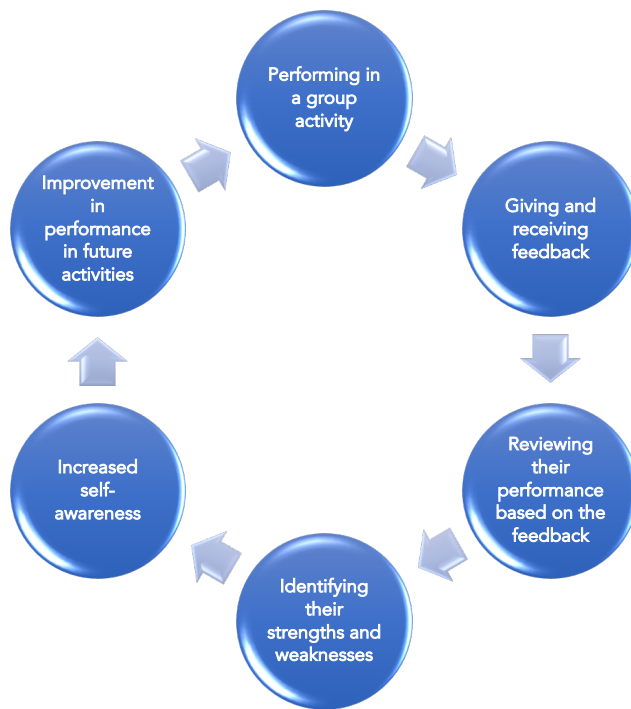
I think some people were going through stuff which they weren't opening up to us about, so obviously, if we don't know, we just kind of presume that it's just laziness... like the start of this year's been really positive, people coming back and people being honest about why they weren't here last year, and it's nice that they feel comfortable enough in the group to do that. (Participant three: Learner, Course A)

This demonstrates how participant three believes that conflict management has an important role to play on entrepreneurial learning courses. It also highlights how conflict management can be used in self-assessment. For example, participant two, an educator on a Team Entrepreneurship course, discussed how they get learners to deal with conflict in their groups by writing down 'things that haven't gone quite right', this is a form of self-assessment where the learner reviews their performance

but also that of other team members. From this, they can identify what went wrong and aim to improve it next time. The learners also discussed the conflict management process and highlighted how important it was for individuals to open up to the group. An individual talking about their performance in a task and discussing their lack of engagement is another form of self-assessment. This description provided by the participants shows how they believe that teams can resolve conflicts through the process of conducting self-assessments. The participants outlined how they can enable individuals to identify their strengths and weaknesses within a task, which they can then explain to the group. For example, as put forward by participant three, within a group context, an individual can become aware that the other members of the group do not believe they are performing adequately:

It was a session where there was only four or five of us in, and we really needed all of us, and we just wrote up on the board, wrote up everyone's names and then next to them, we kind of marked them based on their input, so out of ten, and we gave two or three zeros'. (Participant three: Learner, Course A)

Based on the feedback from the group, an individual is able to identify that other members of the team do not believe they are performing to a high standard. This individual would then take the feedback from the group to conduct a self-assessment of their skills and performance in order to understand this feedback, identify their strengths and weaknesses, which they could then relay back to the group by explaining why their performance has not been adequate and how they will improve it in future activities.



*Figure 4.1: The process of conflict management as a form of self-assessment*

Figure 4.1 depicts how conflict management can be used as a form of self-assessment. Subsequently, this insight from the self-assessment helps to resolve the conflict within the group. This has wider benefits as conflict management is an important skill to have in business. If learners can self-assess their performance in the future, they could prevent conflict from arising. This could be in future activities on their course or as part of their lifelong learning when they enter into a business environment and could be working with multiple groups of people on one task.

A learner’s involvement in conflict management is a form of experiential learning as they are learning by doing and subsequently leads onto the next point, which outlines how the participants believe that experiential learning facilitates the development of self-regulatory skills. Learners can then demonstrate these self-regulatory skills in their self-assessments when reflecting on their performance; for example, a learner displays an increased level of self-awareness when they discuss their strengths and weaknesses in relation to a practical task that they participated in.

#### 4.2.4 Experiential learning

Many entrepreneurial learning courses are experiential in nature, as it is believed that learning by doing is the best way to equip learners with the skills needed to participate in business activities successfully. This is in keeping with Kolb's (1984) experiential learning cycle, which formally recognises that people learn from experience. All the courses I looked at had a strong element of experiential learning as the learners on the course were required to set up and run their own businesses:

My course is a lot about actually on the ground what works, what doesn't work, experiential value, so we don't do that much theory; we do more putting the theory than in other classes into practice. (Participant five: Educator, Course B)

This finding agrees with previous literature on experiential learning, in particular, stage two of Kolb's (1984) experiential learning cycle, which outlines that individuals observe and reflect on the situation and identify any problems in the process. In addition, the model states that the educator and learner are active participants in the creation of new ideas through engaging with one another in a reflexive critique of their current practices. This means both educator and learner act as co-participating practitioners in a relational learning process (Higgins et al., 2013). The findings from this study have found that the educator and learner co-participating is a key component of successful self-assessment practices, as it is the educator's role to facilitate the process, with participant five stating that it is not about teaching the learners theory but instead giving the learner the opportunity to put theory into practice. How self-assessment is facilitated through experiential learning is described by participant seven:

I completed a task where I had to talk about my experience in terms of going to a store, understanding the customer interaction process in one of these high street brands, so I was able to reflect on that past experience, write a nice, detailed log about it and understand what I liked about that experience, what interaction with that organisation made me feel valued as a customer, just reflecting on these types of things helps. (Participant seven: Learner, Course B)

The participant was able to use a past experience to reflect upon this gave them the context for their self-assessment, which they then presented through the use of a detailed log which was then graded by the educator, which shows that there was a structure for the learner to complete the self-assessment. However, they were not given complete freedom to assess any topic that they wanted to; this shows that there is a need for structured information so that learners are completing tasks and developing skills that are relevant for the course:

They need to be able to synthesise complicated material and to be able to...critically reflect on and engage with their experiences so to understand what they were asked to do, what they actually did. (Participant six: Educator, Course B)

This educator describes different skills that they believe that the learner should have. These are skills that can then be encouraged through self-assessments, thus giving a structure and a purpose to the learning. Likewise, Dewey (1897) agreed with this and stated that children's interest is not simply to be freely explored without direction. Instead, the interests are to be controlled and fostered by the educator with a specific purpose and enduring goal in mind (Dewey, 1897). Gentry (1990) believed that care needs to be taken when following an experiential learning process to ensure that learning does not take place in error and that students are learning effectively. He, therefore, outlined a range of criteria that can be used to 'help evaluate whether a particular teaching method can be classified as facilitating experiential learning'. From this, it can be identified that learners need to have the space and freedom to self-assess based on their own interests; however, there needs



to be a structure to this, with the learner assessing particular skills and activities that they have taken in as part of the learning process. Dewey (1938) did not believe that all experience is educative and instead 'it depends on the quality of the experience'. This was also rereferred to as the experiential continuum. Dewey (1938, p. 25) believed that some experiences could be mis-educative if 'it distorts the growth of further experience'. These would be experiences that led to a lack of responsiveness in the learner. Dewey (1938) stated several reasons for this:

- Learning through an automatic process where the learner's ability to apply skills to new situations is limited.
- The learner is not stimulated by the education process and sees it as being monotonous and, as a result, lacks engagement.

Dewey (1916) contends that in order for education to be progressive, there has to be an experiential component to the lesson. He argues that by employing a traditional method that focuses on primarily learning the theory of a topic, the teacher eliminates the opportunity for students to develop their own opinions of concepts based on interaction with the information. This highlights the important role that the educator has in the self-assessment process, and they must ensure that all of the experiences the learning encounters on the course are things that can be self-assessed, increase awareness and generate the required skills. 'Experiential learning positions the educator in a supportive role and locates the learner at the centre of the process' (Leigh and Spindler, 2004, p. 53). This is particularly important on entrepreneurial learning courses as it can be difficult to create an experiential learning environment in an educational institution as policies and targets need to be considered, with there being a need for clear and measurable outcomes on courses of an experiential nature which can be used to ensure that targets are being met. Scott et al., (2016, p. 83) conducted a review of both traditional and experiential approaches to entrepreneurship education and found that 'we need to establish more effective

student performance evaluation metrics' and in particular, if 'actual learning outcomes are appropriate measures of effectiveness'.

Rae (2010, p. 594) describes how entrepreneurial education in recent years has moved 'towards experiential learning, learning for rather than about entrepreneurship'. This could be a result of the fact that an 'individual is more likely to develop an entrepreneurial mindset' when they engage in experiential activities, as these are believed to generate more 'intense and positive affective states' (Rae, 2010, p. 594). An individual is more likely to develop an entrepreneurial mindset when experiential processing results in a more intense and positive affective state (Morris et al., 2012). Positive states encourage experimentation and explorative learning, whereas negative states drive local and more exploitative learning:

I think it gives them the tools they need to succeed in the real world, so it helps them understand their own experiences, interpret them and view their experiences through a different lens, so not being necessarily reactive in and of the moment, but looking back and thinking what happened, what could of been done differently, I think that's a skill that's very transportable, and it's a really important graduate skill. (Participant six: Educator, Course B)

Entrepreneurial learning courses offer the context in which intense and positive affective states are believed to be more likely to be experienced through learning by doing (Morris et al., 2012). For example, a learner will be more emotionally involved with a task that they have carried out, as opposed to just reading something in a book. Dale (1969) theorised that learners retain more information through direct experiences, as opposed to information that is passed onto them from another source. These affective states can be achieved through reflection where a learner discusses their performance in a task, especially where something has gone wrong. Kolb's experiential learning model (1984) outlines reflective observation as the second stage. During this stage, an individual observes and reflects on the situation and identifies any problems in the process. Whilst this demonstrates the link between

reflection and experiential learning, this stage is discussed in terms of reflection being used after an activity has been completed and does not consider how reflection can be used during the learning process. This is in keeping with Mezirow's transformational learning theory (1991; 1997), which believed that learners would develop skills more effectively through a process of transformational learning. Mezirow (1991; 1997) believed that students are encouraged to use critical thinking and questioning to consider if their underlying assumptions and beliefs about the world are accurate. This theory is based on three main themes, which consist of experience of life, critical reflection and rational discourse. Participant three confirms this by talking about how you can learn as much from an experience, whether it fails or succeeds:

It was the first course that I found any real value in, so obviously, it's very practical, it's very kind of self-taught as a lot of courses are... the way I learn, I learn by doing so I need to kind of, you know experience something and then whether it fails or succeeds I feel like you can learn as much from either, whereas just sitting in lecture halls, it just don't interest me. (Participant three: Learner, Course A)

It is suggested by Ramsgaard and Christensen (2016) that students will learn more effectively when they find the knowledge they are attaining to be appealing. Thus, learning should be generated by interest in the material rather than tests or punishments. This demonstrates that individuals will have a positive learning experience when they can direct their own learning and focus on topics of personal interest.

The findings from the interviews relating to the theme of experiential learning bring up some opposing viewpoints between the educator and the learners:

1. There is a need for self-assessments that are structured so that learners are taught relevant information and develop the required skills
2. Learners will be more interested in learning by doing, and their participation will be dependent upon their level of interest

This section demonstrates that learners could engage in self-assessments that cover particular skill sets on their courses. There is a requirement for the educator to personalise the learning so that if there is a particular competency that an individual is not interested in, then the educator can find a way to engage and motivate the learner. For instance, a learner who does not like carrying out presentations will not put much effort into these as there is no personal motivation. Self-assessment could allow the educator to discover the reasons behind this and discover what motivates the learner, such as wanting to work for a financial organisation. The educator could then use this knowledge to set up an opportunity where the learner has to deliver a presentation in a context that is of interest to them. This could be through an interview for a work experience position at a financial organisation. This would increase their interest in developing the presentation skill and their engagement. The learner could then reflect upon this experience through self-assessment on completion of the task, where they realise that they have developed the skills that allow them to take part in presentations in the future successfully.

#### **4.2.5 Typology of forms of self-assessment**

The following is a typology of the different forms of self-assessment that a learner participates in as part of their course, as identified through the interviews with educators and learners. The typology was produced based on the data generated from the document analysis and interviews with participants in this study.

Name of Course	Type of assessment	Description of the self-assessment activity	Link to the typology of forms of self-assessment
Course A	Formative	Personality tests	Reviewing competencies Receiving feedback
	Formative	Reflective writing	Reflecting on experiences
	Formative	Reviewing models of reflection	Reflecting on experiences Reviewing competencies
	Formative and Summative	Group projects	Receiving feedback Resolving conflicts
	Formative	Written record of development	Reflecting on experiences Reviewing competencies Recording the self-assessment
	Summative	Assignments	Receiving feedback
Course B	Formative	Reflective diary	Reflecting on experiences Receiving feedback Recording the self-assessments
Course C	Summative	Group report	Receiving feedback
	Formative and Summative	Learning contract	Reflecting on experiences Reviewing competencies Receiving feedback Recording the self-assessment
Course D	Formative	Feedback from peers	Reviewing competencies Receiving feedback Resolving conflicts
	Formative	Written reflections	Reflecting on experiences Reviewing competencies Recording the self-assessment

	Summative	Reflective assignments	Reflecting on experiences Reviewing competencies Receiving feedback Recording the self-assessment
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Table 4.4: Self-assessment activities on the four courses

Table 4.4 demonstrates the different types of self-assessment activities that take place on each of the four courses and how this information influenced the development of the typology.

Panadero et al., (2016, p. 807) believe that a ‘useful approach to defining a field is the creation of a typology in which systematic and universal distinctions, similarities, and ordered classifications are generated across multiple student self-assessment practices’. From the findings derived from the data, I have been able to produce my own typology, which is shown in Figure 4.2.

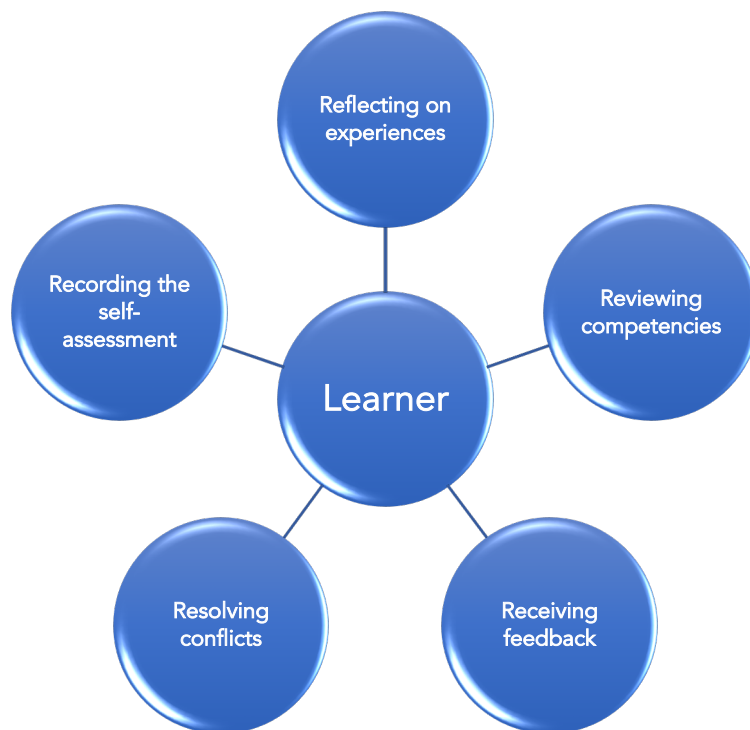


Figure 4.2: typology of forms of self-assessment

Figure 4.2 presents a typology of forms of self-assessment, which has been produced based on the data collected from the interviews with participants. This typology outlines the four types of self-assessments that learners can participate in; they are made up of five key actions: reflecting, reviewing, receiving, and resolving and recording. These four types of self-assessments can help to develop their self-regulatory skills. An early self-assessment typology was produced by Boud and Brew (1995) who proposed a 'classification of self-assessment practices based on the different knowledge interests which they serve'; they categorised self-assessment according to three knowledge interests: technical interest, communicative interest and emancipatory interest. The typology created from the data in this study differs from the self-assessment typology produced by Boud and Brew (1995) as it identified the forms of self-assessment that the learner could engage in rather than their knowledge interests. These two typologies could therefore be used in conjunction with each other.

#### **4.2.6 Critical thinking**

The importance of having the ability to think critically about an experience was discussed by seven participants in the semi-structured interviews. This was unprompted and not mentioned in any of the questions:

Being self-aware I'd say, and being critical, cause if you're, if you don't really have a, if you're lacking self-awareness I'd say, it's very difficult to be honest with yourself and then from there can you be critical if you're not honest with what you're doing, like how... it works both ways, you need to know when you've done good, and you need to know when you've done bad by being, like showing where you've done well it gives you that sense of achievement, and it also develops on having what's called a growth mindset, which is basically showing that you are, you can see that you are progressing and you will reach your goal it's just about how like where you need to improve. (Participant twelve: Learner, Course C)

Whilst engaging with any of the types of self-assessment, participant twelve believes that a learner needs to have the ability to be critical as they will not be able to

demonstrate self-awareness without understanding both their strength and weaknesses. The data collected supports the findings of a study by Phan (2010, p. 188), who found that 'critical thinking as a cognitive practice, helps in self-regulation in learning and teaching', and that engaging in this practice would lead to a learner experiencing growth and development.' Participants linked critical thinking with having the ability to be self-aware and reflect:

I think it's about self-awareness, about reflection, being a bit self-critical with yourself and your learning and trying to link the theories with your experience and being reflective on your practice as a team coach or as a TE in this case. (Participant nine: Educator, Course C)

It's about their ability to reflect, critically engage with their own learning and to take autonomy and responsibility for where they're headed. (Participant six: Educator, Course B)

From this, it can be seen that being able to think critically whilst engaging in different forms of self-assessment is believed by the participants to be a key skill. This confirms the beliefs of Mezirow (1997), who stated that learners should be critically reflective. This was highlighted in Mezirow's transformative learning theory (1991; 1997), where he proposed that learners should be encouraged to use critical thinking and questioning to consider if their underlying assumptions and beliefs about the world are accurate. This transformative learning theory uses challenges and dilemmas to question the learners' thinking, which can encourage critical thinking skills and is based on three main themes: experience of life, critical reflection, and rational discourse. Previous literature has looked at the relationship between self-regulation and critical thinking. Phan (2010, p. 284) suggested two important points: (i) critical thinking acts as another cognitive strategy of self-regulation that learners use in their learning (ii) critical thinking may be a product of various antecedents such as different self-regulatory strategies. Some of the literature has focused on the skills of the educators and not that of the learners, with a study investigating the relationship between Iranian EFL teachers' self-regulation and their critical thinking ability in



language institutes (Ghanizadeh, 2011). Three hundred sixty-five university students participated in the study, and the findings indicated that metacognitive self-regulation was found to be positively and significantly related to chemistry self-efficacy for cognitive skills and chemistry self-efficacy for everyday applications. This used a quantitative methodology, so it can be seen that past literature has not looked at this in entrepreneurial learning courses that have an increased focus on learning by doing or have not investigated the topic qualitatively.

### **4.3 Research Question 2: What skills do learners need to self-assess their own learning?**

#### **4.3.1 Ability to reflect**

Reflection is a significant theme that has been generated in this research and was discussed by 13 of the participants. This is in keeping with previous studies that have been conducted by academics (Kolb and Kolb, 2005) which showed that classroom environments that actively involve learners in their learning process and provide opportunities to reflect have the potential to enhance academic success and contradicts the learning theory of behaviourism. Robinson et al., (2016, p. 663-664) believed that a learning environment that was designed following the principles of behaviourism would 'encourage reproduction rather than reflection'. The data collected in this study supported the point of Zimmerman (1990), who asserted that abilities associated with evaluation and reflective thinking could be considered as self-regulatory components in learning processes. This can be understood by looking at how participants did not believe that self-assessment on entrepreneurial learning can take place without a learner having the skills needed to reflect on their experiences confidently:

There is no one singular right way of doing business, and because of that, self-assessment and reflection, like I say, really are almost as one. (Participant two: Educator, Course A)

They do learning by doing, they do their practice, they engage in projects, and they have some input from theories from models from structures, and they always have to do that link, they always have to reflect about how am I doing in this. (Participant nine: Educator, Course C)

This is in keeping with Hilden and Tikkamäki (2013), who suggested that 'reflection is at the core of adult learning and professional growth, transformation and empowerment. Learners believed that they needed to be able to reflect on a deeper level in order to create value:

I think self-reflection is only really valuable if you get into the kind of the deeper, if you really get deep into it, which is harder for some people, but I think until you get to that point, it's just kind of all on the surface and it's just all a bit nicey nice, and I don't think anyone gets any value out of that. (Participant three: Learner, Course A)

Participant three believed that there are different levels of reflection that an individual can operate at. In order to generate the most value out of a reflection, they need to be operating at a deeper level. This deeper level of reflection could be learned through the use of self-assessments, as outlined by the course educators who believe that learners develop the skill of reflection throughout their time on the course:

It's a process, as I said, being reflective is not; you cannot be reflective from one day to the next; you learn to be reflective. (Participant nine: Educator, Course C)

Reflecting on past experiences was discussed as an important way for the learner to increase their self-awareness:

Reflection for me is about learning; the most important thing to learn about is yourself; once you understand yourself, you're able to understand your potential and what you're good at, what you're bad at, and you're able to take up things that you know, where you can develop as an individual, so past experiences will help future development. (Participant seven: Learner, Course B)

Participant seven, a learner on a course that had more taught elements, talked about how they could increase their personal development by reflecting on past experiences, which would help them develop their skills. This would be achieved through increased self-awareness, where they identify their strengths and weaknesses through a detailed reflection. This is an example of how this participant would conduct a self-assessment without any prompts from the educators as they understood the benefits of engaging with the self-assessment process. Participant seven was a learner in their last year who had a good level of self-awareness and experience of self-assessing. The educators also highlighted this point by discussing how learners would engage in their own reflections without prompting as they became more confident. Educators primarily use reflective models as a tool to encourage reflective behaviour and self-assessments:

There's a couple of different reflection models that they tend to use, Kolb being one of them, and various other ones about kind of like oh do it, review it and learn you know, and stuff like that, and the...we almost force them to self-reflect or self-assess the success of their business activity, so the whole programme is made up of them doing business activity and then being almost forced to self-assess and we judge them on the academic underpinning of their self-reflection. (Participant two: Educator, Course A)

Participant two talked about how participants are encouraged to use different models of reflection. Whilst the literature identified models of self-reflection, it did not identify that these models are used on entrepreneurial learning courses to teach the learners how to reflect and self-assess. The learner can follow Kolb's four-stage experiential learning cycle (1974) in order to go through a process of reflection. In addition, Kolb outlined different styles of learning and believed that different learners would have a different preference for learning and be suited better to a different style.

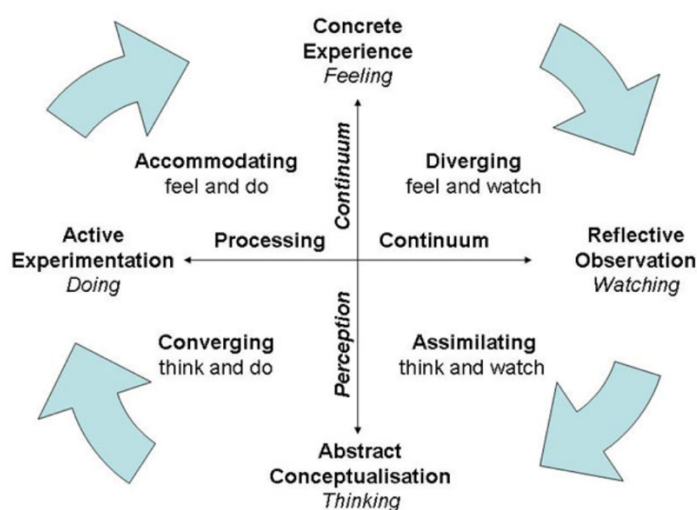


Figure 4.3: Kolb's Learning Styles Model (Kolb, 1984)

Figure 4.3 shows the Learning Styles Model produced by Kolb (1984). Through this model, educators personalise the learning for each individual, as learners can identify which learning style is more suited to them. This will enable them to reflect on their behaviour in a task as it increases their understanding of self.

The literature highlighted that 'assessment should also involve reflection of self, peers and other stakeholders' (Bhatt and Bhatt, 2016, p. 26). This was re-confirmed through the findings of these interviews, where participants discussed activities that are undertaken on their courses which include self, peer and stakeholder activities.

I want them to get useful feedback from their peers, and in that way, they learn, and their peers learn because their peers learn through giving feedback and they learn through receiving feedback, so it can be very powerful, but again it's something you need to really consider designing and how you utilise it. (Participant fifteen: Educator, Course D)

Participant fifteen described how it was important for learners to experience giving and receiving feedback as a form of reflection; however, this participant also outlined how there need to be boundaries set in the classroom in order to ensure that the peer assessment process is effective and that the feedback that is exchanged

between the participants is beneficial. Research has investigated how the learning process can be adapted to increase learners' engagement with the feedback they receive. For instance, Hatziapostolou and Paraskakis (2010, p. 111) believe that quality formative feedback 'can be effective in promoting learning if it is timely, motivating, personalised, manageable and in direct relation to assessment criteria'.

#### **4.3.2 Self-assessment as a process**

Educators discussed the differences in the level of ability each learner has to reflect and participate in self-assessment. It was the belief of participants that on commencement of their studies, some learners are better equipped with the skills needed to engage with self-assessments than others. This could be due to varying factors such as their level of maturity, past experiences, and willingness to engage with the course:

It's really harder than for others, and that's why as team coaches, we play a role there because we challenge them all the time, we question them, so we are trying to develop their reflective skills when we do team coaching sessions, but also one to ones with them, so yeah for some, some are more reflective by nature or whatever, but for some of them maybe be harder, but I think it's a process. (Participant nine: Educator, Course C)

This demonstrates that educators believe that learners do not enter a course with the required level of skill to participate in self-assessment. Participant fourteen, who is a learner in their first year, discussed their reasons for not participating in self-assessments at the current stage of their course:

I don't think I ever really like did my own like the self-assessment; I think I was more reliant on other people's assessment of it because I didn't think I was like knowledgeable enough to self-assess. (Participant fourteen: Learner, Course D)

Instead, the development of the necessary skills is obtained through the learning process and throughout the learner's time on the course. Over time, and through

engagement with the course materials, the learner develops a greater level of skill, such as the ability to reflect. This results in them being able to participate in self-assessments more effectively. This is in keeping with the literature which identified how studies have shown that classroom environments that actively involve students in their learning process and provide opportunities to reflect on their learning experiences have the potential to enhance students' academic success' (Menekse, 2019, p. 183). In agreement with this, the learners who were interviewed had become more aware of the benefits of self-assessing themselves through their courses:

It was kind of heavily mentioned in the first year, and I thought, 'oh yeah, I probably am quite self-aware, which I think helps' and I think [thinking] I think we always self-assess on a daily basis it's only when you sit someone down with say a questionnaire that people start to really think about it, but I think we naturally do it most of the time anyway. (Participant three: Learner, Course A)

From this statement made by participant three, who is a learner in their second year, it can be seen that they became more aware of self-assessment upon commencement of their studies, where they realised that they already had the ability to self-assess. It was something they had been doing in their everyday life, and now they would be able to apply this to improve their learning. If the ability to self-assess is something that individuals do on a frequent basis throughout their lives, then the goal of entrepreneurial learning courses is not to teach them the skills to self-assess, as it appears that this can be an innate quality, but instead to make them more aware of the abilities that they already have.

Educators believed that a learner who is motivated is more likely to engage with self-assessments. Educators and learners both discussed how the level of motivation could be increased by outlining the benefits of taking part. These benefits should match the goals of the individual learner and their personal and collective learning objectives. Through this, it became clear that courses where the team academy principles are adopted, are more suited to self-assessments as they give the educator

the opportunity to get to know the learners on their courses. This links to one of the six competency areas identified by Man et al., (2002), relationship competencies, in which individuals build a context of cooperation and trust. From this, they are able to motivate the learner by focusing on areas that they would like to improve in or by discussing their overall goals. This demonstrates how self-assessment is influenced by Maslow's hierarchy of needs and Roger's theory of personality. Through the process of self-assessment, a learner could identify where they currently are (ideal self) and where they would like to be in the future (real self). Therefore, they could work towards tasks that would lead them towards self-actualisation, either by addressing the needs outlined in Maslow's hierarchy or achieving self-actualisation by being in a state of congruence according to Roger's theory of personality. This highlights how self-assessments will always be different for each individual. Therefore, this demonstrates a problem in how self-assessments can be incorporated into more traditional courses where there are larger class sizes and a lower level of engagement between the educator and learner. From the interviews with the learners, they discussed differences in their own personal goals and learning objectives which further demonstrated how self-assessments need to be personalised in order to have an impact on the learner. Learners also described how self-assessments had helped them to refine their goals which had a subsequent impact on their learning objectives; participant three talked about how they had entered the entrepreneurial learning course with the goal of setting up their own business on completion. However, when they self-assessed their skills, they were able to see that they do not have the required level in order for this to be feasible.

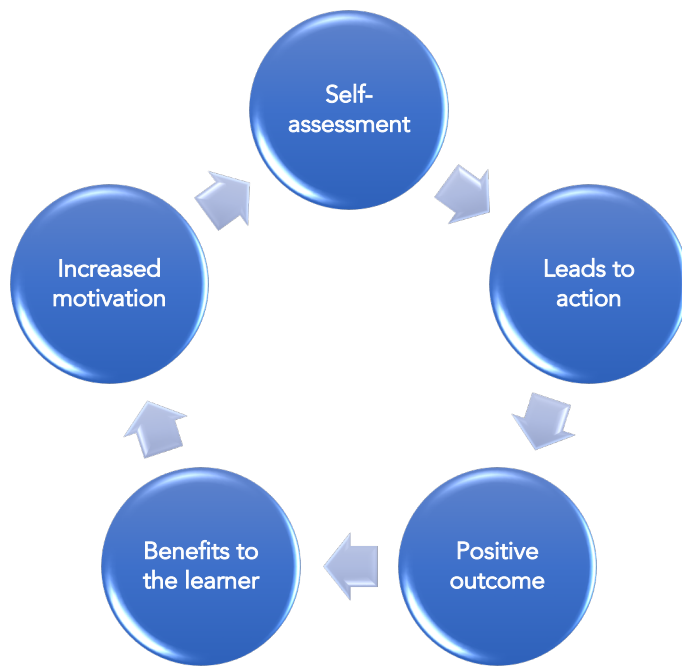
The process of self-assessment is also dependent upon the point at which the learner is on their course. This could be impacted by the duration they have spent studying on a course or the point at which they are conducting a particular assessment. For example, different self-assessments can take place at different points during the

activity; before, during and after. This was discussed by participants who talked about conducting self-assessments at different times on their courses:

The premortem sounds quite interesting, which is where you basically list the things that you can do or you mention and speak about the things that you could do which would lead to the company not failing, so that's a good self-assessment for me to kind of look into my actual company, see the different points where we have achieved certain objectives and where we have fallen back. (Participant eight: Educator, Course B)

In their interview participant, three talked about conducting a self-assessment after attending an event for entrepreneurs. Through this self-assessment, they realised that they do not have the required network to start a business at this time and therefore decided that they would prefer to work in an organisation following their course. Their goal changed from wanting to set up a business to want to achieve the grade of a first on their entrepreneurial learning course. This directly impacted their learning objectives, which became more focused on performing to a high standard on the academic side of the course, which would enable them to achieve this goal. This self-assessment led to a positive outcome for the learner, as they were able to discover what they wanted out of the course. A finding that emerged through the interviews was that learners who have a positive outcome from the self-assessment would have a stronger motivation to engage with self-assessments in the future. This does not have to be from a self-assessment on something that went correctly, and they performed well in, an individual can still have a positive outcome from self-assessing an event that was negative, for example, failure in a business activity, low grades from an assignment or lacking the required skills to perform in a task adequately. What was important was that the individual learned something from the self-assessment, and it gave them an insight into the action that they could take in the future in order to improve.





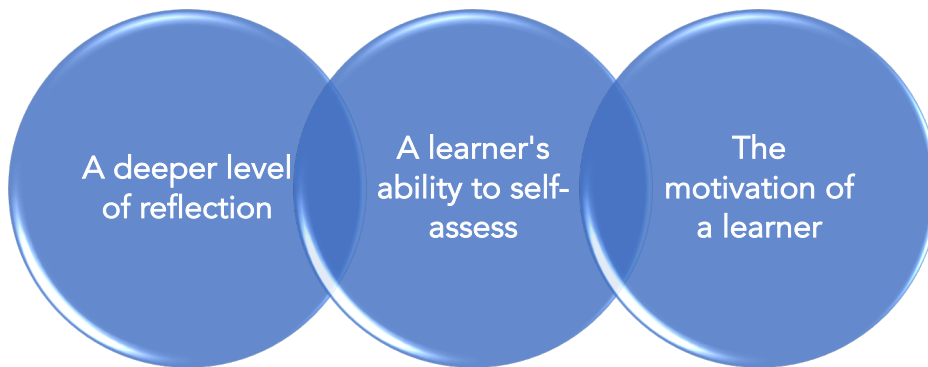
*Figure 4.4: The process of self-assessment*

The diagram displayed in Figure 4.4 demonstrates the process of self-assessment based on the findings of the interviews with educators and learners. The educator first introduces the learner to the process by outlining the benefits of participating in self-assessments; they would then increase the motivation of the learner by personalising the learning:

Knowing the information helps you as a team coach to re-direct their learning and their actions, so cause [sic] you know that their aspiration is this and this and this, so obviously you work with that and try to suggest opportunities or events or actions that they can take to develop that. (Participant nine: Educator, Course C)

Participant nine outlined how they would gather information about the learners through their personal development plans in order to personalise the learning. This information would enable them to increase the motivation of the learners on their course by re-directing their learning based on their individual aspirations. This supports the learner in developing opportunity competencies, which are concerned with an individual having the ability to recognise and develop opportunities.

Opportunity competencies are one of the six competency areas identified by Man et al., (2002).



*Figure 4.5: The process of self-assessment and its value for learners*

Figure 4.5 highlights the reasons why both learners and educators value self-assessments, as the process encourages a deeper level of reflection, a learner's ability to self-assess and the motivation of a learner.

Self-assessment is a continuous process of entrepreneurial courses in which learners are constantly engaged with:

They've done something, they get external perspectives, they reflect on those perspectives, they decide if that's right for them or not, and then they create a new piece or a new development from that. (Participant fifteen: Educator, Course D)

Participant fifteen, who is an educator, outlined the different steps that the learner engages with whilst conducting a self-assessment. This is a continual process that happens each time a new activity takes place. However, the interview from participant fifteen adds another element to the findings, as we can see that the learner uses external perspectives in their self-assessments, whether this is feedback from their course tutors or their peer group, in order to complete their self-assessment

successfully. Participant thirteen discussed how receiving feedback informs their self-assessment and encourages them to take action:

They do give me enough information to work with so that I can then go out on my own and then actually put that into action or at least set up a plan in how I remind myself constantly like 'you need to remember this is your downfall, this is something that holds you back, try to improve on this, and your grades will improve. (Participant thirteen: Learner, Course D)

### **4.3.3 Confirmation bias**

Having a confirmation bias was discussed by the participants as being one of the main problems that can occur when learners take part in self-assessment, as they believe that learners can have a tendency to not accurately reflect on their abilities:

People either over-inflate or underestimate; very few people hit that kind of sweet spot in the middle unless you start to look at how you define it clearly. (Participant fifteen: Educator, Course D)

This shows that participant fifteen believes that learners can discuss their skills more positively or negatively and find it difficult to be objective. Self-assessments require learners to provide themselves with self-feedback on their performance which could lead to a bias if they ultimately decide to assess themselves more positively than how they have actually performed. As a result, some academics (Boud, 1999) have stated that external feedback from educators and their peers needs to be given in order to ensure that these biases do not occur. A study conducted by Sunol et al., (2016, p. 633) 'detected significant deviations between their marks and those of the teacher. In general, the marks awarded by students were higher'. The reason for this could be a result of the learner developing a high level of self-efficacy, the belief in their ability to conduct a task, and therefore may not be a negative but instead demonstrates that they are confident in using the competencies that they have just developed through the task. Learners also talked about this being an issue and how they need to be more realistic about their abilities:

I think probably another thing is being realistic about my abilities cause just; naturally, I'll always just... I have quite a strong self-belief that whatever I come up against, I can do it, and I think that kind of often led to me kind of overselling myself initially and then struggling to display the progression that had actually taken place. (Participant eleven: Learner, Course C)

Participant eleven showed awareness that they tended to be more positive about their abilities at the start of the course, however as the course has progressed, they have become more aware of this and realise the steps that they need to take in order to rectify this, by talking more about their progression and the development of their skills, and not just stating that they have a particular skill. Participant five also discussed this problem in comparison with more traditional assignments, where confirmation bias is not a problem as the participant is given a grade and do not have an input into it:

It's all about self-awareness, and I think the thing that trips people up is like a kind of confirmation positivity bias, that a lot of people have, because like if you're doing an exam, then you get told that you've got this mark, whereas if you're assessing yourself, then you can make yourself feel better by giving yourself more points. (Participant five: Educator, Course B)

However, it is important to note that traditional exams have other problems, such as not being personal to each learner and the outcome of the learning:

In the exam, it's like... you do just feel like you're just learning for the basis of an exam, not for your actual life, do you know what I mean, so yeah, that's probably what I would say. (Participant fourteen: Learner, Course D)

Participant fourteen pointed out how learning for life is related to having more experiences.

Self-assessments allow the learner to structure the self-assessment to their own skills and areas that are of relevance to them. It is important to be aware that confirmation bias can be an issue. Educators need to take steps to make learners aware of this,

such as giving them the opportunity to discuss skills that they would like to develop further. Self-feedback and external feedback can be used in conjunction with each other in order to avoid the learner discussing their competencies in a biased way.

#### **4.4 Research Question 3: Do learners benefit from taking part in self-assessments?**

##### **4.4.1 Identity of the learner**

An individual believes that they have an entrepreneurial identity when they successfully demonstrate behaviour that is characteristic of an entrepreneur and subsequently views themselves to be an entrepreneur (Jones et al., 2019). Participants described how the process of self-assessment can improve the identity of a learner:

They are self-assessing themselves against other people, pretty much around their...I would say their own identity like am I like these people, am I not like these people, have I got the same skills as these people, am I better or worse than these people, am I better or worse than these people, or am I a higher achiever than those people. (Participant four: Educator, Course A)

This was true of both educators and learners, who communicated how taking part in self-assessments helps learners identify the direction they want to take, both on their course and in their lives. It was discussed how self-assessments help learners to recognise their strengths and weaknesses, thus impacting the future career choices that they make:

I find if you deal with them, you know if you have weaknesses that you're aware of if you deal with them, you know in a positive way, you come out of it much better, rather than kind of ignoring them or not really dealing with them in a positive way. (Participant three: Learner, Course A)

Educators and learners both discussed how the course appears, at first sight, to be about giving an individual the skills to plan, start and run their own business effectively. However, many discussed how individuals from the course go on to do a

range of different things on completion, as they have identified through self-assessment that self-employment and running their own business is not the path that they would like to take. This demonstrates the importance of self-assessment in shaping a learner's identity, particularly helping them understand the direction they want to go in on completion of their degree.

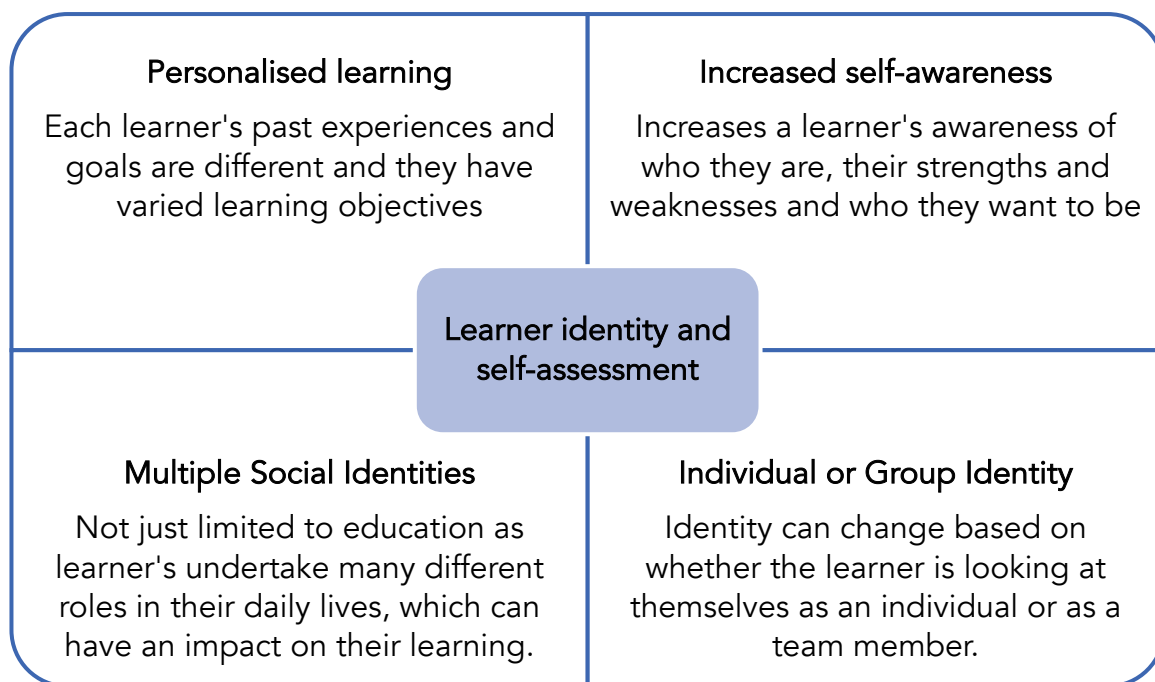


Figure 4.6: Learner identity and self-assessment

Figure 4.6 shows the reasons why self-assessment has benefits on the identity of a learner, as opposed to more traditional assessment methods such as assignments and exams. This is due to the fact that each learner is an individual with different life experiences and different expectations of the course, based on the goals that they would like to achieve and where they see themselves in the future. Self-assessment takes all of this into consideration by personalising the learning and increasing self-awareness. Self-assessment considers the fact that each learner has multiple social identities that can impact their learning, and self-assessment gives the individual an opportunity to discuss these roles and the impact that they have had upon their performance in a task. Finally, we can see that a learner's identity can change based

on whether they are looking at themselves as an individual or as a team member, with each being equally important as a learner does not exist in isolation from everything else around them. This is in keeping with the points raised by Howorth et al., (2012, p. 386), who discussed the value created in terms of the learner identity and recommended that educators should:

Focus on the social entrepreneurs' identities as learners. Design for and articulate the learning identity the participants are expected to develop. This enables social entrepreneurs to step outside their contested identities and focus on achieving their learning goals. (Howorth et al., 2012, p. 386)

Entrepreneurial identity is commonly seen as being individualistic as it refers to the person. It, therefore, fails on a large number of occasions to consider the entrepreneurial identities of a group of people, such as large organisations, the government and educational institutions (Jones et al., 2019). This is important as entrepreneurs do not live in isolation but are influenced by the community around them. Traditional assessments predominantly focus on the learner completing assignments on an individual basis; however, self-assessments, especially those that take place within a team, allow for the generation of feedback from their peers, which further increases self-awareness.

#### **4.4.2 Receiving feedback**

Receiving feedback from the self-assessment that the learner participates in was discussed as an important part of the process, and many participants believed that self-assessment could not be effectively conducted without the generation of feedback:

They have to think about where they have been, where they are now, their strengths, their weaknesses, their skills, how they interact with others and then they have to think about their goals for the future, so it's like where I have been, where I am now and where I want to go, and they'll think about their future goals, their short term and long term goals, and they'll reflect about their journey, but within the learning contract they also get feedback from their peers, from the team members, so they also reflect on the feedback received, so 'you should be more ambitious in this goal' or 'I think you have already accomplished this goal and you should move into this other area because you said you were interested in developing marketing skills', so they get that feedback and they kind of build on that to self-evaluate themselves. (Participant nine: Educator, Course C)

Participant nine outlines how feedback is given to the learner from their peer group on their performance which gives the learner the opportunity to reflect on the feedback they have received by enabling them to identify their level of competencies in terms of how adept at a particular skill they were previously, where they currently are and where they would like to be in the future based on their own particular goals. Engaging in this process could help the learner to develop their relationship competencies, which are related to person-to-person or individual-to-group-based interactions (Man et al., 2002). In entrepreneurial learning, individuals will have their own personal goals that may differ from their peers. This confirms the literature, which stated that 'formative assessment and feedback should be used to empower students as self-regulated learners' (Nicol and McFarlane-Dick, 2006, p. 199). There are different types of feedback that learners receive. This can range from more formal feedback, which comes directly from the educator and where there is a mark scheme that the participant is graded against, to more innovative feedback systems that are in place on courses that have less traditional teaching methods, such as those that follow the Team Academy Ethos. Feedback received on these courses is more formative in nature and can be given by an educator or a learner's peers within the team that they work. 'Formative assessment encompasses a whole host of tools that provide feedback to teachers or students to help students learn more effectively' (Dixson and Worrell, 2016, p. 154).



Learners receive feedback on personal development and reflection that they have conducted. They are encouraged to keep a written record of their development, and this is then graded by the educator. This is in keeping with the findings of other academics, such as Ross (2006), who believes that external feedback needs to be given to the learners, so therefore self-feedback cannot solely be used in isolation in the learning environment. Learners will benefit from being given help and time to participate in the self-assessment. Importantly a learner does not need to have a successful business in order to pass this module; instead, it is the depth and quality of the reflection that is considered:

Well, the assignments graded, but they would be assessed on the depth and quality of reflection and the amount of evidence that they have of engagement with various self-directed and directed activities and how much development they can evidence. (Participant one: Educator, Course A)

If they are able to identify the reasons for the failure of the business venture and discuss their strengths and weaknesses in relation to this, then they can still receive a good grade from this:

They will all run a marketing plan, and we don't mark them on how effective their marketing plan was, we more mark them on their reflection of that, so it means that because if somebody runs a business that turns over a 100 thousand pounds by final year or if someone runs a business that turns over fifty quid per final year, they can still get a first. It is not tied to the business performance. (Participant two: Educator, Course A)

Participant two believes that a learner can still benefit from reflecting on their actions, even if their performance in the business task has been weak, as they can identify their mistakes, learn from these and still achieve a good grade based on how strong their reflection is. This is an important trait for them to learn as the business environment is full of many unexpected challenges, and individuals need to have the resilience to recognise what has gone wrong and respond to this by making the necessary changes.

### 4.4.3 Engagement of the learner

Experience is concerned with the amount of engagement an individual has had with a particular occurrence. It contrasts with rote or didactic, where the learner takes a more passive role (Tete et al., 2014). Learner engagement was discussed as an important factor in how successful a self-assessment is:

They need to be able to synthesise complicated material and to be able to...critically reflect on and engage with their experiences so to understand what they were asked to do, what they actually did. (Participant six: Educator, Course B)

In keeping with the literature on engagement, participant six believes that having more experience with self-assessments can increase a learner's engagement. However, this data builds on the previous literature by finding that participants believe that if a learner does not engage with their experiences, they will have nothing to reflect upon. Participant twelve talked about how learners can use opportunities that are presented through their course in order to become more self-aware:

When I came in September, I was very quiet, necessarily didn't contribute much to the teams and then once I came back from there, I was a lot more engaged, I was making sure that I like sort of, took up like business procedures and stuff like that and made sure that I was investing in myself and also taking on the feedback that I was given from my team. (Participant twelve: Learner, Course C)

After travelling around Europe visiting other team entrepreneurship courses, on returning, this learner realised that they were not contributing as much as they could have. They realised this through reflecting on the opportunity and receiving feedback from their team. From this self-assessment, they could see that they had developed more confidence through having the opportunity of visiting other countries and meeting different people, which led to them taking on a more active role in their team. It is believed by academics (Rowe et al., 2014; Richards, 2020) that emotions play a role in assessment for learning. Therefore, generating an emotional response

in the learner has been found to increase a learner's engagement with the assessment and subsequent feedback.

The level of engagement of a learner can also be developed through teamwork, as many entrepreneurial learning courses require people to work with their peers on a frequent basis, especially the team academy courses. As a result, they have a level of responsibility to the team, and if they are not engaging as much as they should be, then their peers can provide feedback and alter the grade that they receive:

You can variate maximum 20 per cent of their mark, so the main evaluation is done by us, so we evaluate the report in that case, and we give them a mark, then it's... but you give them the chance to variate it a little bit, that is not going to affect massively their final mark, but they become much more engaged because they know that in the next assignment, they know that they have to contribute, they know that they have to be there 100 per cent, so even though it's not much in the impact in the mark, the impact in the behaviour is massive. (Participant nine: Educator, Course C)

I think it's learning how to manage varying degrees of engagement with you and your team members cause obviously no one's... we're all students, and it's kind of quite hard to work through that. (Participant eleven: Learner, Course C)

Hilden and Tikkamäki (2013, p. 79) believe that 'organisations can be viewed as communities of learning' where individuals take part in the processes of 'participating, constructing and sharing knowing, socially supporting and reflecting'. As such 21<sup>st</sup> century, entrepreneurial learning courses have been designed with the purpose of replicating a business organisation where knowledge sharing is a key aspect of generating ideas and learning (Hilden and Tikkamäki, 2013). The teams that were discussed by participants nine and eleven can be defined as communities of practice who are 'groups of people sharing an interest in an issue who meet periodically to discuss problems, brainstorm and share knowledge' (Agbim et al., 2013, p. 121). From this definition, we can see that these groups need to have a common interest

which for the participants in this study would be the creation and operation of a business venture. In addition, people can have different levels of engagement within a group, which is demonstrated by the different grades that learners award to other team members based on how each individual has engaged with the task.

The participants in this study believed that learners need to want to engage with self-assessment processes in order for them to be effective. In addition, participants believed that providing opportunities that are of interest and increasing the responsibility they feel towards their work are two factors that can increase the learner's engagement.

#### 4.4.4 Outcomes of the self-assessment

From the interviews with the participants, it has been identified that three outcomes could occur from a learner participating in the process of self-assessment.

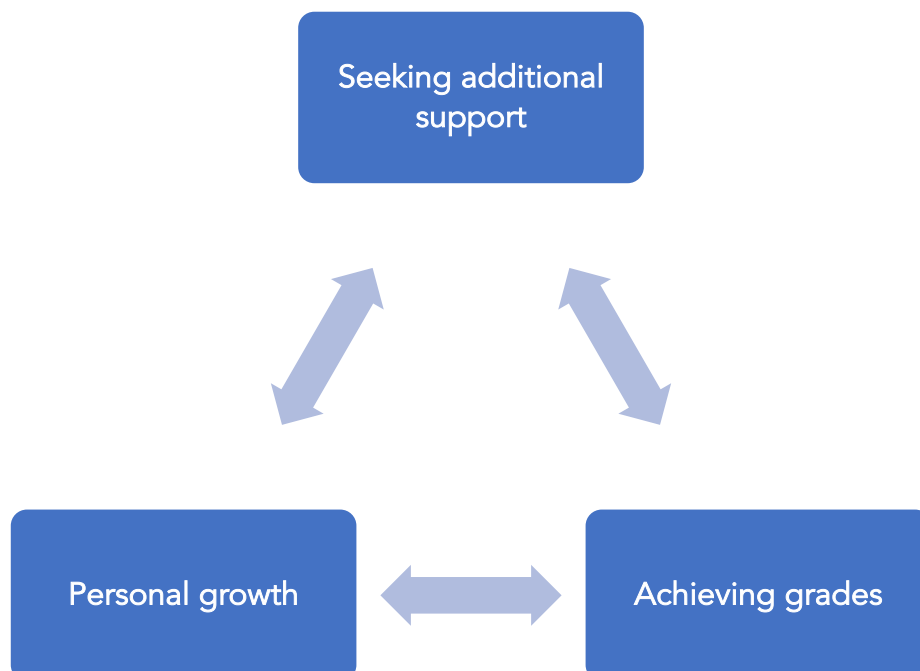


Figure 4.7: The outcomes of self-assessment

Figure 4.7 displays the outcomes of the self-assessment, as identified through the interviews with participants:

The school is incredible for its student welfare; they really take care of their students; I mean, seriously, you are so supported here and really cared for... if you communicate with them, they will do everything in their power, and they have quite a lot of influence in this school to help you, and they will do exactly that, and I've experienced that first hand and I really have to say the support system is surreal. (Participant thirteen: learner, Course D)

Participant thirteen discussed how after they had received feedback on an assessment, they would seek additional support if there was anything they wanted to talk about further, if they needed additional advice or if they wanted to discover how they could improve their performance. This additional support could be from the educators or their peer group on their courses but also the welfare services within the university. This participant believed that welfare services were a vital part of the learning process, as self-assessments could lead them to discover problems that they would like further support with. It is believed that engagement with these services could encourage personal growth or enable the learner to achieve higher grades, as they could take the form of either pastoral support or learning support, such as an additional skills workshop.

#### **4.5 Research Question 4: What is the nature of existing self-assessment practices on entrepreneurial learning courses?**

##### **4.5.1 Learning environment**

The environment in which the learning and subsequent self-assessment takes place has emerged as an important theme throughout the interviews, both being discussed by the educators and the learners, with ten participants believing that it is an important factor to consider when looking at the role of self-assessments on entrepreneurial learning courses:

We are also people, and we go through loads of stuff, and things are difficult, and we will often have people self-reflecting on 'they found it hard because they've just broken up with their, you know, boyfriend or girlfriend, or because there just you know, had an issue with their housemate and they wouldn't share like that if we didn't have a kind of team ethos where people felt part of a team, I don't know if you could therefore drop this into another programme where they don't really know each other and be like 'hey guys, we're going to all get really deep into our feelings' where they're kind of like 'I don't really know that guy at all, I don't like her, I've never sat with her before in my life', and whether or not they would then be able to say like 'look, guys, I'm really struggling, I found that really hard' or say 'look I don't think you pulled your weight' and I think that's the advantage of the programme in itself. (Participant two: Educator, Course A)

This is an important quote as it demonstrates that the learner is not just assessing their work but also reflecting on things from their personal life that could have impacted on this. Furthermore, it expresses how the learner is able to talk about personal issues because the course is designed in such a way where a safe environment is created, where they get to know the members of the team and feel comfortable opening up to them as they know their team members will not be judgemental. A study conducted by Lizzio et al., (2002) discovered that there is a relationship between the characteristics of the academic environment, students' approaches to learning and the outcomes achieved. This study adds to the existing literature by outlining the impact that the entrepreneurial learning environment has on a learner's approach to learning, for example, having an environment that encourages self-assessments to take place, and the outcomes that are achieved, which for these types of courses is the development of entrepreneurial competencies. This is an important discovery as it was outlined by Gibb (2002, p. 142) that for courses that follow experiential learning principles 'the pedagogical challenge is to 'create the learning environment which provides opportunities for practising and developing these behaviours, reinforces the attributes and develops the skills'. The Team Academy environment facilitates the self-assessment process and indicates how incorporating these self-assessments into more traditional taught courses could be

problematic due to learners not working as closely together in teams but instead on a more individual basis. In addition to this, participants on more traditional courses made up of more formative assessments considered having the time available to self-assess as a barrier to their engagement as they had other tasks to complete that had a higher priority. This highlights one major problem of incorporating self-assessments into a course, as they are often not part of the formal assessment criteria. Participants also believed that a course needs to offer multiple learning environments:

I mean, you've got two things happening there, you've got the environment they learn in and the environment they decide to do the reflection in, and you know we spend a lot of time designing and controlling our learning environments but actually a lot of the time when it comes to an environment that a student wants to be assessed in, you know you want them to feel comfortable, to feel safe, to feel at home, and so actually it's just as well to say to them 'look you can go and do this reflection, you know you've got until midnight four days after, we have a time window for the video work, so let's say they do a pitch on Friday, they'll have four days to complete the reflection so to the midnight on the Tuesday, and you know they can be at home ... but they can be in the environment which they are most comfortable because again that's trying to give them the opportunity to chill out, to relax and to try and be honest in their engagement. (Participant fifteen: Educator, Course D)

Providing different environments for different people and not thinking that one size fits all, you know that not everyone...you know people who can write assignments are great for doing it in that way, but also having that group and social learning. (Participant eleven: Learner, Course C)

This learner highlighted how people can have different learning styles and that a learning environment needs to accommodate for this. Participant eleven believes that there need to be environments where different types of learning can take place. For example, if there is not an environment where group and social learning can take place, then the learner's will not benefit from receiving feedback from their team members, which they can then apply to their own self-assessments. Interestingly, the courses included for this study appear to accommodate this, with two having new purpose-built learning environments that are split into different areas and giving the

learners the ability to design how they would like the space to be laid out and utilised. Participant fifteen believes that the learning does not have to occur in the classroom but can be in any environment where the learner feels comfortable. Finally, participant eight discussed how they would conduct an assessment based on the environment in which an experience has taken place:

I would say anytime spent outside of an office environment is me, so if I'm going to be assessing that time, it would be you know 'how well am I managing between business, home and study' so that's probably how I do it. (Participant eight: Learner, Course B)

Entrepreneurial learners can be involved in different activities, which can be classified into business activities and academic activities, and these can sometimes overlap. It is interesting to note that they view the environment in which they have had the experience as being an important factor in deciding how to conduct the self-assessment; for example, they may have different goals depending on whether they view something as being more related to their business activities or academic activities and this can have an impact when it comes to self-assessing their skills.

#### **4.5.2 Peer assessment**

'Peer assessment occurs when people of equal status assess each other's work; most commonly in education, the peer is a classmate or a student from the same institution' (Pandero, 2016, p. 248). The findings from the interviews conducted for this study found that peer assessment is frequently used as a form of self-assessment on entrepreneurial learning courses:

The team part is critical and key, so they are continually working with others and continually getting feedback from others and continually having to work with each other throughout the three years in a team. (Participant ten: Educator, Course C)



This takes two roles: a learner self-assessing their role and contribution within the team; and assessing a team member's performance within a particular activity. An individual is able to use the feedback they receive from their peer group to conduct their own self-assessments, as others in the group may recognise strengths and weaknesses in their performance that they have not been aware of. This can then help them to view areas in which they perform well and those in which they need to improve:

Actually, if they were asking me for feedback on them...and to engage in it, I would probably throw it back to their peers and say 'right ok so what feedback would you give, like I don't know, \_\_\_ on this, and what do you think about his self-assessment and things like that, and actually I think it's much more powerful coming from their peers rather than me. (Participant four: Educator, Course A)

Participant four, an educator, discussed how instead of providing feedback to the learner themselves, they would ask their peer group to provide the feedback, as they believed that it would have more of an impact coming from other members within the team. This is in keeping with that have been put forward by academics such as Bandura (1986), who developed his social learning theory which believes that behaviour is learned from the environment through the process of observational learning. People would be more receptive to modelling good behaviours if they believed that they were capable of executing the behaviour. He used the term self-efficacy to describe this. Participants believe that learners observe the behaviour by working in teams where they can observe their peer group's behaviour and receive feedback that outlines their strengths and weaknesses. Receiving encouragement from their peer group will lead to the learner being more receptive to modelling the behaviour in the future. A study conducted by Li and Gao (2015) explored the relationship between peer assessment impact and student learning in order to determine how these two factors influence a learner's performance in a project. Li and Gao (2015) found that data analysis suggested that the impact of peer assessment on students' lesson plan projects seemed to vary according to students'

learning levels. While low- and average-achieving students showed significantly improved performance right after the integration of a peer assessment model, the model seemed to have had less impact on the performance of high-achieving students. Interestingly the participants in this study did not distinguish between learners with different levels of learning achievement. Instead, as outlined by participant ten, the learners work in teams and take part in self-assessments throughout the three years of their course. It was mentioned by participants that learners would have different abilities in giving and receiving feedback, which is the same for all learners, with there being no difference between low, high or average achievers.

#### **4.5.3 Tools to encourage self-assessment**

Written reflections were identified as being an important tool that encourages self-assessment. This was due to the fact that the learner is able to refer back to anything they have written down at a later date. For example, by writing down skills that they would like to improve, they can refer back to this and identify activities where skills have successfully been developed or areas that they need to improve further:

If you have that written down somewhere or you know... for me I'm very visual so like a mind map would be great like any type of colourful lists, different bullet points, even drawings can help, but I think it's just like the honest, the honest truth, but not in an extremely biased way on either side, not too positive, not too negative, just a very healthy medium and that's the reality point probably. (Participant thirteen: Learner, Course D)

Participant thirteen outlined how they would use different written tools to reflect on their strengths and weaknesses, which they could continuously review and record any improvements in their learning rather than just storing it in their memory. Written reflections also give the educator information about the learner's strengths, weaknesses, goals and future plans, which they can then use to improve the learning experience through focusing on aspects that are beneficial to the learner, for instance,

by encouraging them to develop a skill that the learner has previously identified as something they would like to improve. Educators also outlined how learners develop the skills needed to participate in self-assessments by taking part in written reflections:

There's all sorts of different things that they are learning...say, for instance, learning how to reflect and how to write reflectively, none of them would know how to do that, and none of them would know how to assess themselves or anybody else's work because it's such a foreign thing when you come to university so...it's a process of giving constructive feedback and giving examples of effective reflection and highlighting when you have dialogue...effective reflection and saying 'you know that's what you should be writing down'...and then they get the hang of it...so it's showing by example I think. (Participant one: Educator, Course A)

Participant one did not believe that learners had the required skills needed to effectively self-assess their skills on commencement of their course but believed that tools like written reflections could be used to develop the necessary skills such as having the ability to think critically and be self-aware. This is in keeping with research conducted by Taylor (2009, p. 4-12), who outlined that one of the essential components needed in order for transformative learning to occur is critical reflection, where learners should not only talk about the various issues but also express themselves in writing, which requires more exactness and commitment.

Personality tests are another key component of entrepreneurial learning courses that play an important role in self-assessments. They were used from the beginning of some of the courses that participated in this study to identify the learners' personality traits. This helped the educators form teams that contain different characteristics and make the learner aware of characteristics they possess, such as their styles of learning, the role they plan in a team and the strengths and weaknesses relating to this. Personality tests can be used as a tool to encourage self-assessments to take place, as it enables the learner to recognise and understand things about themselves that they were previously unaware of:

It's a starter for a conversation, so we were talking about how they can use Belbin because they've all had quite comprehensive Belbin reports generated, and so one of them comes out quite strongly monitor evaluator, and one of the downsides of monitor evaluator is procrastination and this particular person can...the other team members could really relate to the fact that he's constantly changing his mind and he can never fix with one thing...so that's given him a way into the first item on his personal development plan. (Participant one: Educator, Course A)

Participant one describes how personality tests were used with the aim of allowing a learner to discover their strengths and weaknesses based on their role in the team, which was discovered through completing a questionnaire called the Belbin Self-Perception Inventory and receiving an individual report which outlined which one of the nine-team roles their behaviour fitted into. The learner was then able to receive feedback from the group on their particular team role and how their team members viewed the learner's behaviour based on this report.

#### **4.5.4 Challenges of university regulations**

Educators frequently discussed the challenges between the implementation of self-assessments on their courses and meeting university regulations:

It's tricky to do from a regulatory perspective, especially because our degrees are validated by the \_\_\_\_, so anything that we want to do has to be approved by \_\_\_\_. (Participant six: Educator, Course B)

The participants believe that there is a lack of understanding amongst senior leaders about the nature of these courses as they are very new in nature and the teaching methods that they use have not been previously used, with most university courses following more traditional teaching routes and assessment methods, such as exams and assignments which are graded against a marking structure. These give a clear example of how well a university course performs, as they can be quantified much more effectively than self-assessments with no clear guidelines. This is a major challenge of self-assessment and the reason why it is less frequently used as a

summative assessment. This confirms the findings of the literature, which outlined how there is a need to increase our understanding of what the goal of the learning process. From the findings of this study, it can be seen that the participants believe that a divide exists between the teaching staff on the entrepreneurial learning courses, who are focused on formative assessments, and those who are responsible for designing and managing courses from a senior level who are more concerned with summative assessments that can be graded against a marking structure. This is due to the fact that this data is often captured in order to identify how well a course is performing and to promote courses to potential learners, thus attracting them to become learners on the particular course by demonstrating successful grades. This was frequently seen in the course prospectuses that were reviewed online as part of this study; however, it fails to promote the course by highlighting other benefits that the learner may receive, such as an improvement in their entrepreneurial competencies. This goes back to the earlier point that was made, which refers to increasing our understanding of what the goal of the learning process is as the participants in this study have outlined how there are challenges that exist when the goal of the course is to develop competencies through formative assessments like self-assessments when summative assessments that include a grade can often take precedent due to university regulations.

#### **4.5.5 Learner priorities**

A learner having the ability to prioritise was discussed by participants as being an important skill to have:

In terms of time management, so being able to prioritise as well, that's another key one, so if I'm going to improve on those kinds of skills that would definitely help in my self-assessment. (Participant eight: Learner, Course B)

Participant eight believed that being able to prioritise was a skill that would help in their self-assessment. Being able to prioritise was also discussed by participant eleven:

The thing with the course is when you get, you try and focus on one thing, and then six other different things hit you and so spreading your time between them makes it hard to kind of prioritise, and the self-assessment kind of aspect can take quite a hit when you've got you know exciting clients or a new opportunity, and you just want to get action instead of the reflection. (Participant eleven: Learner, Course C)

They won't release it until it's a last-minute thing, and then you get bombarded with everything; it can be difficult to then really show your true abilities and potential because of the whole-time pressure. (Participant thirteen: Learner, Course D)

From this, it can be seen that learners feel like other commitments on their course can impact their self-assessment, as they do not have the time available to self-assess or see it as not being as interesting as another activity that they have to participate in which are very practical. This is in keeping with the points raised in the literature by Taylor (2009) when he outlined the essential components that frame a transformative approach to learning. One component that Taylor (2009) put forward was awareness of context, and that the most important contextual condition is probably about the time that is available, as critical reflection and dialogue are all time-consuming processes. Therefore, it is important to compare the time taken to complete the self-assessment to the benefits obtained from self-assessments. This is demonstrated by participant fourteen, who believes that they would be more like to develop personal skills from a practical assessment as opposed to an examination:

I did like those assessments like they were good but at the same time like it was very, very stressful like the fact that we didn't have long and that we had to watch these videos like they did take a long time, especially if you wanted to get them right but they are probably the most beneficial in the terms of like I learnt probably the most from them than I did from my other modules which were like literally just exam based because then you're... you're learning for an exam, so you're just learning what you know is going to come up in an exam which isn't very practical whereas this like although you're learning content like you are also learning like skills, like personal skills if you know what I mean. (Participant fourteen: Learner, Course D)

Participant fourteen outlined how they learnt more from modules that included self-assessments than those that were exam-based as they were learning more personal skills. Self-assessments could be incorporated into courses as part of the activity and happen at different points to guide the learner through the action and help them perform successfully. However, this will only be successful if the learner is motivated to take part in the self-assessment and sees it as beneficial to them. This confirms the beliefs of Nicol and Macfarlane-Dick (2006, p. 199), who identified seven recommendations for supporting and developing learner self-regulation. Recommendation number five outlines that there is a need to 'encourage positive motivation and self-esteem' in the learner.

Additionally, as more formal assessments are more commonly used to produce grades and the learner's final degree classification, this can be seen as having a higher priority than self-assessments, with the learner not having any motivation to take part in them, especially if their overall goal of the course is to achieve a high grade rather than learning more about themselves. If we were to take into consideration the views of behavioural learning theorists, this could be due to the fact that the learner is extrinsically motivated, for example, through the achievement of grades (Robinson et al., 2016). Therefore, it is important to promote the benefits that self-assessments have for learners on their personal development, which cannot be obtained through only exam-based assessments on a course.

#### 4.5.6 Opportunities to self-assess

Learners were positive when asked if they would like more opportunities to take part in self-assessments on their courses:

We get plenty of opportunities to discuss with others and to reflect, with the questions that our tutors asked, even if they're not asking for feedback, you know they just give us things to talk about, just to think about in our own time, so I think the amount of reflection we have is great. (Participant seven: Learner, Course B)

Participant seven discussed how they have informal opportunities throughout their course to reflect, even if it is just their tutor mentioning something at the end of a seminar. From this, we can see that self-assessment does not have to happen in a formal way. However, instead, there are ways to increase the opportunities that learners have to reflect throughout different learning activities:

I think there's two things, one is about how we as educators put that into a context for them, and the other is about educating them about self-assessment so that they are more able to do it, and them being able to have those opportunities to do that. (Participant fifteen: Educator, Course D)

This confirms the views of Ilie (2014, p. 295), who believes that the role of the educator is to facilitate entrepreneurial competence development as it happens by stating that 'educators are challenged to set forth the learning opportunities of the students in relation with the unstructured and uncertain nature of the entrepreneurial environment'. In contrast to participants talking about the benefits of opportunities to reflect, participant twelve discussed how they were able to use an opportunity that they did not take advantage of as part of a reflection:



I never took the opportunity to use that while I was there, so for example, I could have networked people from the, got like sort of involved maybe like shared learning from stuff like that, maybe talk about the project they're doing there, and try and build that sort of relationship with them but even though I didn't do that, I still had the learning like from their communication, like sort of workshops they did while I was out there, so it was a brilliant opportunity so I'd say the self-assessment was there, but I didn't necessarily push myself but I may, I had a major key learning which now I'm back here, I've been able to adapt to my, well whilst I've been on the course since. (Participant twelve: Learner, Course C)

This demonstrates that missing opportunities can also be a catalyst to developing skills similar to learning through failure and resolving conflicts. This further emphasises the importance that the use of negative experiences in a reflection can have in a self-assessment and subsequently on developing skills. However, a challenge exists in designing an entrepreneurial learning environment where students recognise failure as an opportunity to learn, especially in an educational setting. Entrepreneurial learning may be considered as a complex process that requires various types of learning opportunities, such as social interaction and reflection, which has been adopted in entrepreneurship pedagogical methods (Pittaway and Cope, 2007).

#### 4.5.7 Factors that impact upon the success of a self-assessment

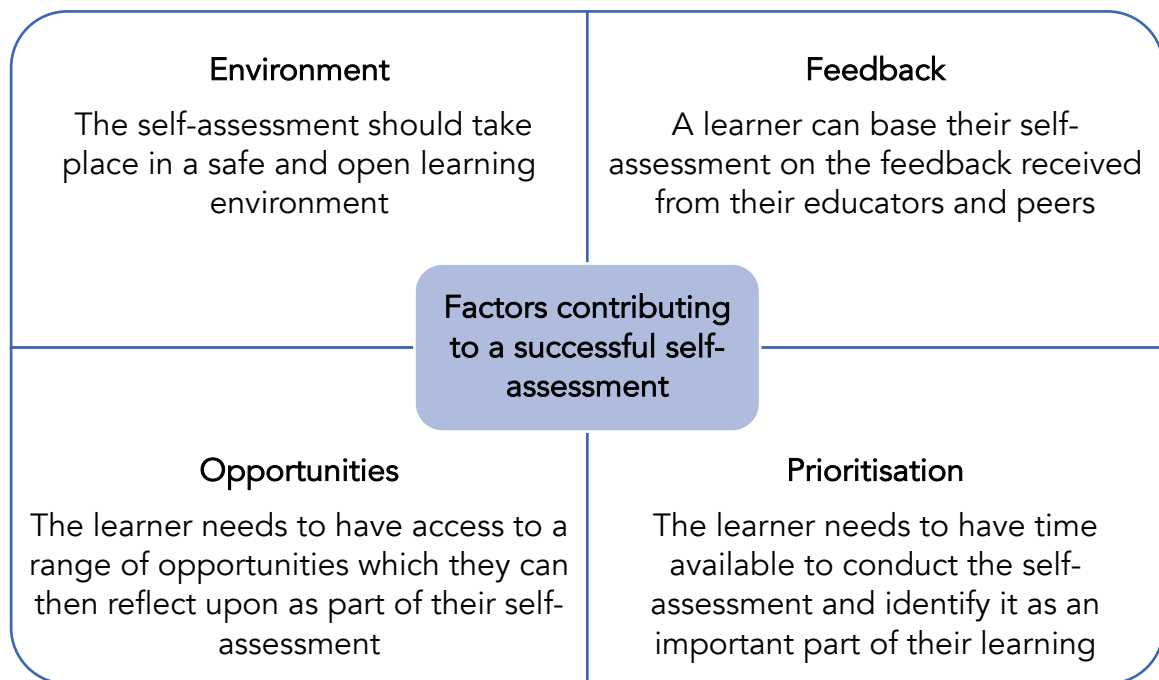


Figure 4.8: The factors contributing to a successful self-assessment

The factors that contribute to a successful self-assessment are shown in Figure 4.8, and they have been identified in this study by looking at the current nature of self-assessment practices on entrepreneurial learning courses. These four factors are summarised in Figure 4.8 above, and it is proposed that a course that incorporates each of these will create an environment where the learner has the best possible opportunity of carrying out a successful self-assessment.

#### 4.6 Research Question 5: What is the role of the educator in the facilitation of self-assessment practices?

##### 4.6.1 Facilitating independent learning and reflection

Educators are responsible for facilitating the learning process by ensuring that learners have the required tools to conduct their self-assessments. They take a different role than educators on many more traditional courses, where they are responsible for delivering the course content and marking the assessments the

learning takes part in. In formative assessment, the educator is responsible for signposting the learner in the right direction; their role is not to give the learner all of the information but instead ask them questions that encourage the learner to go and find out the information for themselves. This is in direct contrast to the theory of behaviourism, which proposes that learning is a 'teacher-led activity', with the educator being responsible for deciding what content should be delivered, how the teaching will take place and, in terms of assessment, 'what evidence of behaviour change needs to be produced' (Bates, 2016, p. 23). In regard to self-assessment, they are responsible for providing the learner with the required tools, but it is primarily the choice of the learner whether or not they participate in the self-assessment and their level of reflection. This contributes to the existing literature, which states that reflection in learning is necessary for students to revisit what they have learned for improvement and in-depth learning. It gives students an opportunity to document their learning journey and provide references and suggestions for future students'. (Chang, 2019, p. 95). This approach to teaching was discussed by learners who were interviewed as they felt that these types of courses involved a high proportion of independent learning:

There's a lot of independence in this course like I said, they're not going to spoon-feed you, but then again, this isn't kindergarten, so if you go to university and you think it's going to be like kindergarten, you're probably in the wrong place, so it's not that I ever expected them to just be like holding my hand the whole way, but they do give me enough information to work with. (Participant thirteen: Learner, Course D)

Participant thirteen outlined how they expected their course to include a significant amount of independent learning as it is a university-level course. This is interesting as much of the literature focuses on a particular age group of learners in the discussion of self-regulation skills. For example, a study conducted by Meier and Vogt (2015) investigated the cognitive processes of primary school students by interviewing them about the regulation of their learning processes. This demonstrates

that while a learner at the university level may be confident to undertake independent learning due to the development of their competencies in the past through other experiences before they came to university, another learner at a different point in the learning process could struggle more with this notion. Breaking this down more, two learners on one university course could have very different views about independent learning based on how developed their self-regulatory skills are, perhaps depending on where they are in the learning process. Participant thirteen was a second-year student who had already been exposed to self-assessment in the first year of their course. This was confirmed by participant fourteen who also believed that they were learning the skills needed to self-assess their learning as they progressed through the course:

I'm probably learning them as I go along on the course because you coming into a university is different to being at school, so it's much more independent cause I've only been here a few months like; that's like a gradual thing. (Participant fourteen: Learner, Course D)

When asked to explain 'what does the term self-assessment mean to you?', participant eight discussed how they believe that whilst it is good to receive feedback and advice from other people, actually going through this process yourself would always be more beneficial to your learning:

For me, it's being able to, you know, go out there and do something yourself, and be able to understand yourself in terms of how much you've achieved, what you have achieved, where your downfalls are and how you can improve on those downfalls, that's kind of self-assessment for me, I think it's a way for you to kind of understand yourself better, and it's, it's always good to obviously have other people speaking to you, and yeah you could improve on this, you could improve on that, but I think for someone to you know understand where they are today, themselves, it's always going to be better, cause if you can admit to yourself that 'yeah you know I've been failing with these things' then essentially you know you should be able to help yourself improve. (Participant eight: Learner, Course B)

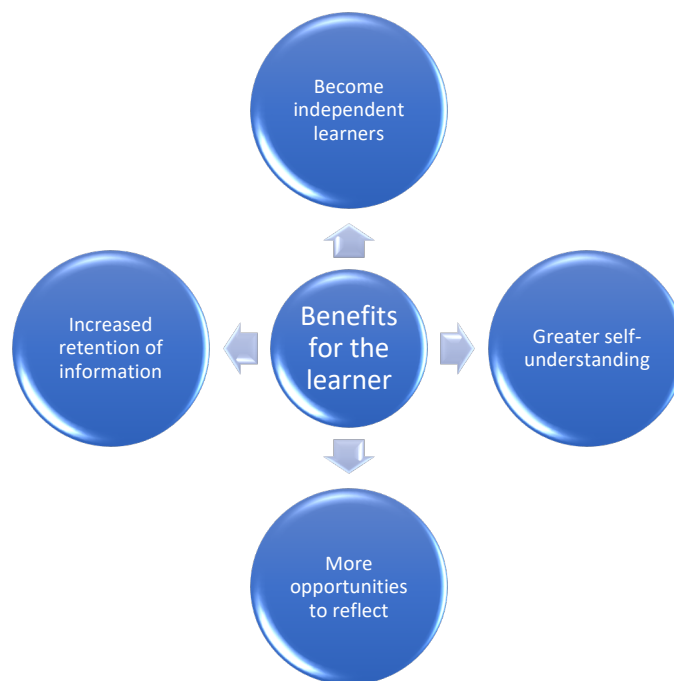
The participants' views confirm the findings of a study by Pittaway et al., (2011), who explored the role of student entrepreneurship clubs and societies to discover whether they had an impact on student learning and if they stimulate entrepreneurial learning. It was found that 'increased action leads to reflective practice' (Pittaway et al., 2011, p. 38). The research conducted for this study builds on the work of Pittaway et al., (2011) through the discovery that the educator will encourage this process by prompting the learner to reflect on their experiences further:

They're supposed to keep a diary, or like a reflective diary as they go through so as they move through each sub-step, so incorporating the company, getting finance, planning their market, working out what they want to do, they're supposed to keep tabs on that all the way through and then, in theory, they just compile that diary into a nice logical narrative...cause when they do this, they just do it all as they've done it, and then they kind of think back to how they were feeling at the time. (Participant five: Educator, Course B)

Participant five discusses how the learner can be encouraged to take action by keeping a reflective diary that they can refer to as they go through the learning course. This would ensure that the learner would be able to witness their development on the course instead of not keeping a record which they would not be able to reflect on later on in the course.

Participant fourteen believed that they would be more likely to remember what they have done and the information that they had obtained when they had a more practical experience:

I think because a lot more thought needs to go into it like if you're learning for an exam, you're just learning facts, and you're learning more like, you know what questions they're going to ask you, like, like you can ask me about my A Levels, and I wouldn't remember any of it but if you ask me about like the entrepreneurs that we learn about like there was a lot of thought behind it like we weren't told that, we were coming up with that from our own brains like we weren't told that this is what they're like, like that's our opinion on it, that although like modules are going to be heavily like, like they're going to have information like facts and stuff, there was no like gradual assessment of it like it was literally like learn it and then you've got an exam on it and to be honest with you like I learnt it, go and did an exam on it, I probably wouldn't even be able to remember like I don't know. (Participant fourteen: Learner, Course D)



*Figure 4.9: Benefits for the learner when the educator facilitates self-assessment practices*

Figure 4.9 depicts what benefits there are for learners when they are enrolled in courses where the educators take the role of a facilitator in the self-assessment practices, directing but not giving the learner all of the answers. This approach can lead to more independent learners where individuals can make their own choices and take responsibility. This can be achieved by giving them more opportunities to reflect,

leading to a greater self-understanding. Participants believe that the assessment type can change how the individual learns and how they absorb the information. A learner who engages with self-assessments independently has increased retention of information, as they have had to think more about what they are doing instead of just memorising information for an examination. An example of this was given by participant five, who stated how learners on their course are encouraged to keep a reflective diary throughout their time on the course, which they can then look back on. This is a way of helping them retain information and a method of encouraging assessment through the creation of a diary which can then be reflected on during a self-assessment.

#### **4.6.2 Grading of the self-assessments**

In summative assessments, the educator takes a more traditional role where they are responsible for grading the learner's assessments. Self-assessment only forms a small proportion of formal assessments that take place; this could be due to the nature of university regulations and a lack of awareness of self-assessment practices. Instead, educators have discussed how they use assignments as a tool to encourage self-assessment by including an opportunity for the learner to reflect as part of the formal assignment. How the self-assessments are graded was a theme that participants discussed in response to questions put forward to the educators about how they develop self-assessments on their courses:

That learning contract is marked by staff on the programme, and therefore you could have a good mark for having not met your goals if you're able to kind of show affective reflection etc. on that, so in that situation, and I think that it covers much of what we're doing, high in terms of self-assessment in terms of the general 'are you aware of yourself', low on self-assessment in terms of translating that into grades. (Participant ten: Educator, Course C)

Self-assessments were graded by looking at how well the learner has reflected on their performance; however, this is open to interpretation and can be highly

subjective as there is no right or wrong answer like there is in a formal examination. It can also be difficult for the learners to understand the criteria of the assessment as they have, especially if they have not taken part in self-assessments before. Participant four outlines how part of their role as an educator is not to just mark the assessment but also to prepare the learner to take part in them:

So the formal ones...they're assignments, it could be either a marker, so I could be the marker whose marking those and providing feedback on them, or [thinking] preparing the...helping prepare the students for writing those assignments, I suppose my role would just be to facilitate that deeper level of reflection. (Participant four: Educator, Course A)

This educator believed that their role was as a facilitator in the process of self-assessment. However, they could take on a range of tasks within this umbrella term at different points in the process; they would initially prepare the learner before the assessment took place and then provide grades and feedback after the assessment has been completed. Participant fifteen also discussed how they provide information to learners through assignment briefs and marking schemes, but also prepare the learner by teaching them how to reflect through learning exercises:

You can make an assessment also a learning exercise, and very often, what we do early on in the course here, is we'll structure reflective assignments so that we are teaching them how to reflect, and we use those as teaching opportunities and teaching tools, we also give them advice and guidance through the assignment briefs and the marking schemes. (Participant fifteen: Educator, Course D)

Educators on entrepreneurial learning courses do not believe that their role is to only grade self-assessments after they have taken place, but instead, the process of a learner completing a reflective assignment includes more tasks as the leader first need to develop the skills needed to reflect successfully. If an educator is going to grade a reflection, they first need to prepare the learner by ensuring that they understand this type of assessment and how reflection can be used to receive a good



grade. Educators discussed how peer assessments could be used to improve the learning process:

If we're marking each other's papers, both of our papers will improve because if I'm marking your paper; I'll really understand what the marking criteria are. (Participant ten: Educator, Course C)

Peer assessment is frequently used on entrepreneurial learning courses due to participants working closely in teams. Participant ten describes how this can be used further to improve a learner's understanding of the marking criteria by self-assessing someone else's piece of work. It is a belief of participants that feedback from educators and peers can be used to generate a successful self-assessment. Therefore, this demonstrates how marking and providing feedback to someone in their peer group and receiving marks and feedback from them can positively impact a learner's self-awareness.

#### **4.6.3 Ownership and responsibility**

Ownership and responsibility emerged as an important factor that learners develop on entrepreneurial learning courses due to the more 'learning by doing' approach of these courses. Participants discuss how the roles of the educator and learner flip as they go through the course, with a learner from Course C describing how they elect a team member to be an academic leader who will liaise with the module leaders (educators) about any assignments and questions that their team may have:

We have two people that we call our academic leaders, and it's up to them to contact like the module leaders and basically say and basically make sure they keep informed so [inaudible] we basically have them as a responsibility to sort of inform us or our upcoming assignments and then if we have any questions it goes through these two academic leaders, rather than our tutor. (Participant twelve: Learner, Course C)

Participants believe that learners grow as the course progresses and take more ownership and responsibility over time:

I think people grow up and kind of become adults and kind of take ownership and responsibility, and so once you kind of realise that you're the one who's going to make stuff happen or you're... you know it's down to you. You start using all the tools available to you. (Participant eleven: Learner, Course C)

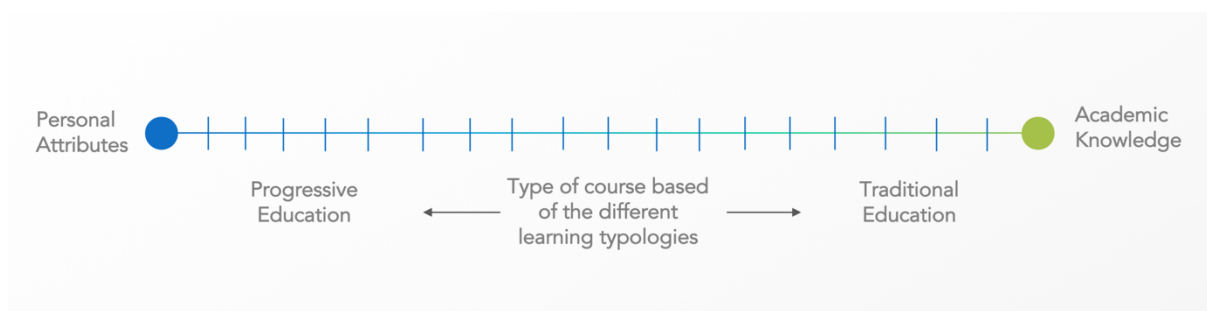
Participant eleven discussed how 'you start using all of the tools available to you', this could be self-assessments, and participants have started how they realise the importance these play as the course goes on, with the first year of the course being about 'finding their feet' and the second year being where they begin to take ownership and responsibility. In the courses that were looked at, the educator takes a mediator role, and it is up to the learner to engage with the process, as participant eleven, who was on a team entrepreneurship course, stated that the learners on their course have an increasing amount of responsibility for their learning and developing as they begin to realise that it is up to them to make it happen. This differs from a more traditional course where educators will be responsible for providing learners with the theory and answers, which they then revise, as it is up to the learner on these types of courses to take the lead and find information out for themselves. Self-assessments can guide this process by enabling the learner to discover their strengths and weaknesses, who they are and where they want to be.

#### **4.7 Conclusion**

The findings discussed in this chapter confirm prior literature and show that it is the belief of participants that self-assessment has a role in improving the learning experience for the learner on entrepreneurial learning courses. The process of self-assessment is believed by these participants to have a range of benefits:

- Improved identity for the learner
- Increased self-awareness
- A tool to enable conflict resolution

The benefits to a learner demonstrate why the use of self-assessments is a valuable inclusion on university courses, especially due to the changing nature of the workplace, which is becoming increasingly competitive. In addition, we can see from the introduction of government policies, such as the 2010 to 2015 policy on business enterprise, which focused on providing a supportive environmental context for graduate entrepreneurs (Department for Business, Innovation and Skills, 2015), that there is an increased focus on producing graduates who have particular competencies, as outlined in the EntreComp Model. Self-assessment is a tool that allows educators to develop these competencies in learners on their courses. The participants who were interviewed for this study came from a range of courses that can be highlighted using a scale, from entrepreneurial learning courses that follow the team academy philosophy at one end to those who are primarily taught with formal lectures and seminars, and which have assignments that consist of exams and assignments. The analysis of these interviews has led to the production of a scale that depicts the awareness of a learner surrounding their personal attributes and academic knowledge and the link between this and the learning typology of a course.



*Figure 4.10: Scale showing the relationship between learning typologies and a learner’s awareness of their personal attributes and academic knowledge*

From Figure 4.10, it can be viewed that learners on courses that follow a more progressive educational approach will be more aware of their personal attributes when carrying out self-assessments, whilst those on more traditional educational approaches will be more aware of their academic knowledge. This information was

generated through the examples given by the learners who were interviewed for this study; when they were asked to give an example of a time where they had carried out a self-assessment, those on the more progressive courses would give examples that related more to their personal attributes, whilst those on more traditional courses would give examples which related more to their academic knowledge:

I think after school, I had quite a big one actually, I think I just realised that the people I was kind of friends within school weren't really my people, so then I went to a college where there was one other person from my school there, and that was really nice cause it was almost like a refresh, and again like I was thinking about this kind of stuff at sixteen, which to me is really normal, but to some, it might not be, probably isn't, and then yeah so I went to college with almost a fresh start of like this is what I'm looking for now, so I think that was a bit of a self-assessment because I had the summer after school to be like 'ok what now like that's finished, that's done and I don't really want to, you know associate with anyone from school at the moment. (Participant three: Learner, Course A)

Participant three, a learner on a team academy entrepreneurial learning course, talked about past experiences when asked the question 'can you give an example of when you carried out a self-assessment?', they answered this question in an interesting way by drawing on personal experiences and the attributes that they had learned from this, demonstrating a self-awareness of their personal attributes. In contrast, when participant seven was asked the same question, they talked about an experience on their course where they shared knowledge with an individual on their course about best practices for setting up a business:

Yeah absolutely, so we were talking about, we were writing up a comparative log, our business compared to another business, and they were completely different businesses whereas mines like a legal tech, there was a wakeboarding company, a physical activity, and we were comparing and contrasting the similarities and the differences between setting up both types of businesses. (Participant seven: Learner, Course B)

By contrasting these two learner viewpoints, it can be seen that their awareness is at different levels of the scale displayed in figure three. However, even though participant seven is on a more traditional course, their awareness does not fall at the end of the scale where academic knowledge is; they are able to use real-life examples and talk about occasions where they failed or succeeded in their business, this is touching upon personal attributes. Therefore this participant would fall along the scale between the two endpoints. This demonstrates how learners do not just have an awareness of their personal attributes or academic knowledge; they fall at different points on the scale, which are dependent upon several factors, such as course typologies, past experiences, assessment methods, and opportunities to conduct self-assessments. From this scale, it can be concluded that learners who are more aware of their academic knowledge could participate in self-assessments that make them more aware of their personal attributes, thus improving their skillset. This shows that self-assessment practices can be incorporated into more traditional courses, where there still needs to be formative assessments due to the nature of the university and the university regulations that need to be complied with, through having a mix of assessments that ensure the learner can develop their personal attributes and academic knowledge, as this will increase their ability to perform tasks competently.

## **Chapter 5: Conclusion**

### **5.1 Introduction**

This chapter addresses directly the five research questions outlined in chapter one:

1. Can self-regulatory skills be used in the self-assessment of entrepreneurial learning competencies?
2. What skills do learners need to self-assess their own learning?
3. Do learners benefit from taking part in self-assessments?
4. What is the nature of existing self-assessment practices on entrepreneurial learning courses?
5. What is the role of the educator in the facilitation of self-assessment practices?

This chapter provides a summary of the key findings and original contribution that this research has made to our understanding of self-assessment practices on entrepreneurial learning courses and the impact that this could have on higher education. The implications of this research for learners, educators, pedagogy and policy are discussed.

The limitations of this research are considered as well as suggestions for future work that could increase our understanding by looking at some key areas that emerged through this study in more detail.

### **5.2 Contribution to the field**

The main contribution of this study was the production of the following new information from the data collected and analysed in the interviews:

- A typology of the forms of self-assessment
- The process of self-assessment
- The outcomes of the self-assessment
- The factors that contribute to a successful self-assessment

A full discussion of the new information produced can be found in chapter four. Each of these can be used by those involved with the design of courses and as a toolkit for educators, as it outlines suggestions for self-assessments that learners can participate in. Learners could also use this information to increase their understanding of self-assessments, increasing their motivation to take part in them. This original contribution that this study has made is presented in relation to each of the five research questions.

### **5.2.1 Research Question 1: Can self-regulatory skills be used in the self-assessment of entrepreneurial learning competencies?**

This research identified a typology of the forms of self-assessment that learners participate in on entrepreneurial learning courses, which was developed from the data collected from the interviews with participants. The typology describes the five key activities that learners engage in and demonstrates the self-assessment practices that are in place in higher education: reflecting on experiences, reviewing competencies, receiving feedback, resolving conflicts and recording the self-assessments. This typology explains the types of self-assessment that learners could participate in to develop their self-regulatory skills. This contributes to the existing literature on self-assessment typologies (Panadero et al., 2016; Andrade, 2009) by demonstrating the value created for the learner through their engagement in self-assessment activities. Through a discussion with the educators and learners on entrepreneurial learning courses about each of these activities, best practices were identified as well as suggestions on how they could be better incorporated into courses in order to have the most benefit for learners. It was discovered that learners

need to have the ability to think critically whilst engaging with each of these forms of self-assessment. This confirms the findings from a previous study by Phan (2010), which investigated the relationship between critical thinking and self-regulation. This study contributes by building on the existing literature; through the generation of new information which increases our understanding of the self-assessment practices on entrepreneurial courses in England. It was discovered through analysing the data collecting during the interviews that critical thinking is a competency that can be developed during a learner's time on the course. Learners become more adept at thinking critically as they advance through the course and become more self-aware, with participants believing that self-assessment and self-awareness are directly linked. It was found that there are opportunities for learners to display self-awareness through self-assessments at different points in the learning process; before, during and after an activity has taken place. This finding could contribute to a change in policy at universities in regard to the design of the course curriculum and the delivery of assessments, for example how summative and formative assessments are administered on university courses. Existing practices on entrepreneurial learning courses focus more on learners participating in self-assessments after the conclusion of a particular task or after learning has taken place. There is an opportunity to include more self-assessments at different points in the learning process, which would encourage the learner to become more self-aware as they would have the option to analyse their skills and performance as they go through a task.

The research found that self-regulatory skills can be developed in a learning environment through self-assessment. This finding contributes to the existing debate on the value of self-assessments (Siegesmund, 2016; Ambrose et al., 2010) as we can see that developing self-regulatory skills could be beneficial for learners who will be seeking employment in an environment that is highly competitive. Participants in this study described how increased self-awareness has led to them now understanding what skills they are competent in and the skills that require improvement, as well as



an understanding of the types of career they would like to pursue on commencement of their studies. Self-assessments can lead to the learners understanding themselves better and put them in a position where they can plan ahead so that they know the steps to take once their university course has finished. Learners are also already taking part in real-life activities, so this transition does not seem as intimidating, and they have the confidence and direction needed to enter the workplace, compared to learners on more traditional courses.

The research found that self-assessments could lose their value if they become too formal. This is in keeping with the views of Ross (2006, p. 318), who produced a list of six guidelines that outline how self-feedback processes can be encouraged in the learning environment, with one guideline advising those responsible for designing and delivering courses to 'not turn self-assessment (exclusively) into self-evaluation by counting it toward a grade'. This highlights a problem with incorporating self-assessments into more traditional courses, how they could be included in other university courses and subsequently how valuable they would be in this setting. Therefore, we need to look at self-assessments in higher education in two ways; formal assessment methods and non-formal assessment methods. This increases our understanding of self-assessments in higher education and contributes new knowledge to the field, which could influence the direction of future research activities.

The educators interviewed for this research described how university regulations are a challenge for them when looking at implementing self-assessments on their courses. Incorporating self-assessments as a formal method of grading has implications for university policy and practice, as the existing policies do not easily allow for the incorporation of self-assessments into other disciplines as they can be difficult to grade. Universities commonly use traditional assessment methods such as essays and examinations to identify how well learners are performing on their respective courses.

If self-assessments were to be more frequently used, then the views of key policymakers would need to be considered, and this should be the first step when looking at increasing the use of self-assessment as a means of formally grading learners in higher education.

The data found that conflict management could be used as a form of self-assessment, with the educators and learners interviewed in this study highlighting how it can benefit a learner's self-regulatory skills. These benefits include learning to control their emotions and increased self-awareness of their strengths and weaknesses. This finding increases our understanding of conflict management in higher education, as it is something that could, in the first instance, be seen to have negative implications for the learner. However, this research has found that negative and challenging experiences do have a positive impact on the skillset of a learner. This finding contributes new knowledge to the literature and leads to the conclusion that there needs to be a way to incorporate good conflict resolution systems into courses. The data collected from the interviews identified that this could be achieved in the following ways:

- Writing down things that have gone wrong during a task, reflecting on this and identifying how the learner could improve their performance in the future.
- Talking in their groups and understanding why other members of their team might not have been performing adequately.
- Receiving feedback from their team members can help the learner to identify their strengths and weaknesses.

Links between theories of learning and self-assessments were confirmed through this research. Participants described how their self-assessments were facilitated through experiential learning. However, it was also found that there is a need for structured self-assessments so that learners are taught relevant information and develop the

required skills. This builds upon the work initiated by Dewey (1897), who believed that learners should not explore their interests without direction, but instead, these interests need to be fostered by the educator with a specific purpose and enduring goal in mind (Dewey, 1897). This is due to the fact that despite an entrepreneurial learning course being more student-led than more traditional courses, there will still be particular skills that a learner needs to develop and subsequently demonstrate in order to pass their course, with all modules on these courses having clear objectives. This contributed to the literature as current self-assessment typologies (Table 2.17, p. 96) have not been discussed in relation to how they are impacted by different theories of learning. This shows the challenging role that educators have on entrepreneurial learning courses, as there needs to be a balance between learners deciding upon the direction of their learning and ensuring that they are developing the necessary skills to pass the course. For example, the ability to understand the finances of a business is vital in its success. Therefore the educator needs to ensure that the learners on their course are competent in these skills despite this not being an area that every learner may be highly interested in, as their business ventures will not be successful without a good level of understanding. The challenge for educators is to find a way to increase the motivation of learners when they are not interested in a particular task, as this study identified that learners are more interested in learning by doing, and their participation is dependent upon their level of interest. This research found that this could be achieved by personalising the learning so that if there is a particular competency that an individual is not interested in, the educator can find a way to engage and motivate the learner. This contributed new knowledge to the field.

### **5.2.2 Research Question 2: What skills do learners need to self-assess their own learning?**

This research built upon the existing literature on experiential learning (Dewey, 1938; Gentry, 1990; Leigh and Spindler; 2004) through identifying a process of self-

assessment that a learner on an experiential learning course goes through. This process helped to identify the skills that are required by the learner in order to complete the self-assessment. The data identified that both learners and educators value self-assessments as the process encourages a deeper level of reflection, a learner's ability to self-assess, and a learner's motivation. A deeper level of reflection is required as learners not only need to be able to reflect, but they also need to engage on a deeper level of reflection. A deeper level of reflection is learned throughout their time on a course and is where a learner actively reflects on their whole performance, discussing not only their strengths but also their weaknesses. Participants believed that this generates the most value out of a reflection. This confirms the findings of prior research into reflection, with Hilden and Tikkamäki (2013) suggesting that reflection is at the core of adult learning and professional growth, transformation and empowerment. According to Taylor (2009), critical reflection is one of the essential components that frame a transformational approach to learning. As a result, the deeper level of reflection discussed by the participants could also be known as critical reflection. In addition, this research contributed new knowledge by identifying different types of reflection that a learner engages with; reflecting on past experiences can help a learner to develop their skills, and how learning and behavioural models are taught on entrepreneurial learning courses, which provide the learners with a context in which to reflect on their preferred learning method.

The data collected found that participating in self-assessments increases the ability of a learner to self-assess. Learners have different levels of abilities when it comes to reflecting and self-assessing. This is in keeping with the competency framework produced by Man et al., (2002), in which conceptual competencies were identified as one of the six competency areas. Conceptual competencies relate to the different conceptual abilities of an individual. The participants outlined that the more often a learner self-assessed their performance, the more skilled they will be at doing so. In

order to become successful at self-assessing their skills, a learner needs to have the opportunity to do so as they will learn the skill through a process of learning by doing. In order to achieve this, a learner needs to be motivated to take part in the self-assessment. It was found through the research that learners who experienced a positive outcome from the self-assessment would be more likely to engage with the process in the future. This demonstrates how, over time, the learner will develop skills that enable them to self-assess more effectively through positive experiences with self-assessments, and as such, they will begin to engage in self-assessments without being prompted by the educators on their courses.

Having a confirmation bias was discussed by the educators in the interviews as one of the main problems when asking learners to self-assess their skills, as it found that learners can have a tendency to discuss their competencies more positively during a self-assessment which does not accurately reflect their abilities. This was also discussed in the literature, with Maddux and Kleiman (2016) stating that a high level of self-efficacy can lead to an individual overestimating their abilities which can result in the failure of a task, which was also highlighted in this research, where a participant outlined that they have a strong self-belief when it comes to their abilities. The data collected found that confirmation bias was more of an issue at the start of a course, and learners became more comfortable discussing the skills they needed to improve on over time. This study contributed by finding a solution to the problem of confirmation bias, with the data suggesting that educators can help alleviate this problem by making learners aware of their own confirmation bias and asking them to discuss any skills they would like to develop further. This could be achieved by having self-assessments conducted at different points in the learning process where learners can reflect upon their progress before, during and after and not just reflecting once a task has taken place.

### **5.2.3 Research Question 3: Do learners benefit from taking part in self-assessments?**

The research contributes to the findings from prior studies on learner identity (Pache and Chowdhury, 2012; Howorth et al., 2012) through the production of new knowledge. The data collected confirms that self-assessment has a benefit on the learner's identity as it helps them identify where they have been, where they are at and where they want to go in the future. This study found that this was the result of personalised learning, increased self-awareness, multiple social identities and individual or group identity. This is because each learner is an individual with different life experiences and expectations of the course, based on the goals they would like to achieve and where they see themselves in the future. In addition, self-assessment considers the fact that each learner has multiple social identities, which can impact their learning, and self-assessment gives the individual an opportunity to discuss these roles and the impact that they have had upon their performance in a task. Finally, from the data, we can see that a learner's identity can change based on whether they are looking at themselves as an individual or as a team member, with each being equally important as a learner does not exist in isolation from everything else around them. Traditional assessments predominantly focus on the learner completing assignments on an individual basis; however, self-assessments, especially those that take place within a team, allow for the generation of feedback from their peers, which further increases self-awareness.

The participants in this study discussed how self-assessments allow for a learner to receive a good grade if they demonstrate why a task went wrong. This makes it applicable to the real world, where internal and external factors influence a business's success and failure. As a result, those working in and running their own companies will have experienced times when something has gone wrong and subsequently used this experience to improve their performance in future activities. This was a new

finding that contributes to the existing knowledge, with there being a gap in the literature surrounding whether there are any positive impacts for a learner who experiences failure, with the data highlighting that there are benefits for the learner, even if their performance in the task has been weak, as this provides them with the opportunity to identify their mistakes and learn from these. This demonstrates how self-assessments are more applicable to real-world scenarios than summative assessments, such as examinations, which do not allow a learner to develop their skills through experiencing failure.

Providing opportunities that are of interest and increasing the responsibility they feel towards their work were found in the research to be two factors that can increase the learner's engagement. These opportunities are those which meet with the learner's own goals and have a direct benefit to them. For example, providing a learner who is interested in meeting those who are running and working in businesses with an opportunity to attend a networking event will be of interest as they will be fulfilling their goals and, therefore, will be more motivated to take part. They will then be able to self-assess their performance in this activity. Without a learner engaging in these opportunities, they will have nothing to self-assess. It is therefore vital that educators personalise the learning and providing access to opportunities that motivate the learner.

This research identified the outcomes of the self-assessment; personal growth, achieving grades and seeking additional support. This builds on the conceptual framework that was produced based on the literature review, through new knowledge that demonstrates the outputs of self-assessment. Additional support services need to be available for learners to access when participating in self-assessments. This additional support could be from the educators or their peer group on their courses but also the welfare services within the university. There has been an increased focus in recent years on the welfare services that are offered by universities. These are wide-

ranging and focus on different aspects of a learner's wellbeing. This research highlights the important role that support services play in the learning experience of individuals and opens up a discussion on the role that they play for learners taking part in self-assessments as these may identify additional support that the learner may require. Learners talked about how they would seek additional support on receiving feedback from their peers and educators on their course, as the welfare services are another resource that could help them to conduct their self-assessment more effectively. University welfare services that could play a role in supporting self-assessments include the following: academic support, international student support, careers services, emotional wellbeing, IT services, financial support services, disability support services, chaplaincy and library support services.

The data in the study suggests that engagement with these services could encourage personal growth or enable the learner to achieve higher grades, as they could take the form of either pastoral support or learning support, such as an additional skills workshop. An example of this was given in chapter four when discussing the findings of the interview with participant thirteen, who talked about seeking additional support from student welfare services after they had received feedback on an assessment. Participant thirteen highlighted three reasons for this; if there was anything they wanted to talk about further, if they needed additional advice or if they wanted to discover how they could improve their performance. Therefore, it is recommended that learners on entrepreneurial learning courses are frequently provided with information about how they can access these support services.

#### **5.2.4 Research Question 4: What is the nature of existing self-assessment practices on entrepreneurial learning courses?**

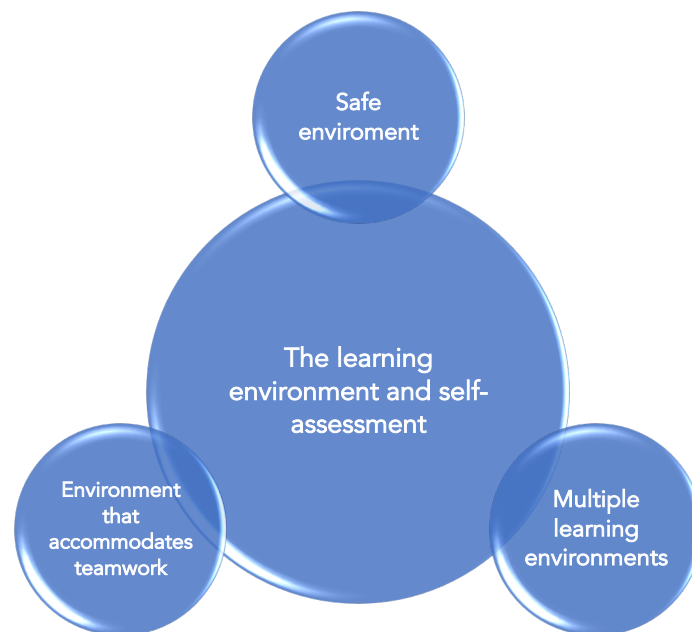
The data identified the nature of existing self-assessment practices on entrepreneurial learning courses. Participant two discussed how a safe learning environment is



created where the learner is able to talk about their personal issues. This is due to the fact that learners on these courses frequently work in teams and are encouraged to build a rapport with their team members. It could be problematic to introduce self-assessments into more traditional courses due to learners not working as closely together in teams compared with courses that follow the Team Academy principles. Learners felt that they needed to have more time available to engage in self-assessments as assignments that are part of the formal assessment criteria can take precedent. This demonstrates how self-assessments on entrepreneurial learning courses are, frequently, not part of the formal assessment criteria and how those assignments that count towards a learner's grades can be seen as more important and therefore take priority. This could be a result of university regulations which the educators interviewed for this study described as being a challenge for them when looking at implementing self-assessments on their courses. Learners discussed how there are plenty of opportunities to self-assess informally through discussions and reflections. Tools are also used to encourage self-assessments on entrepreneurial learning courses, with the most widely discussed being written reflections and personality tests. This highlights how the existing nature of self-assessment practices is to have them more commonly used as informal learning practices and not graded assignments. Self-assessments could not be seen as a priority for learners due to graded assessments taking priority due to time restraints of the course, such as several different graded assignments with deadlines occurring around the same time in the learning process. It is recommended that there needs to be an increased understanding of self-assessment practices and the benefit of these for learners, amongst university staff responsible for designing and delivering courses.

The factors that contribute to a successful self-assessment, environment, feedback, opportunities and prioritisation were identified through looking at the current nature of self-assessment practices on entrepreneurial learning courses. The learning

environment where the self-assessment takes place is important and needs to accommodate for this.



*Figure 5.1: The learning environment and self-assessment*

Figure 5.1 is a summary of the findings discussed in Section 4.5.1 of chapter 4 (p. 226). This study provides recommendations for university policymakers and course leaders on how the learning environment should be designed, which encourages good self-assessment practices amongst the learners. Many of the activities take place in teams and therefore, there needs to be a space that accommodates this. In addition to this, it needs to be a safe environment where the learner feels comfortable to engage in their self-assessment as they may be talking about personal issues. Participants also believed that there need to be multiple learning environments for learners with different preferred learning approaches.

Through a review of the literature, working in teams was discovered to be a key component of entrepreneurial learning courses. It was found that peer assessment is an important part of self-assessment, whether an individual is receiving feedback from

their peers or is reflecting on their performance within a group task, as identified in the conceptual framework on p. 140. This study identified that feedback from educators as well as peers could be used to generate a successful self-assessment, and therefore this demonstrates how marking and providing feedback to someone in their peer group, as well as receiving marks and feedback from them, can have a positive impact on a learner's self-awareness. This is in keeping with previous studies, such as the social learning theory produced by Bandura (1986). It was found through this research that learners observe the behaviour of their peer group whilst working in teams and receive feedback that outlines their strengths and weaknesses. It is recommended that a learning environment should be created where learners receive encouragement from their peer group, as this could lead to the learner being more receptive to modelling the behaviour in the future.

The research discovered that there are tools that can complement the self-assessment; written reflections and personality tests. Both of these can be kept by the learners and looked back on during a self-assessment to identify their progress. This is achieved by having the learner write down skills that they would like to improve. The learner can refer back to this and identify activities where they have successfully developed this skill or areas that they need to improve further. These written reflections also give the educator information about the learner's strengths, weaknesses, goals and future plans, which they can then use to improve the learning experience. This finding contributes to our understanding of self-assessment activities and course design by demonstrating how self-assessments could be incorporated into other higher education courses, as learners could be provided with a means of recording their reflections at the beginning of their courses which they could then keep and reflect on during their time at university.

Currently, other assessments which feature a grade that goes towards a learner's overall classification could take priority. Therefore, there needs to be a change in the

structure of courses that provides the learner with sufficient time to engage in self-assessments. This could be achieved in a number of different ways:

- Outlining the benefits of taking part in the self-assessment which will increase the learner's motivation to take part
- Incorporating an element of self-assessment into formal assessment methods such as examinations and essays
- Increasing the number of informal self-assessments in the learning process; to take place before, during and after an activity

This information was discovered through the data collected in the interviews and provides new knowledge that could contribute to how university courses are designed in a way that includes self-assessments that create value for the learner.

#### **5.2.5 Research Question 5: What is the role of the educator in the facilitation of self-assessment practices?**

This study identified the role of the educator as a facilitator in the process of self-assessment. This is in keeping with the conceptual model, which was identified based on a review of the literature and found the educator to have a key role (input) in the self-assessment process. This research found that their role is not to give the learner all of the information but instead ask them questions that encourage the learner to go and find out the information for themselves. This is in direct contrast to the theory of behaviourism, which proposes that learning is a teacher-led activity, with the educator being responsible for deciding what content should be delivered, how the teaching will take place and, in terms of assessment, 'what evidence of behaviour change needs to be produced' (Bates, 2016, p. 23). This highlighted how their role differs from the role of an educator on more traditional courses, which primarily consist of assessments such as examinations and essays. On a more traditional course, educators will be responsible for providing learners with the theory and answers,

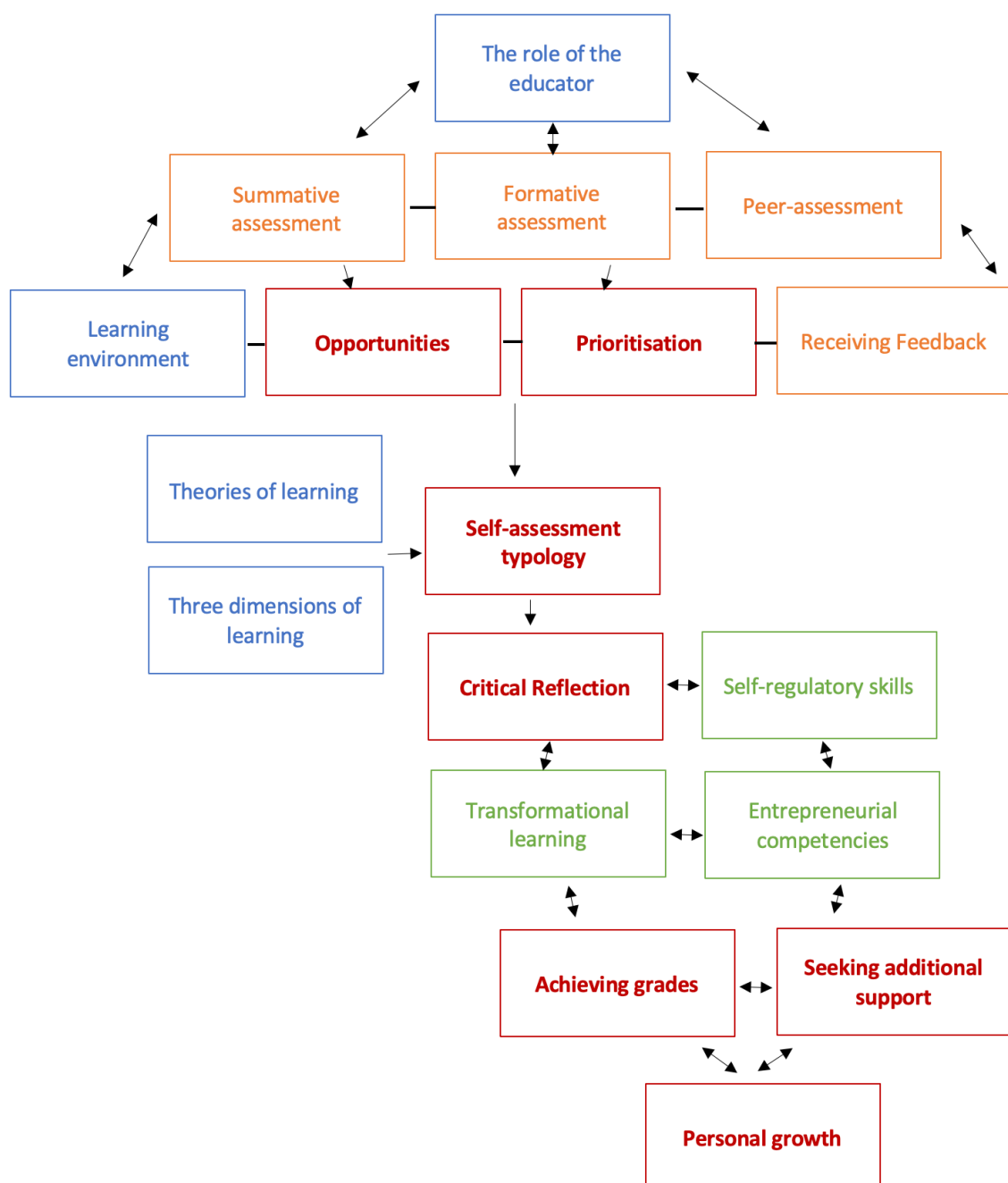
which they then revise. However, it is up to the learner to take the lead and find the information for themselves on entrepreneurial learning courses. It is the choice of the learner whether or not they participate in the self-assessment and their level of reflection. Educators need to have a greater understanding of self-assessments as their role is also prepare the learner to take part in self-assessments and equip them with the skills to self-assess; however, it is the choice of the learner whether or not they participate in the self-assessment and their level of reflection. Self-assessments can guide this process by enabling the learner to discover their strengths and weaknesses, who they are and where they want to be. There is a need to have more opportunities for individuals to become independent learners as this can lead to them having a greater self-understanding and increased retention of information. This could be achieved through the educator providing the learner with more opportunities to reflect through self-assessments. This approach provides the learner with an opportunity to take ownership and responsibility for their learning as they realise it is up to them to make it happen due to the educator's role on their entrepreneurial learning course as a facilitator.

Participants believed that the assessment type could change how the individual learns and how they absorb the information. A learner who engages with self-assessments independently could have an increased retention of information, as they have had to think more about what they are doing as opposed to just memorising information for an examination. The educator's role as a facilitator would require them to complete different tasks at several points in the learning process as they would initially prepare the learner before the assessment has taken place, and then they would provide grades and feedback after the assessment has been completed. The learners who participated in the study believed that feedback from educators could be used to generate a successful self-assessment as this could have a positive impact on their self-awareness. This new knowledge has contributed to a better understanding of the

educator's responsibilities on entrepreneurial learning courses and the role they take in the process of a learner conducting a self-assessment.

### 5.2.6 Updated conceptual model

Following on from the data analysis and findings generated from this research, the original conceptual model (Figure 2.11 on p. 140) that was produced in response to a review of the literature has been updated and revised to include the new knowledge that has been produced from this study.



*Figure: 5.2: An updated conceptual model*

In Figure 5.2, the updated conceptual model is presented. The boxes in red represent new information that has been discovered from this study. The factors contributing to a successful self-assessment have been built into the model: learning environment, opportunities, prioritisation and receiving feedback. From this, we can see that the learning environment and receiving feedback were included in the original model based on the literature review, but new information has been added with the discovery of opportunities and prioritisation emerging from the interviews with participants. The data collected and analysed for this study found that self-assessments on entrepreneurial learning courses are, frequently, not part of the formal assessment criteria and how those assignments that count towards a learner's grades can be seen as more important and therefore take priority. This could be a result of university regulations which the educators interviewed for this study described as being a challenge for them when looking at implementing self-assessments on their courses. Learners discussed how there are plenty of opportunities to self-assess informally through discussions and reflections. This highlights how the existing nature of self-assessment practices is to have them more commonly used as informal learning practices and not graded assignments. Self-assessments could be seen as not being a priority for learners due to graded assessments taking precedent due to time restraints of the course, such as several different graded assignments with deadlines occurring around the same time in the learning process. It is recommended that there be an increased understanding of self-assessment practices and their benefit for learners amongst university staff responsible for designing and delivering courses.

Self-assessment has become self-assessment typology in the model, which, again, demonstrates the new knowledge that has been generated from this research. This typology outlines the four types of self-assessments that learners can participate in;

they are made up of five key actions: reflecting, reviewing, receiving, resolving and recording. These four types of self-assessments can help develop their self-regulatory skills, demonstrating the link between the self-assessment typology and self-regulatory skills in the conceptual framework. The participants discussed how thinking critically and critical reflection are important in self-assessments, and therefore reflection in the original model has developed into critical reflection in the updated version. Finally, the outcomes of self-assessment that were identified from the data have been added as outputs of the self-assessment at the bottom of the model. These are achieving grades, seeking additional support and personal growth, and were discussed by the participants in the study as the outcomes that occur and the actions that are taken following the self-assessment, which results in personal growth.

Input	Process	Output
Education inputs are the means used in an education system to achieve educational objectives, such as the number of teachers, school facilities, teaching materials	The processes are the methods of delivery of contents (Salam, 2015, p. 1)	Education outputs are the product of learning or, in other words, the demonstration that learning has occurred
Theories of learning	Summative assessment	<b>Critical reflection</b>
Learning environment	Formative assessment	Self-regulatory skills
Three dimensions of learning	Peer-assessment	Transformational learning
The role of the educator	Receiving feedback	Entrepreneurial competencies
	<b>Opportunities</b>	<b>Personal growth</b>
	<b>Prioritisation</b>	<b>Seeking additional support</b>
		<b>Achieving grades</b>

Table 5.1: Updated version of the three sections of the conceptual model and the individual variables.

In Table 5.1, an updated version of the three sections (inputs, processes and outputs) of the conceptual model are presented. The new knowledge is included in the model and highlighted in bold. From this, we can see that the study has contributed new knowledge about the processes and outputs of self-assessment on entrepreneurial



learning courses in England. As a result, this could have an impact on the methods of delivery on a course and increases our understanding of how we can demonstrate that learning has occurred.

### **5.3 Research Limitations**

This research was limited by its sample size of learners and educators from entrepreneurial learning courses at four English universities. It could have benefited from interviewing a more significant number of participants and those from different types of courses. However, due to the time restraints of the PhD, this was not possible. This research interviewed the educators and learners at one point in time, and therefore how their views change as they progress along the course could not be captured. A longitudinal study where the educators and learners were interviewed at different points in time could have been used to see if their views on the role of self-assessments change over time could have provided a deeper insight into whether learners become more competent at performing self-assessments with increased engagement.

#### **5.3.2 Future Work**

This study has identified how further research could build upon the findings in the following areas:

- How self-assessments could be incorporated into other types of higher education courses
- The role that university welfare services could play in supporting a learner who is engaging with self-assessments
- The benefits of conflict management in the learning process
- How self-assessments improve the identity of a learner
- Preparing educators for their role as a facilitator in the self-assessment process

- How self-assessment can be used at different points; before, during and after an activity has taken place

#### **5.4 Summary**

The findings discussed in this chapter confirm and challenge prior literature and show that it is the belief of participants that self-assessment has a role in improving the learning experience for the learner on entrepreneurial learning courses. The participants believe the process of self-assessment to have a range of benefits:

- Improved identity for the learner
- Increased self-awareness
- A tool to enable conflict resolution

The benefits to a learner demonstrate why the use of self-assessments is a valuable inclusion on university courses, especially due to the changing nature of the workplace, which is becoming increasingly competitive. In addition, we can see from the introduction of government policies that there is an increased focus on producing graduates who have particular competencies, as outlined in the EntreComp Model. Self-assessment is a tool that allows educators to develop these competencies in learners on their courses.

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# Appendices

## Appendix A: Research Information Sheet for Learners



### RESEARCH INFORMATION SHEET

Outline of the research (couple of sentences in non-specialist language)

This research will investigate the role of self-assessment in entrepreneurial learning courses. This will be done to increase our understanding of assessment practices and whether a holistic approach improves the learning experience. This means a method of assessment that looks at multiple competencies, the ability to do something successfully or effectively. Both the views of the learner and educator will be considered.

Who is the researcher?

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What will my participation in the research involve?

You will be a participant in the research. This will involve you taking part in a 45-minute-long interview about your experiences and views of self-assessment practices. You may be required to answer follow up questions in the future if more information is required.

Will there be any benefits in taking part?

You will be taking part in the research along with 15 other participants and it is anticipated that the research will allow you to find out how assessments can be used to improve your learning.

Will there be any risks in taking part?

There will be no risks to taking part. However, you may become aware that you are not performing to your required standard which could cause some concern. Therefore, your course tutor will be available after the interviews have taken place to address any issues that you may have. This information will also be available in the debrief at the end of your interview. It is hoped that by looking at assessment practices will enable you to identify how you can improve your learning.

What happens if I decide I don't want to take part during the actual research study, or decide I don't want the information I've given to be used?

You have the right to withdraw from the research at any time. Doing so will result in any information you have given being destroyed and not used in the study.

|

**How will you ensure that my contribution is anonymous?**

The research will not use any names. Each participant will be given a code which will be used when analysing the data and writing up the results. The researcher will be the only person who knows the identity of the participants. This information will be stored securely and destroyed once the project has been completed.

Please note that your confidentiality and anonymity cannot be assured if, during the research, it comes to light you are involved in illegal or harmful behaviours which I may disclose to the appropriate authorities.

## Appendix B: Research Information Sheet for Educators



### RESEARCH INFORMATION SHEET

Outline of the research (couple of sentences in non-specialist language)

This research will investigate the role of self-assessment in entrepreneurial learning courses. This will be done to increase our understanding of assessment practices and whether a holistic approach improves the learning experience. This means a method of assessment that looks at multiple competencies, the ability to do something successfully or effectively. Both the views of the learner and educator will be considered.

Who is the researcher?

Name: Erin Peak

Institution: Bishop Grosseteste University

Contact details (please use your BGU e-mail):

[erin.peak@bishopg.ac.uk](mailto:erin.peak@bishopg.ac.uk)

Supervisors contact details (please use BGU e-mail/delete when not appropriate)

Professor Chris Atkin – [chris.atkin@bishopg.ac.uk](mailto:chris.atkin@bishopg.ac.uk)

Dr Steven Puttick – [steven.puttick@bishopg.ac.uk](mailto:steven.puttick@bishopg.ac.uk)

What will my participation in the research involve?

You will be a participant in the research. This will involve you taking part in a 45-minute-long interview about your experiences and views of self-assessment practices. You may be required to answer follow up questions in the future if more information is required.

Will there be any benefits in taking part?

You will be taking part in the research along with 15 other participants and it is anticipated that the research will allow you to find out how you can use self-assessments to improve the competencies of students on your course.

Will there be any risks in taking part?

There will be no risks to taking part. It is hoped that by looking at assessment practices will enable you to identify how you can improve your teaching.

What happens if I decide I don't want to take part during the actual research study, or decide I don't want the information I've given to be used?

You have the right to withdraw from the research at any time. Doing so will result in any information you have given being destroyed and not used in the study.

How will you ensure that my contribution is anonymous?

The research will not use any names. Each participant will be given a code which will be used when analysing the data and writing up the results. The researcher will be the only person who knows the identity of the participants. This information will be stored securely and destroyed once the project has been completed.

Please note that your confidentiality and anonymity cannot be assured if, during the research, it comes to light you are involved in illegal or harmful behaviours which I may disclose to the appropriate authorities.

## Appendix C: Research Consent Form for Participants



### RESEARCH CONSENT FORM

Title of research project: How can the use of self – assessment facilitate the development of entrepreneurial competencies on entrepreneurial learning courses?

Name of researcher: Erin Peak

1. I confirm that I have read and understand the information sheet for the above research project and have had the opportunity to ask questions
2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason.
3. I agree to take part in this research project and for the data to be used as the researcher sees fit, including publication.

Name of participant

Signature

Date:

Name of researcher

Signature:

Date:



## Appendix D: Interview Schedule Template for Educators

### Introduction to the research project

I have been approved by Bishop Grosseteste University to conduct research into the role of assessment in entrepreneurial learning courses, this is a requirement of my PhD programme.

As part of the research, I am carrying out face-to-face interviews with eight learners and eight educators who are studying or teaching on entrepreneurial learning courses at several educational institutions across the United Kingdom. The information that I gather today will be used as part of my research findings. Please be assured that no individual will be named in my final research report and nothing will be linked back to the interviewee. Therefore, everything you tell me will be treated as confidential. However, should you mention something that leads me to believe that you and/or someone else is at risk of serious physical and/or emotional harm, I will have to pass this information on to my supervisor.

- The interview should take around 45 minutes.
- Are you happy to take part in the interview today? You are free to withdraw from the interview at any point if you wish to. (participant must read and sign consent form).
- Do you have any questions before we start?
- Just to help me with my notes is it OK to record our conversation?

The topics that will be covered during the interview today are:

- Existing self - assessment practices on your course
- The skills required for learners to take part in self – assessments
- The benefits of learners taking part in self – assessments
- Your role in the delivery of self - assessments

### Questions

Participants will be prompted to expand and explain further at regular points during the interview when they mention information that is of interest to the study.

### Background

1. **How long have you been an educator on the entrepreneurial learning course?**
2. **What is your role on the programme?**
3. **What does the term 'self-assessment' mean to you?**
4. **What self-assessments are learners on your course involved in?**
5. **Do you think that self-assessment is a valuable tool when assessing learning?**

**The skills required for learners to participate in self – assessments**

6. **Can participating in self-assessment activities have a positive impact on a learner's self-regulatory skills?**
7. **What skills do learners need to participate in self – assessments?**

8. Do learners possess the required skills to self-assess their own learning?
9. How could these skills be acquired by learners?

**The benefits for learners taking part in self – assessments**

10. Do you think there are benefits for learners who take part in self – assessments?  
Please explain.
11. Do you think participation in self – assessments have a benefit on a learner’s entrepreneurial competencies?

**The role of the educator in self – assessments**

12. How do you design self – assessments on your entrepreneurial learning course?
  13. How do you prepare learners to take part in self – assessments?
  14. What is your role during the self – assessments?
  15. How do you think learners could improve their performance in self – assessments?
- ‘Do you have any questions or would you like to add anything else to your responses?’

Thank you very much for participating in this research (participant will be debriefed at this stage).

## Appendix E: Interview Schedule Template for Learners

### Introduction to the research project

I have been approved by Bishop Grosseteste University to conduct research into the role of assessment in entrepreneurial learning courses, this is a requirement of my PhD programme.

As part of the research, I am carrying out face-to-face interviews with learners and educators who are studying or teaching on entrepreneurial learning courses at several educational institutions across the United Kingdom. The information that I gather today will be used as part of my research findings. Please be assured that no individual will be named in my final research report and nothing will be linked back to the interviewee. Therefore, everything you tell me will be treated as confidential. However, should you mention something that leads me to believe that you and/or someone else is at risk of serious physical and/or emotional harm, I will have to pass this information on to my supervisor.

- The interview should take around 45 minutes.
- Are you happy to take part in the interview today? You are free to withdraw from the interview at any point if you wish to (participant must read and sign consent form).
- Do you have any questions before we start?
- Just to help me with my notes is it OK to record our conversation?

The topics that will be covered during the interview today are:

- Existing self - assessment practices on your course
- The skills required to take part in self – assessments
- The benefits of taking part in self – assessments
- The role of the educator in self - assessments

### Questions

Participants will be prompted to expand and explain further at regular points during the interview when they mention information that is of interest to the study.

### Background

1. How long have you been studying on the entrepreneurial learning course?
2. Why did you decide to study on this programme?
3. What are your experiences of the programme?
4. Do you have any previous entrepreneurial experience?
5. What does the term 'self-assessment' mean to you?

### Self-regulation and self-assessment in entrepreneurial learning

*Please describe how much you agree with the following statements and explain your reasons for this (based on the self-regulated online learning questionnaire SOL – Q)*

6. I set short – term (daily or weekly) goals as well as long – term goals (monthly or for the whole entrepreneurial learning course).
7. I think of alternative ways to solve a problem and choose the best one.
8. I ask myself questions about how well I am doing while learning something on my entrepreneurial learning course.
9. I make sure that I keep up with the assignments.
10. When I begin to lose interest in a task, I push myself even further.
11. When I am not sure about some material in this online course, I check with other people.

#### **Skills required for participation in self - assessments**

12. Thinking about the statements that you have just discussed, what skills did you need to self-assess your performance?
13. Do you think you have all the required skills to self-assess your own learning?
14. How do you think you could acquire the skills that would help you to self – assess your learning more effectively?

#### **The benefits of taking part in self - assessments**

15. Please give an example of when you carried out a self – assessment?
16. How would you rate your performance in this task?
17. Do you think you could improve your performance, and if so how?
18. What competencies did you learn through taking part in this task?
19. Which experiences during the task you carried out enhanced your learning?
20. Do you think this type of self – assessment is beneficial to your learning?

#### **The role of the educator**

21. How does your course tutor inform you about the assessment that is going to take place?
22. How does your course tutor prepare you for the self – assessment?
23. What is your course tutor’s role during the self – assessment?
24. Do you think there is anything your course tutor could do to improve your performance in self – assessments?

- ‘Do you have any questions, or would you like to add anything else to your responses?’
- Thank you very much for participating in this research (participant will be debriefed at this stage).

## Appendix F: Template for Recruitment Email

Hello

I am a PhD student at Bishop Grosseteste University in Lincoln, United Kingdom. I will be conducting a research project to fulfil the requirements of my degree and I'm looking for learners and educators from entrepreneurial learning courses across the United Kingdom to take part.

The study will investigate the role of self-assessment on entrepreneurship courses. This is important as there is a lack of sufficient understanding on how students assess their own competencies. This will be achieved by investigating the following topics:

- Existing self - assessment practices on your course
- The skills required to take part in self – assessments
- The benefits of taking part in self – assessments
- The role of the educator on your course in the delivery of self - assessments

The study will involve me conducting semi – structured interviews which will take place with one learner or educator at a time. Each interview will last around 45 min. The participants will need to be available for follow up questions in the future.

It is hoped that my research findings will help to improve the assessment practices on entrepreneurship courses and increase the understanding of how students on these courses learn. I will share my findings with each course who takes part.

I would be very grateful if you would have educators or learners who are willing to take part in my study. If you are interested, please contact me by email on [erin.peak@bishopg.ac.uk](mailto:erin.peak@bishopg.ac.uk). If you do so, you will have the chance to find out more about the study before coming to any decision. You would be under no obligation to take part.

Thank you very much.

Kind regards,

Miss Erin Peak

## Appendix G: Risk Assessment Form

### RISK ASSESSMENT FORM

Please answer the following questions in relation to your research project. If you answer “yes” to any of the following statements, you will need to provide fuller information about your project and outline how you have addressed any relevant ethical considerations within your relevant “Request for ethical approval” form (either form 1 or form 2).

1. Will you encounter foreseeable risks to your physical safety as a result of undertaking the research?  
YES  NO
2. Might you encounter risks to your emotional safety (e.g. working with documents of a sensitive or distressing nature, or participants who may become distressed)?  
YES  NO
3. If you need to travel beyond your usual place of work/study to conduct your research, will there be particular risks associated with this travel?  
YES  NO
4. If you need to work in a place which you would not normally do in order to carry out this project, will there be particular risks associated with this location?  
YES  NO
5. Will you visit participants in their own homes? YES  NO
6. Will you be using the internet to collect your data, recruit participants or at any other point in the research project?  
YES  NO   
*(If yes, please consult relevant guidelines from your associated subject area concerning this.)*
7. Will your research explore topics that may be deemed contentious or sensitive or are linked to illegality?  
YES  NO
8. Will you be need to address any considerations of cultural difference during your project?  
YES  NO
9. Does your project give rise to any issues related to terrorism or radicalisation?  
YES  NO
10. Will you be at increased risk of exposure to harmful substances, e.g. chemicals, or infectious illnesses?  
YES  NO
11. Do you anticipate any challenges with controlling the dissemination of your findings, in due course?  
YES  NO

## Appendix H: Ethical Approval Form

### Research Ethics Clearance Form

(For: Masters student dissertations, doctoral research projects and all staff research)

#### Section 1. Your details.

Name:	Erin Peak	
School:	Research	
Student ID Number:	B1602415	
Degree for which this research is being conducted <b>and/or</b> staff position at Bishop Grosseteste University.	Doctor of Philosophy	
Supervisor allocated	Yes: ✓	No:
Supervisor <b>or</b> Project Leader/Principal Investigator.	Professor Chris Atkin and Dr Steven Puttick	
Period during which research will be conducted (start* and end date). *start date must be later than the date of the Research Ethic Standing Group meeting	October 2018 and June 2019	
Any specific external professional codes of practice that pertain to the kind of research proposed.	BGU Research Ethics Policy (and processes) BERA: Ethical Guidelines for Educational Research (2011).	
Your Signature	Erin S Peak	

#### Section 2. Details of proposed research study.

a. Full title:	How can self-assessment facilitate entrepreneurial learning?
b. Aims and objectives:	Aim: to explore how self-assessment facilitates the process of generating entrepreneurial competencies in learners who are studying on entrepreneurial learning courses. The focus is on how learners experience personal growth and transformation through the learning process and how this can be demonstrated through self-assessment practices. This will be achieved by looking at the cognitive functions that a learner needs to engage with in order to conduct self - assessments, and the relationship between these and self - regulation.

	<p>This will be achieved through the following five research questions:</p> <ol style="list-style-type: none"> <li>1. How do learners and educators think self – regulatory skills can be used in the self -assessment of entrepreneurial learning competencies?</li> <li>2. What skills do learners think need to self-assess their own learning?</li> <li>3. How do learners and educators perceive the benefits of taking part in self-assessments?</li> <li>4. What is the nature of existing self-assessment practices on entrepreneurial learning courses?</li> <li>5. How do learners and educators understand the role of the educator in the facilitation of self-assessment practices?</li> </ol>
<p>c. Brief outline of the research study. Please ensure that you include details of the following:  <b>Design</b> (qualitative/quantitative etc).  <b>Measures</b> (questionnaire; interview schedule; experimental trial etc.)</p>	<p>This will be a qualitative study. The chosen methods are semi – structured interviews of educators and learners and document analysis, which provides an understanding of the phenomenon by looking at the way in which the participants interpret the events based on their individual thought processes. I will conduct approx. 16 semi structured interviews, eight with educators and eight with learners. This has been decided based on the sample size of previous qualitative studies into entrepreneurial learning that have produced meaningful findings.</p> <p>Semi-structured interviews will enable me to use a schedule with questions and aspects that I would like to cover. This will ensure that complete and consistent information is generated across all of the interviews that are conducted. The interview schedules for educators (Appendix D) and learners (Appendix E) were developed based on my research questions and the data that I wish to collect.</p> <p>Before conducting the full study, I will conduct a pilot study to test the approach and will review before taking part in the full study.</p>



	At the beginning of the study each participant will be invited to sign a consent form (Appendix C) before the study takes place. All participants will be given clear information about the aims of my research and how the study is going to be conducted (Appendix A & B).
d. Where will the study take place and in what setting?	The study will take place in the natural environment of the participant, which will be the university where they teach or are enrolled as a student on an entrepreneurial learning course. The semi structured interviews will take place in a quiet location within the university.
e. Give a brief description of your target sample (e.g. age, occupation, gender). Is the participation individual or part of a group?	<p>My research participants will be approx. eight educators and eight learners from entrepreneurial learning courses in the United Kingdom. The participation will be individual.</p> <p>I will only include educators who teach on the programme on a regular basis, and are responsible for conducting assessments with their learners. This will ensure that they have a good level of knowledge of carrying out self-assessments and the challenges associated with this.</p> <p>I will select learners who are in their second year of an undergraduate entrepreneurial learning course (as detailed above), as they have had enough experience of the teaching and assessment practices and would be available for follow up questions if needed.</p> <p>Where learners / educators at the same institution or on the same programme are interviewed, the data collected will not be mapped aligned for analysis.</p>
f. Are any of your participants in vulnerable groups (e.g. children under 16, individuals with learning difficulties or mental illness)? Please specify the nature of the vulnerability and complete section (g).	There will be no vulnerable groups taking part in my research.
g. <b>Vulnerable groups.</b> Have any special arrangements been made to deal with issues of consent	If any of the participants become distressed for any reason during the interview they can withdraw at any point

(e.g. is parental or guardian agreement to be obtained, and if so in what form)?	without prejudice and will be supported via the universities existing support systems.
h. How will participants be selected, approached and recruited?	<p>Purposive sampling was chosen for my study, based on their involvement with self-assessment in entrepreneurial learning.</p> <p>The participants that I will focus on in my research will be from entrepreneurial courses in the United Kingdom. I will find the courses through the Enterprise Educators UK membership network and by using the google search engine and searching for a mix of keywords for instance; entrepreneurial learning courses, enterprise, entrepreneurial mindset and self-assessment. I will review course prospectus' and focus on those that include key words such as entrepreneurial mindset, enterprise and self-assessment.</p> <p>To access these courses, I will need to obtain permission from senior management, heads of department and course leaders within the university that I am approaching. The first contact with the university will be through a recruitment email. This will be sent to the course leader who is responsible for the course. I will only select entrepreneurship courses that are taught in English and this will ensure that there are no problems with my participants understanding of the research.</p>
i. Is written consent to be obtained? If <b>no</b> , please state why. If <b>yes</b> , please complete the standard Consent Form (see p 6) and attach to this documentation.	Yes, all participants will provide written consent (Appendix C).

### Section 3. Risk & Ethical Procedures.

<p>Please note – <b>all</b> studies with human participants have the potential to create a level of risk. You are fully responsible for their protection. Please try to anticipate the context and perspective of your participants when completing this section.</p>	
a. Are there any potential risks to participants? These could be physical	None.

<p>and/or psychological. Please specify, and explain any steps you have taken to address them.</p>	
<p>b. How might participation in this research cause discomfort or distress to participants? Please specify, and explain any steps you have taken to address these.</p>	<p>My research will not involve conducting any formal assessments. Despite this, participants may become aware during the research that they are not performing to the expected standards on their chosen course. This could cause some distress. I will therefore make sure that all participants are de-briefed after the research has taken place and they will then be referred to their course tutor who can address their concerns. Similarly, I will be available to discuss anything with the course educators, however if there is anything that I am unable to resolve, they will then be directed to their head of department or other existing university support services.</p>
<p>c. How might participants benefit from taking part in this research?</p>	<p>This research will aim to inform our understanding of entrepreneurial learning theory and practice. This will help to improve the design and delivery of entrepreneurship courses. I will share my research findings with all of the entrepreneurship courses that take part and this information could be used to help them improve their assessment practices. In addition, by taking part in this research students will have the opportunity to self-reflect on their own learning and this will help them to recognise their own competencies and skills that they need to develop further.</p>
<p>d. Does any aspect of your research require that participants are naïve? (i.e. They are not given the exact aims of the research) Please explain why and give details of debriefing procedures.</p>	<p>No – all participants will be aware of the aims of the research and will be given an information sheet at the beginning of the research. I will be available before, during and after the research has taken place, in order to answer any questions that they may have.</p>
<p>e. Every participant must be given a written INFORMATION SHEET giving details about the research. This is in addition to the consent form. Please add a copy of both <u>to this form</u> before submitting your documentation to the Research Ethics Standing Group.</p>	

**Section 4. Data - Confidentiality & Anonymity.**

<p>a. Where and how do you intend to store any data collected from this research?</p>	<p>All data will be saved as encrypted password protected files on a computer which is accessed through a password. In addition, hard copies will be kept in a secure lockable drawer in my office at Bishop Grosseteste University. This data will be kept for the duration of the research project and on successful completion of the doctoral programme it will be destroyed.</p>
<p>b. Under Data Protection regulations (e.g. <i>data is stored securely and is not accessible or interpretable by individuals outside of the project</i>), give details of steps you will take to ensure the <b>security</b> of any data you collect.</p>	<p>I will be the only person who has the password to my computer and access to the key of the lockable drawer.</p>
<p>c. What steps have been taken to safeguard the <b>confidentiality</b> of personal records?</p>	<p>All participants will be referred to in my thesis using codes. No names or personal information that can be used to identify them will be used.</p>
<p>d. Will this research require the use of any of the following:-          - video recordings                      Yes/No          - audio recording                        Yes/No          - observation of participants? Yes/No</p>	<p>Research will require audio recordings of participants. A participant will be asked before the interview takes place if they consent to the interview being audio recorded. In every instance recording the interview will be the preferred method, however if a participant does not consent to this then they will still be included but their interview will be analysed in a different way. I will take notes during any interviews that are not audio recorded and directly following these interviews, I will write up my feelings and observations. Even though I will not be able to transcribe any interviews that are not recorded, I will still be able to include the participants views in my research by completing the above steps.</p>
<p>e. If you answered YES to any of the above, please state how you will ensure confidentiality and anonymity, and what you intend to do with these records on completion of the research.</p>	<p>I will be the only person who has access to the recordings. They will be stored on a password protected computer and once this process is completed I will wipe them off my voice recorder. The file in which they are stored will be password protected. Once I have finished analysing the recordings and successfully completed my doctoral programme they will be destroyed.</p>

**Section 5. Comments of Supervisor or Principal Investigator (where appropriate)**

All students MUST have this section completed by their supervisor before submitting to the Research Ethics Committee. Incomplete forms will not be considered. **This is not authorisation to commence the study.**

Erin has talked through her research plans for data collection and is aware of the need to maintain the highest level of ethical conduct and procedures during her doctoral research. We are happy to confirm there are no vulnerable groups in her sample which is made up of staff and students engaged with entrepreneurial higher education programmes.

We will continue to work with Erin over the data collection period to ensure any ethical dilemmas are dealt with in line with the University's and BERA's guidance.

Professor Chris Atkin and Dr Steve Puttick

**CHECKLIST**

Please ensure that you have attached and completed the following as applications will not be processed if any documents are missing. All sections, especially participant facing materials must be carefully proof-read.

<b>Document or relevant section</b>	<b>Included</b>
Section 5. Comments of Supervisor or Principal Investigator if applicable: This MUST be included if you are a student	✓
Risk assessment form	✓
Participant information sheet(s)	✓
Participant consent form(s)	✓

Your supervisor may also ask you to attach any draft interview, questionnaire or observation protocols or other participant-facing materials.

Please submit to the Research Administrative Assistant, Ellie Foster, at [ellie.foster@bishopg.ac.uk](mailto:ellie.foster@bishopg.ac.uk) for forwarding to members of the Research Ethics Committee.

**Outcome of the Research Ethics Committee**

Please indicate which of these options is to be followed by placing a tick in the appropriate box(es), following review of the application by members of the committee.

Sent to reviewers on the committee	
Chair's action taken in lieu of reviewers	
Amendments sent back to applicant	
Inform the applicant that ethical clearance is not granted	
Grant ethical clearance	X

**Research Ethics Committee Chair (or nominee)**



**signature:**

**Date**

20<sup>th</sup> July 2018