Introducing Student Self-assessment as a New Assessment Tool in Entrepreneurship Education

Birgitte Wraae
Technical University of Berlin/University College Lillebælt

Christa Tigerstedt
Arcada University of Applied Sciences/Åbo Akademi University

Jan Kratzer
Technical University of Berlin

This paper introduces a new way of assessing entrepreneurial learning in entrepreneurship education (EE) from the student perspective. We inductively study how self-assessment through a reflective task using video-clips can trigger and instill entrepreneurial thinking and learning about entrepreneurship among business and non-business students at higher education institutions (HEIs) in Finland and Denmark, after participating in a course with entrepreneurship as a part of the course content. We show that video-clip is a powerful self-assessment tool in EE as personal reflections trigger entrepreneurial skills. Furthermore, we show that no matter the study context, students can assess their own entrepreneurial learning.

INTRODUCTION

According to Gibb (2002) the paradigm of the 'heroic entrepreneur' is dysfunctional. As a result, Gibb (2002) argues not only for a need for putting the classic view of venture creation up against the needs of the wider community, but also for letting this new perspective into teaching entrepreneurship. Scholars describe the new perspective as two different approaches on how to teach entrepreneurship. The traditional mode or approach is model teaching how to create a startup or how to start your own company. The other approach is described more broadly and is itself a more holistic entrepreneurship education mode triggering and fostering transversal skills and at the same time asking the learner to reflect on entrepreneurial traits also related to the own learning and aims (Harte & Stewart, 2012). This latter approach is stressed in this paper and the following definition helps to explain the approach considered as fruitful for our research focus:

"Entrepreneurship education is about teaching people to shift their cognitive orientation and to look at the world with new eyes, or in other words, to identify new ways of interpreting the world" (Robinson & Shumar, 2014, p. 4)

As such, this could include intrapreneurship as well and again, in this paper both intrapreneurial and entrepreneurial perspectives are included. In other words, the intrapreneur is an entrepreneur in organization and is not aiming at creating a venture of his/her own. Still, intrapreneurs are similar to entrepreneurs bearing the same characteristics as in for instance "new business venturing, product/service, innovation, process innovation, self-renewal, risk taking, proactiveness and competitive aggressiveness" (Antoncic & Hisrich, 2003). Intrapreneurship is thus the process where an individual or a group in an organization, a new organization or new innovative ideas work within that same organization (Hytti & Heinonen, 2013; Sharma & Chrisman, 2007).

Hytti and Heinonen (2013) write about the humane entrepreneurs. Their findings show that the humane approach needs to be highlighted more since it seems to trigger reflective thinking and traits that are visible both in entre- and intrapreneurs. The traditional approach has been focused on the venture side, however, interest has now shifted to how one can develop the skills of potential entrepreneurs and how one can learn more in general about entrepreneurship-related issues. This is also supported by Jones (2015) who claims that competencies need to be fostered and not suppressed by entrepreneurship education.

All of this will then be discussed in the light of assessment in EE in the rest of the paper.

## PREVIOUS RESEARCH ON ASSESSMENT OF EE

Our review of literature focuses on aspects of self-assessment in EE publications. The search strategy was inspired by Blenker, et al. (2014) thus primarily searching journals known to publish papers related to entrepreneurship education.

The literature review revealed at least two research gaps related to student self-assessment. Firstly, the methodology previously used is based on quantitative studies, mainly using pre-defined categories and questions, thus not giving the students the possibility to use their own voice and hence their own reflections as a self-assessment tool. Secondly, we saw no studies related to both self-assessment and the non-business perspective. The gap is also confirmed by Jones and Jones (2014) stating that the literature involving non-business students is limited.

The above findings are linked to a previous call for doing further research into student emotions connected to entrepreneurship education (Souitaris, Zerbinati, & Al-Laham, 2007). More recent systematic literature reviews support the gaps identified above by confirming a scarcity in research when investigating the impact of entrepreneurship education and the emotions or the effects it evokes. Nabi, Walmsley, Linan, Akthar and Neame (2016) specifically ask for more research related to novel pedagogical approaches to entrepreneurship education. These could be approaches that focus more on how students re-evaluate their own abilities and consider emotions and affects among students in the process of entrepreneurial learning (Nabi et al, 2016).

Yitshaki and Kropp (2016) discuss this as well. They say that when looking at entrepreneurial identity, self-identity, and the passion for this identity have an impact on the student when he or she is thinking of becoming an entre-/intrapreneur or not. However, Yitshake and Kropp, as well as Svensson, et al. (2017), see the need for more research in this area. Figure 1 ties together the components we intend to focus on in the theoretical framework. The components are all intertwined and processual in the sense that holistic understanding is important for EE.

FIGURE 1
THE RELATIONAL COMPONENTS IN ENTREPRENEURSHIP EDUCATION AND SELF-ASSESSMENT
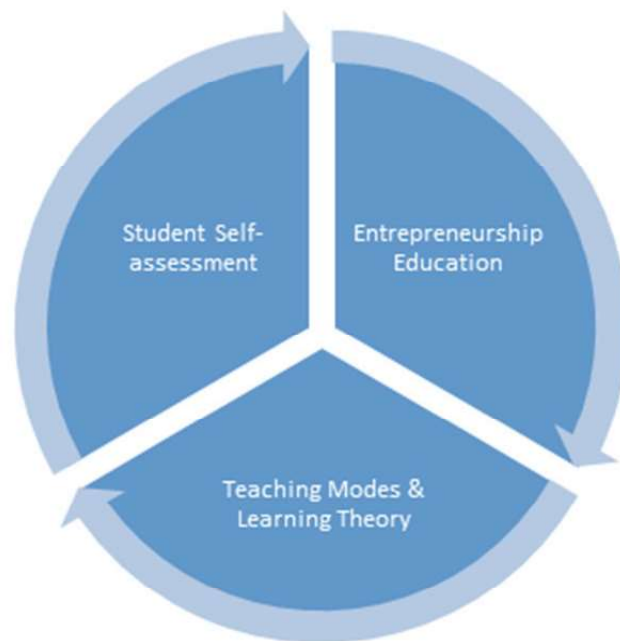
RESEARCH AIM AND RESEARCH QUESTION

The above-mentioned research gaps lead us to investigate how student self-assessment can be used for assessing students in EE. This paper builds on the arguments that entrepreneurship should be more than starting a venture, namely a lifelong learning experience, where the entrepreneurial tools can be used in many situations (Gibb, 2002). The paper will possibly also shed light on whether students heading for the public sector, hereafter referred to as non-business students, view themselves differently than students with a career focus on the private sector when looking at entrepreneurial skills.

This qualitative and explorative study focuses on how non-business (Danish) and business and IT students (Finnish) view themselves from an entrepreneurial 'stepping up' perspective. This perspective highlights 1) learning outcomes related to social entrepreneurship, or being a servant to society, 2) learning outcomes related to intrapreneurship, or building a career as a worker, 3) learning outcomes related to buying an existing business, or being a savior to the seller, or 4) learning outcomes related to the process of being a creator of a new business (C. Jones & Matlay, 2011). The study is thus based on the view that entrepreneurship education is more than "just" starting a venture, but instead a lifelong learning experience, where the entrepreneurial tools can be used in many situations (Gibb, 2002).

Students as individuals are per definition very different. They come from different backgrounds, have different networks and skills, and so forth, and hence represent a diversity that needs to be considered when teaching entrepreneurship education (C. Jones & Matlay, 2011). Accepting this claim, it is therefore necessary to view the students in the above-mentioned 'stepping-up' perspective rather than only focusing on the 'starting-up' perspective.

The research questions to be answered are thus:

RQ1: How do students self-assess their entrepreneurial thinking?
RQ2: What are the similarities, if any, in the reflections of business/IT and non-business students?

Assessment and Self-assessment in Entrepreneurship Education

The learning outcomes in entrepreneurial education (EE) are here put into focus by discussing the assessment of the learning. Different strands of or approaches to EE will aim at different learning outcomes; and different approaches to assessment will as well trigger or lead to different or slightly different learning outcomes or ends re a holistic approach to entrepreneurship education. Robinson and Robinson and Shumar (2014) emphasize the need to assess students' achievements and this is of course undoubtable. Robinson and Shumar (2014) continue and say that we need to address a few questions such as *How did they understand the task that the teaching team is asking them to take on? Which tasks change their understanding of themselves and the world around them?* Only by asking these and similar questions can we be sure that the teaching matches the learning (Robinson & Shumar, 2014).

Robinson & Shumar (2014) go on to discuss the usefulness of tools that come closer to the students' sense-making and critical thinking, i.e., how the students understand the thought content and the purposes of the learning. For assessment and teaching, how should or can one then assess entrepreneurship education if one wants to - as we do in this research - focus more on humane (Hytti & Heinonen, 2013) or the more generic entrepreneurship thinking for a life as an entrepreneur?

Written exams are a classical tool for assessment and steering the learning. Due to the interest in transformation, identity, and sense-making we would again like to stress another approach and discuss opportunities of a more formative approach to assessment. Therefore, self-assessment is one form of assessment that has opportunities for developing new assessment methods of learning in EE. It is a more processual approach that triggers and comes closer to the questions highlighted by Robinson and Shumar (2014). In this section the assessment of entrepreneurship is discussed in more general terms and self-assessment and related ideas about self-directedness, reflection, identity, and autonomy are discussed more specifically.

Student Assessment in Entrepreneurship Education (EE)

Jensen (2014) describes how assessment of the student in EE usually takes three different directions. The first, and the one that seems to be investigated to a high end, is how entrepreneurship education creates entrepreneurial intentions thus focusing on business creation. The outcome of this kind of assessment is also related to awareness and attitudes towards entrepreneurship. This is something we are focusing on here when introducing the self-assessment by making them discuss themselves as entrepreneurs or to reflect on if they see themselves as entrepreneurs. The second direction is related to the business startup and venture creation in what Jensen (2014) refers to as an explicit focus. The assessment is thus also on skills related to concrete actions and the likelihood of starting a new business. This includes both the output and actual behavior of the students. The third combines student assessment with venture creation as in that the impact being measured is a combination of both factors. Jensen (2014) finds that assessment and measurement of the impact of entrepreneurship education could be enhanced by understanding education and learning as a dynamic process in time and space and that the holistic person perspective offers such an approach. Pittaway and Edwards (2012) confirm the diversity in assessment practices which is related to both the forms of entrepreneurship education and the categories of learning outcomes hence the focus of the course or the course content.

With the differences in how to teach entrepreneurship (about, for and through), the question is how do we assess the students? (Fayolle, 2010). Assessment in this context must then be understood as a driver of reflectiveness and that is being designed to trigger deep personal reflections in the students (Jones, 2015).

Assessment is therefore qualitative and aims to go deeper to actually enable deep learning. Assessment is also considered as transformative and formative. Svensson et al. (2017) present three approaches to EE or teaching modes: 1) a transaction, 2) a transmission, or 3) a transformation. Assessment that is considered more transmissive or transactional is to be understood as more formal and/or traditional. Svensson et al. (2017) point out that it is, however, often a combination of different approaches that becomes useful and students can in fact come closer or be more successful in the reflective kind of assessment if they have gone through the other ones as well, i.e., if they already have some knowledge of and have maybe experienced entrepreneurship (Svensson et al., 2017). In our case

and as mentioned by them, the transformative approach is the most interesting one since we look at assessment and self-assessment being said to trigger reflection and inner motivation and being something well-suited in a self-directed learning situation as entrepreneurship education can be and is in our case. In the next step, we will therefore present a few ideas about self-assessment in EE.

Assessing reflective learning is not without obstacles (Bourner, 2003; Cambra-Fierro & Cambra-Berdún, 2007). For one, in principle it is only the person doing the reflection, who in reality can assess if significant learning has taken place. Also, assessment in relation to education often involves a judgement, for instance from the educator and/or a censor, of the extent to which learning has taken place. This judgement or assessment is almost always connected to the learning goals for the given course. In our experience this judgement is given by a number, a grade, or another kind of 'objective' measurement of whether learning has taken place. This poses yet another obstacle, namely that students often focus on what is being assessed thus neglecting what is not being assessed (Bourner, 2003; Cambra-Fierro & Cambra-Berdún, 2007).

Schön (1990) argues that 'reflection-in-action' enables critical thinking, especially when being challenged in relation to a task. Furthermore, when reflective thinking is part of the learning goals it is important also to assess that part as well (Bourner, 2003; Cambra-Fierro & Cambra-Berdún, 2007). Cambra-Fierro and Cambra-Berdún (2007) even propose a quantitative scale for how to measure the level of reflection for students in general. Yan and Brown (2017) view self-reflection as an important tool in the student self-assessment process.

In this study self-assessment has been used primarily as a trigger of reflection and thought of more as a trigger of entrepreneurial thinking. This is discussed further in the methodological section.

Self-assessment in Entrepreneurship Education (EE)

Students' self-assessment can be described in line with Yan and Brown (2017). They define self-assessment as an internal process where the student evaluates own abilities and learning outcomes (p.2). It is a process where the student's own goals, ideas, values, and emotions become important and therefore are more easily accessible. As such, self-directedness, self-reflection, and self-evaluation often overlaps each other. This latter is an interesting notion considering/in light of our interest here in the transformative approach or mode (Svensson et al., 2017) of teaching entrepreneurship as well as our holistic approach focusing more in the entrepreneurial thinking, the mindset as shown in table 1.

TABLE 1
ELEMENTS IN THE DIFFERENT TEACHING MODES

Teaching Modes	Learning Focus	Primary outcomes/goals
Self-activated	Students take responsibility for own learning	Self-directed, autonomy, Self-negotiation
Self-directed	Students seek ways of learning, freedom of choice	Motivation, skills, responsible, holistic, deep learning
Transformative	Uncertain and emotional events, reflections	Identities, purposes, meanings, aims, goals

Being entrepreneurial can according to some researchers be with the main objective of entrepreneurship education and this in turn has been said to require a certain autonomy aspect in the learning context. The autonomy aspect can be understood as self-directed learning and other autonomy supportive pedagogical actions. Reflecting on oneself and one's qualities becomes important (van Gelderen, 2010). To trigger reflection and transformations and to be able to observe a development in the identity is vital in understanding the skills and the competencies one has and needs to become a successful entrepreneur (Svensson et al., 2017; van Gelderen, 2010). This is according to Svensson et al (2017) something that a more transformative mode of education can contribute with since it offers tools for self-direction, self-analysis and reflection, which again is related to being able to assess oneself generally. I.e. it offers self-assessment and reflective assessment tasks. Autonomy and self-directed processes are seen as crucial (Entwistle & Tait, 1990; Hoppe, Westerberg, & Leffler, 2017; Robinson & Shumar, 2014; Svensson et al., 2017; van Gelderen, 2010) and are here discussed as part of this way of approaching assessment. Self-reflectiveness or reflections is a topic we have previously discussed (Wraae & Tigerstedt, 2017) and it is the process and ability to simply think about one's own learning, behavior and abilities. Garrison (1997) has related reflection and, also motivation to self-directed learning. Self-directed learning is another term intertwined in the self-evaluative processes of learning. Self-directed learning is promoting and allowing the students to take an active approach as well a responsibility towards the own learning outcome (Tigerstedt, Silius Ahonen, & Wikström Grotell, 2015). In earlier works the connection to autonomy has been proven relevant to self-directed learning (Tigerstedt et al., 2015).

Jones (2015) uses the term self-negotiating action when he discusses the students' ability to pursue their ideas and locate and control their resources required to activate their aspirations. Entrepreneurship education should always be able to foster this self-negotiated action among the students, which again can be understood as reflective abilities in action. This can be reached through self-assessment procedures such as reflection (Svensson et al., 2017). Self-assessment can be used to create self-awareness and make the students develop and use higher order skills. To this establish this, both the student and the educators need to be co-creators (C. Jones, 2015).

Knowledge can be perceived both as a relative and subjective concept with more than an exact measure containing other characteristics. Assessment should firstly address professional thinking and acting, and secondly, focus on knowledge, skills and attitudes integrated and related to the real world. A third characteristic is that the assessment should allow and be open to individual perspective, interpretations, and contributions. Also, the focus must be removed from the end-product to a focus on the whole process leading to the product. Finally, assessment should stimulate the student's understanding and further learning (Fayolle, 2010). This assessment culture embraces forms that are individualized, personalized, and interpretative. It addresses the student's ability to perform in the real world. Tools for this kind of assessment could be portfolios, observations, and reflective journals, which all apply to self-assessment.

Marton et al. (2008) who are as such in favor of holistic, processual or/and so-called formative evaluation forms say the reflection as such is related to the quality of learning and hence the quality of education. This of course makes the element of reflection as part of any evaluation critical. They also connect the reflective ability to both autonomy and self-directedness. In an earlier paper (Wraae & Tigerstedt, 2017) we discussed self-reflection more in detail, but we highlight it here once more since self-assessment procedures are connected to this as they trigger reflection. Self-directed learning on the other hand is related to both motivation and freedom of choice (Garrison, 1997). Identity development and transformative approaches relate to reflective aspects which can be seen to benefit from self-assessment in EE. This also supports many entrepreneurship students' initial interest in entrepreneurship. It is not an economical motive or interest that dominates, but a lifestyle motive or interest or intention of wanting to be in charge of the own life. The holistic approach (Rönkkö & Lepistö, 2015) comes through here and this will now be examined from an empirical point of view by looking into how the Finnish and Danish students use reflection in action in the self-assessment video-clips. Discussing different modes of

the same has been proven useful for students when they think about their own entrepreneurship identity and develop it towards possible future entrepreneurship (Harmeling, 2011).

The theoretical framework is summarized in figure 2. First, a holistic approach has been viewed as relevant in the more humane approach to EE. Secondly, and in connection to the previous, one can say that the humane and more holistic approach also would require more reflective and transformative modes of teaching EE. Thirdly, self-assessment can be viewed and is proven to trigger reflection and is thus useful in assessing learning in EE.

FIGURE 2
OVERVIEW OF THE THEORETHICAL FRAMEWORK
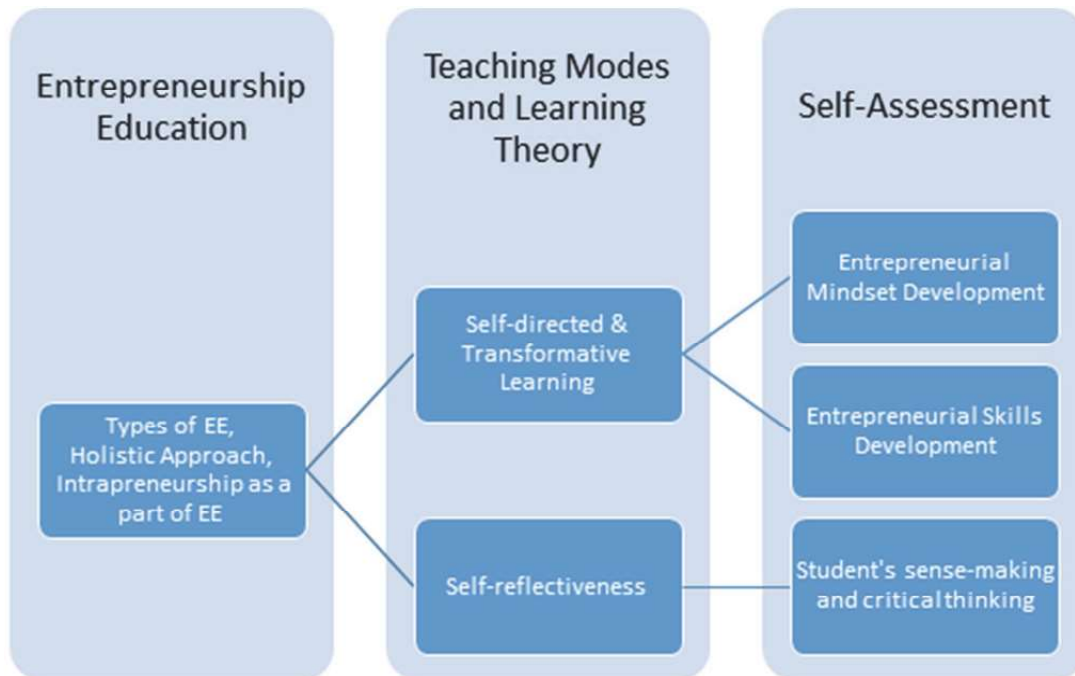
Overall, self-assessment contains three elements based on the teaching modes presented in table 1 in combination with the goals for self-reflectiveness.

METHODOLOGY

Taking a stance in social constructivism and investigating self-assessment we are aware of the previously mentioned obstacles connected to assessing reflective learning in entrepreneurship education. It is in its nature difficult to 'measure' without the use of classical measurement tools. These classical tools are derived from the rationality in the positivist philosophy (Schön, 1990). We are as such not interested in the learning goals from what Schön (1990) describes as what has originated from a normative curriculum but in self-development and reflections thereof. We thus acknowledge that every assessment is an individual construction of reality that cannot be compared or summed up.

Following the paradigm of social constructivism, the methodology focuses on understanding how the students view entrepreneurship, entrepreneurship skills and identities and how these have been developed in the self. More importantly, this paradigm gives a unique insight into how the students view themselves; identity, contradictions and puzzles rather than capturing the truth (Hytti & Heinonen, 2013). The chosen method means that each student is free to construct his/her own reflection on own identity. With the research questions in mind, the aim is understanding what kinds of perceptions of entrepreneurship education are evolving within each student. Also, and as a result of the above aim, is to understand how

self-assessment can be introduced as an assessment tool as a part of the more classical tools for assessing students as previously shown in figure 1.

This qualitative explorative study is based on participatory digital storytelling (Gubrium & Harper, 2013) which means "digital stories are constructed from participants' own subject positions and told as personal narratives" (2013, p. 125). In this study, the students video-record themselves and invite the viewers - the researchers - into their personal stories about themselves in an entrepreneurial or intrapreneurial perspective. The video-clips provide many layers of data, both visual and verbal via the spoken word in each clip (Harris, 2016). In its nature the study is both inductive and explorative as the outcome of each video-clip is unknown beforehand, which means that the data are less structured and rely on interpretation (Saunders, Lewis, & Thornhill, 2012). Also, the video-clips were collected before the theory was written, allowing us to keep open minds as researchers. The purpose of the chosen methodology is to gain a holistic approach for understanding the student andalso assessing the student and the development of the entrepreneurial thinking in that perspective (Scott, Penaluna, & Thompson, 2016). Using video as a method enriches the research process being able to both listen to and see each student considering their own learning throughout the video.

With the content of each video-clip being unknown beforehand, the data analysis followed a generic strategy suggested by Saunders et al. (2012) in which you start by comprehending your data and identifying categories; you integrate related data (if possible) to appropriate the categories and codes; you develop analytical categories further to identify relationships; you develop testable propositions and/or theories and finally you draw conclusions (p. 557).

Sample and a Contextual Description

The data was collected in fall 2015 (Finland) and in spring 2016 (Denmark). The business and the non-business students are represented by two classes consisting of respectively one Finnish business class and one Danish non-business class. Both groups of students are studying for a BA-degree and are thus students in higher education. The Finnish students have been a part of a course with a partial entrepreneurial content while the Danish students have chosen an elective unit containing innovation and entrepreneurship only. The students earn respectively 5 ECTS (Finland) and 15 ECTS (DK).

Both the study modules being investigated in this paper are based on holistic thinking as argued for by Lepistö and Rönkkö (2015). In practice that suggests that the pedagogical levels related to learning are:

- A Personal and significant experience
- An interactive process
- A holistic process of creating a product/task

Both classes were instructed to create a short two to three- minute video-clip where they talked about 'Me as an entrepreneur'. The students received both oral and written instructions for this task. They also had technical support in how to create and post the clip to the learning platform. The video-clip was created individually and only the coach (who was both teacher and researcher) could see the clip. It was mandatory for both classes to hand in the video-clips part of the examination process. The students could choose not to participate in this research project even after gaining insight into the research on entrepreneurial learning. This freedom of choice is very important when collecting verbal histories in a video-clip form to protect the subject anonymity (Gubrium & Harper, 2013; Neergaard & Ulhøi, 2007). The Finnish students' video-clips were graded, which was not the case for the Danish students. For them, the video-clip was handed in two days before the oral exam. The assignment was a prerequisite for participating in the oral exam.

The sample consists of 77 video-clips (N=77), out of which 43 were Finnish (FIN) and 34 were Danish (DK) individual video-clips.

As both authors also have been teaching and coaching during the two respective courses the data analyses were made by swapping video-clips to avoid any personal interests related to the student, thus avoiding ethical issues related to both the involved students and the educators.

Furthermore, as mentioned before, the choice of methodology makes it difficult to compare the two groups of students and among students in general. However, we found similarities in the two different contexts that we believe must be addressed. This has been done previously by other researchers (Yitshaki & Kropp, 2016). We are also with this research, developing new ways of triggering entrepreneurial thinking and testing the methods.

Since the material consists of video-clips, the analysis started with multiple viewings of the clips. Here we used an open coding approach (Saunders et al., 2012). After this we made an Excel analysis scheme with key themes based on seventeen different underlying criteria. Based on this, final viewings of the clips took place and notes were taken simultaneously. We took notes during final viewings of the clips. We were both involved in this and our notes and perspectives were integrated into the presentation of the final results.

- Overall, the following eight topics related to themes of self-assessment and reflection Knowledge about entrepreneurship
- The entrepreneurial perspective
- Family and upbringing in relation to entrepreneurship
- Own business ideas
- Knowledge and skills development; that is learning
- Reflections about own skills in relation to entrepreneurship gained as a result of the course
- Entrepreneurial thinking
- The attitude towards entrepreneurship before and after the course

The video-clips were not transcribed in a traditional manner. Instead, we made outlines and when necessary, extracts (quotes) were carefully transcribed.

Results: Gaining an Insight into the Students' Self-assessment

This study aims at presenting our findings with a focus on the following research questions:

RQ1: How do students self-assess their entrepreneurial thinking?

RQ2: What are the similarities, if any, in the reflections of business/IT and non-business students?

To answer the research questions, we use the insights from both theory and empirical data (video-clips). In this section, the main focus is the video-clips and the insights into the eight topics they allowed us.

Many video-clips contained personal reflections. A few however chose to reflect or discuss entrepreneurship more from a theoretical point of view. There was a division in the level of reflectivity: from a deep, personal level to a general, more knowledge-based level. The main part of the students did however include, at least to some extent, an element of personal reflection. The self-assessment tool therefore seems relevant as an assessment tool and even successful in this study.

Topic 1: Knowledge about Entrepreneurship

The courses led, according to the students, to a general understanding of the concept of entrepreneurship. In many video-clips the students described what entrepreneurship is. Furthermore, an equal number of students painted a picture of the entrepreneur i.e. which competencies and skills are needed to become a successful entrepreneur.

"This being your own boss ... ... being involved in all the processes and seeing a development in what you have started. So, this kick when there's something that's successful, what you believe in, what you have staked everything on" DK7

Topic 2: The Intrapreneurial Perspective

Intrapreneurship seems to have been a new concept for the vast part of the students. However, many students believed that this could be one way to start and a possibility to be innovative and come with ideas while being in a safe environment. Risk-taking in general was viewed as a factor when considering

not becoming an entrepreneur. As one student states it:" intrapreneurship is a good way to start" (FIN5, a student that is moving from being negative towards becoming an entrepreneur).

Related to intrapreneurship that was favored by many students one can see the idea of collectivism emerged. This in the sense that the students said that they learned about networking and the importance of being in a good team from the lectures.

"You have to create a great network with co-workers, family and friends, … The most important is faith in yourself, in your business idea, in your team, in your co-workers." FIN7

"Choose who you work with. If you have good people around you I think good things could happen." FIN11

Topic 3: Family and Upbringing in Relation to Entrepreneurship

Students who have family members that are entrepreneurs or have been entrepreneurs interestingly express more extreme attitudes towards becoming or not becoming an entrepreneur. There seems to be a clear connection between an upbringing in an entrepreneurial family and the wish to become an entrepreneur oneself. On one hand, some students say that they have seen the way an entrepreneur lives and works as a positive factor including freedom working from home and basically the wish to create your own kingdom. On the other hand, some students have been negatively influenced by growing up in an entrepreneurial family. They express the negative experiences of having a parent constantly working, being absent, being stressed or failing. They also talk about a negative work-life balance.

"In my upbringing, children were supposed to be seen, but they should not be heard, and we were subjugated to 'The Jante Law' in a large degree; don't think you are anything special. So, therefore, I still have a hard time believing in my own abilities"DK1

Topic 4: Own Business Idea

Some students used their personal video-clip to talk about a business idea/startup meaning that those students have a very concrete idea they want to pursue. Five Finnish students and eight Danish students thus explained their ideas in their video-clips leaving not a lot of time to reflect about some of the other themes that we found. Surprisingly, most of those students did not want to become entrepreneurs before the course.

Topic 5: Knowledge and Skills Development, That is Learning

Knowing that the Finnish students were freshmen and most of them without working experience, knowledge development did take place. They did not know beforehand what is was to be an entrepreneur. In the Danish case the students had more working experience and could therefore relate to working life in a different way. It seems that students with more work experience could reflect more deeply when asked.

Due to guest lecturers from various fields and different entrepreneurs the students gained insight into the behavior or the actual job and life a of an entrepreneur. This was highly appreciated, and the students said that this made them understand that entrepreneurship could look very different -it could be a scenario for them after all.

"The more I admired those people I felt small about myself. It was too big for me to handle. So, from feeling that into really thinking about myself as an entrepreneur as I do recently is quite a big change to me. I don't see entrepreneurship as elusive as I did." FIN32

It was also motivating as such to get an insight into the life of an entrepreneur. This changed the attitudes in a positive way.

Skills development was also very clearly expressed in the video-clips:

"During the IPT process I have taken some tools with me that helped me in the work with our own product. Among other things, it was a requirement for us to think creatively and it's usually not my strong side, but it succeeded to some extent"DK31

"I was able to develop my ability to pursue the good ideas"DK32

Topic 6: Reflections about Own Skills in Relation to Entrepreneurship Which They Have Gained as a Result of the Course

Students seemed to understand the nature of the relationships they need to develop with key stakeholders.

The students, especially the Finnish ones, see the importance and need for more entrepreneurs in society. Entrepreneurship is an important part of society" (a student not wanting to become an entrepreneur).

Not only society is mentioned, but also family, friends and co-workers are mentioned often. This matter if you want to succeed. Work-life-family-friends balance is also mentioned.

Many students also pointed out that they would like to find the right person to work with. To 'do the entrepreneurship' with someone so to say. A collectivistic approach to be an entrepreneur was visible throughout our material. This could also be seen in the comments about intrapreneurship – comments on not wanting to do 'it' alone.

Networking as such is a generic skill that they realized was important.

The students were aware what it takes to become an entrepreneur. They mention hard work, working 24/7, being driven, passionate or "go big or go home" FIN12.

"I need to put everything into 'boxes', I have to have all things structured. I like to make a structured agenda and I will follow it from start to finish and I have a whole process along the way that I'm going through which I would like to control. I've had a lot of challenges in this module and to start with, I was wearing 'the no hat'. But along the way, I've really tried to choose this world as you are in when you're an entrepreneur. It is very appealing because you are allowed to get a lot of thoughts out and are allowed to - how to put it - to try some things, think creatively, which I have never been good at ...."DK31

"Actually, one of my really great strengths is that I'm good at making contact with other people. I'm good at talking with other people, I'm good at understanding someone else's situation, I have a high empathy for other people. This applies both professionally, but also personally, so that is definitely something I want to exploit"DK25

Topic 7: Entrepreneurial Thinking

In general students tended to talk a lot about mindset related issues and not so much about funding, money, and business plans.

Many Finnish students felt they got a closer insight into the life of an entrepreneur. The students´ reported that they learnt a lot from meeting the entrepreneurs. Some guest lecturing entrepreneurs told about their lives in general and this had an impact on the students. It gave them an understanding and it affected them in a positive way. Entrepreneurs are now 'real' people and the feeling that 'it could be me' appeared among the students. Even if they told about risk and struggling it affected them, but they also saw the freedom and the possibility to do what one loves, likes and feels passionate about. Quite a few students mentioned words like love and passion when talking about entrepreneurship.

The Danish students experienced that they were challenged during the course.

As a motivation why to become an entrepreneur the students mentioned "being my own boss" and or "being able to do what I love". This was also mentioned in connection with being able to be in charge of one's own life and the work-life balance: lifestyle entrepreneurs.

Topic 8: The Attitude Towards Entrepreneurship Before and After the Course

A majority of the students - regardless of study - tell that before the course they had not considered becoming an entrepreneur as a career choice. Some mention, that they had considered entrepreneurs as a 'special' kind of people. That has changed during the course (Table 2). More students tell that they are positive towards becoming entrepreneurs. Some however, keep saying that they would like to do this with a team.

This was true both for business and non-business (in this case public administration) students as well as for students in both Denmark and Finland. This can be somewhat surprising information since business students can be thought to be more inclined to start up their own business compared to non-business

students who have a career in the public sector in mind. In this research it was even found that the non-business students seemed to have become more positive about becoming an entrepreneur in comparison to the business students. Business students might of course have had more thoughts about becoming an entrepreneur before the course. What remains open and as a possibility for future research is of course an investigation of Finnish versus Danish students when it comes to entrepreneurial intentions per se by using a bigger sample (quantitative sampling).

TABLE2
ATTITUDES TOWARDS ENTREPRENEURSHIP BEFORE AND AFTER THE COURSE

	Before the course	*After the course*
Do I want to become an entrepreneur?	Business students	Business students
Yes	4	7 (3*)
Maybe	4	8
No	11	1
Do I want to become an entrepreneur?	Non-business students	Non-business students
Yes	4	14 (4*)
Maybe	4	7
No	14	1

Note: * indicates that the student expresses a wish to become an intrapreneur

In the self-assessment the students could discuss and reflect upon themselves as being entrepreneurs or entrepreneurial.

Before the course started there was a majority that did not see themselves becoming entrepreneurs, meaning starting their own business. Hence, part of the students did not beforehand have good insight into what entrepreneurship is or they had a view that was not completely accurate. Or some even thought it was something distant and far from their own reality.

However, after the course a significant part of the respondents said that they do not rule out the option of becoming an entrepreneur or that they now see this in a more favorable light. There was a change in thinking and attitude.

"I think it is kind of awesome, in only four months I have switched from not being one to maybe. So, after these four months of studying at Arcada and we had these guest lectures I have changed to maybe. Entrepreneurs can be very different, it can be me. Before I was thinking more about negative sides like risk, now more positive sides, like self-employment, to have a job one loves and likes." FIN11

Similarities Between the Students' Self-assessments
The students had in general many similar thoughts about entrepreneurship and how life as an entrepreneur is perceived. They agreed about what characterizes an entrepreneur, the entrepreneurial process, and what skills you need as an entrepreneur. Here there were no significant differences between the two groups of students.

However, in this study it seems as if students with more job experience expressed more reflected insights on becoming entrepreneurs. The same applies to students that grew up in a family with at least one parent being an entrepreneur. Also, age might here be a factor that impacted this. With more reflected insight we here mean that they went deeper into reflecting upon themselves, their experiences and connected this to becoming an entrepreneur. Though with a few more years of age, experience will naturally grow. Nevertheless, the Danish students were both older and reported more work experience in general. These were the non-business students. The Finnish students were mostly freshmen and younger and only a few talked about the job experience. However, the Finnish students that were older, had more work experience and maybe family members that were entrepreneurs had the same kind of reflective behavior as the Danish or non-business students.

CONCLUSIONS AND MOVING TOWARDS A NEW ASSESSMENT TOOL

The purpose of this study was to answer the following research questions:
RQ1: How do students self-assess their entrepreneurial thinking?
RQ2: What are the similarities, if any, in the reflections of business/IT and non-business students?

Taking the stance of social constructivism, the goal was to demonstrate the reflections and learnings from the students' point of view based on evidence from the self-assessment in video-clip format. However, the material is very rich, and it is difficult to demonstrate the richness of the material and the reflection in action. From a methodological point of view, it must be said that self-assessment and reflection through video-clips or possible other oral examination forms seem to be of great value. From a learning point of view, it is with the help of these self-assessment clips easier for the teacher to recognize a development, critical thinking, and reflection among the students. When viewing the clips, the researcher and the teacher (coach) can see reflection take place as the students speak. In other words, it is reflection in action. They can be 'caught' thinking in the very moment of the assessment. This as such is according to theory (Svensson et al., 2017; van Gelderen, 2010) seen as one way for enabling deeper learning and because of this the self-assessment through video-clips can be seen as a valuable and novel approach to assessing entrepreneurship education. However, it needs further investigation and development.

The answer to research question one is thus that the students were able to view themselves through both entre- or intrapreneurial lenses. The ability of being able to assess own skills and competences in relation to their own learning throughout the course confirms that self-assessment adds a different perspective compared to traditional assessment tools.

The conclusion to research question two is therefore that experience of entrepreneurship through work or family seems to affect the way young students reflect upon becoming an entrepreneur or not. Neither non-business or business, nor Finnish or Danish for that matter seem to impact the way reflection is triggered in students. What matters in relation to self-assessment, instead, are experience and age. The more experienced, the older you are as a student, the more you can assess yourself through this kind of task.

Furthermore, the above conclusions confirm that knowledge is not only represented by facts and theories but also includes an understanding in relation to each student. In other words, understanding and interpretation cannot be transferred in the classical classroom sense but is processed by each student in their own sense-making.

As confirmed by the video-clip footage, transformation within the students has occurred. The video-clip has created a space in which the students both support their self-assessment and construct their entrepreneurial identity (Svensson et al., 2017). When looking at why students want to become entrepreneurs it seems that they are more eager to talk about the life they could have instead of money issues which emphasize a more holistic understanding of the entrepreneurial concept as well. This strengthens our conclusions further.

We can also agree in our conclusions with Robinson and Shumar (2014) who discuss the usefulness of tools that come to students' sense-making and critical thinking. It has been useful to work with self-assessment through video-clips since it triggered a new perspective in their thinking.

Overall, this study contributes to understanding how educators can use video-clip to engage students in learning about entrepreneurship. Would this idea of becoming an entrepreneur have been triggered among them without this kind of assignment in entrepreneurship education? Would they have viewed themselves in this perspective without this assignment? This we don't know. This could be an interesting topic for future research.

Both Cambra-Fierro and Cambra-Berdún (2007) and, Yan and Brown (2017) has proposed models for self-assessment in general. As a next step we propose to understand and develop the self-assessment approach in relation to entrepreneurship education further. The first step is to use the methodology to gather more data - video-clips - hence enhancing the understanding of this new kind of data. Also, it could be useful to gather data from different settings. Here we have used the business versus the non-business perspective, but it could be useful to study other groups of students as well.

Furthermore, we propose to discuss video as a method and how to integrate it into an already existing model for assessment in entrepreneurship education. The typology of entrepreneurship education and assessment practice model by Pittaway and Edwards (2012) could stand as a foundation for such a discussion thus assessing the model and how self-assessment fits as a tool in the entrepreneurship education assessment practice in general. Their model recognizes the different forms of entrepreneurship education in combination with content and learning outcomes. Also, their model illustrates and discusses the necessity of asking related questions for performing assessment to secure a more successful assessment.

However, we emphasize and strongly recommend that a modified model for assessment besides containing elements related to entrepreneurial skills development also contains elements related to the mindset approach, students' sense-making and critical thinking as demonstrated in figure 1.

When proposing developing a model for integrating video-clips as an assessment tool it is with an awareness of the challenges that come with it. In our context using video-clips as we have done is without any legal issues. That might not be the case in another context. Even though we have no personal experience with cheating/faking the video-clips as the students are visible on the videos we cannot exclude the possibility of it occurring either.

Our findings were from a Nordic context it could be interesting to investigate if this way of linking self-assessment and reflection to entrepreneurship learning would fit in a more general setting. Finally, as this is a qualitative study the results are not generalizable. A future quantitative study with a larger sample could be conducted to explore this further.

LIMITATIONS OF THE STUDY

No study is without limitations. The trustworthiness of the study can always be subject to a discussion which is why we recommend repeating it in different settings. Also, using video as a method, the interpretations of each video-clip or individual stories are based on the eyes watching the videos, in this case two educators. As in all qualitative research the researcher must be extremely alert when it comes to subjectivity. In this case since we are two researchers comparing notes and analytical insight we believe that this is an aspect we have considered and therefore minimized the impact of our subjectivity.

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