Bridging Entrepreneurship and Sustainability Education

Perspectives and Approaches from Swedish University Educators

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Abstract

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Title: Bridging Entrepreneurship and Sustainability Education
Subtitle: Perspectives and Approaches from Swedish University Educators
Background: Human-made climate change and its impact on humanity is one of the most severe challenges of modern times. Due to its complexity and global interconnectedness, it requires significant change and collaboration between different decision-makers. Entrepreneurs are seen as agents of change who can contribute to the transformation. Therefore, the importance of integrating entrepreneurship education in universities is repeatedly emphasised to provide students with sustainable entrepreneurial knowledge. Sustainability education is also repeatedly mentioned, and the importance of combining sustainable and entrepreneurial aspects in education is underlined.
Research questions: How do university educators in Sweden work with and talk about entrepreneurship and sustainability? How is entrepreneurship and sustainability taught and intertwined in higher education in Sweden?
Purpose: The purpose of the study is to increase the understanding of how entrepreneurship and sustainability are taught and perceived at Swedish higher institutions. Moreover, this thesis aims at raising awareness of the importance of sustainability and entrepreneurship education and shows their connection.
Method: This research follows a qualitative approach and utilises semi-structured interviews to explore sustainability and entrepreneurship education at Swedish universities. Since empirical material and theories evolved simultaneously throughout the study, an abductive approach was applied.
Conclusion: This study found that sustainability and entrepreneurship education is very intertwined in Sweden and that both sustainability in entrepreneurship education and entrepreneurship in sustainability education are taught. The findings show that sustainability is frequently addressed through ideas shared with the Planetary Boundary theory, and themes of Schumpeter's theory of innovation and entrepreneurship are regularly touched upon in entrepreneurship education. Although the teaching styles vary widely, reflective theory and constructivism are commonly used among Swedish university educators.
Keywords: *Entrepreneurship education, sustainability education, pedagogies, Sweden, higher education, entrepreneurship, sustainability, sustainable development, innovation, sustainable development goals*

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Table of Abbreviations

CES - Critical Entrepreneurship Studies

EE - Entrepreneurship Education

EMT - Ecological Modernisation Theory

ES - Earth Systems

PB - Planetary Boundaries

SDGs - Sustainable Development Goals

SE - Sustainability Education

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1. Introduction

This chapter lays the foundation of the study by first providing background information and discussing the problem to introduce the topic. Then, the purpose of the study is presented, and the research questions are given.

1.1 Background

Humanity is confronted with unprecedented global environmental, economic, and social concerns, and sustainability has grown in importance in global discourse (Borglund et al., 2017). Human-caused climate change and its attendant concerns endanger humankind (Hopkins, 2016; Farley & Smith, 2020). Due to species loss, increasing temperatures, and natural calamities, humanity is at a crossroads (Farley & Smith, 2020). These worldwide issues endanger humanity's long-term health and existence. According to Farley and Smith (2020), a section of humankind already lacks access to essential resources, and this proportion is rapidly growing. Societal cohesiveness is under threat, and the global interconnection of problems can only be remedied via the collaboration of corporations, governments, and decision-makers.

Humanity is faced with the task of addressing the worldwide environmental issue. Entrepreneurship and entrepreneurs are viewed as agents of social change capable of assisting in the resolution of this issue (Løwe Nielsen et al., 2021). Entrepreneurs, according to Løwe Nielsen et al. (2021), are those who discover possibilities and seek innovative solutions, hence sparking innovation. Innovation is regarded as a key component of achieving a more sustainable way of life. Although the United Nations Brundtland Report stated how society should live as early as 1987, *"the development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (United Nations, 2015, p. 37)*, sustainability is still a relatively new concern in society and higher education (Farley & Smith, 2020). The remark illustrates how society should live in such a manner that future generations can live in the same way without being endangered. This knowledge must be handed on to future generations to avoid global problems from worsening and to leave a world worth living in for future generations (Farley & Smith, 2020).

"Education is the key intervention for bringing change in knowledge, values, behaviours and lifestyles [...]" (Pandey & Vedak, 2010, p. 3). This quotation from Pandey and Vedak (2010) emphasises the role of education in affecting societal transformation. Entrepreneurship, according to Aaboen et al. (2022), has the capability to have a significant effect on the future. It has the potential to affect change in all sectors, not only monetarily, but also in terms of environmental and social worth. According to Aaboen et al. (2022), entrepreneurs are viewed as a group capable of driving sustainable growth in society through the invention of new technologies, services, and goods. Furthermore, entrepreneurship and entrepreneurs are viewed as change agents and, as a result, have become a key component in higher education across the world. Entrepreneurs are praised for their ability to foster innovation in all fields while also contributing to economic growth and the creation of new employment (Dahlstedt & Hertzberg, 2012).

To launch and sustainably operate their enterprises, people need to have the skills, knowledge, and practice necessary (Del Vecchio et al., 2021). Additionally, to promote and strengthen the growth of original and creative thought. Like many other countries worldwide, it is also a common trend in Sweden to include entrepreneurship in the university's curricula (Dahlstedt & Hertzberg, 2012; Aaboen et al., 2022). For many years, the nation's institutions have provided programmes and courses on entrepreneurship. However, this has only sometimes been the case and has been a long political and social process. Before the 1980s, *"the organisation of the Swedish education system was based on the main pillars of non-segregation, social levelling, equality, general civic competence and public responsibility for education" (Dahlstedt & Hertzberg, 2012, p. 246).* According to Dahlstedt and Hertzberg (2012), the Swedish educational model was viewed as a public good that promoted equal access to education. The Swedish educational system changed from public to private good at the beginning of the 1980s. Individual choice and the growth of students' competencies were given more weight (Dahlstedt & Hertzberg, 2012). The importance of EE in the Swedish curriculum increased in the 1990s (Dahlstedt & Hertzberg, 2012; Henry et al., 2017). There was a broad political agreement favouring EE at schools and universities (Henry et al., 2017). It was stated that the introduction of entrepreneurship resulted from external world developments

and globalisation (Dahlstedt & Hertzberg, 2012). By encouraging students to start their businesses, which would benefit Swedish society, the education strategy sought to meet the demands of the labour market and further the nation's economic development. The Swedish government has established entrepreneurship centres and instituted entrepreneurship courses at universities as part of its efforts to advance the culture of entrepreneurship (Aaboen et al., 2022). The requirement for a precise definition and framework for implementation and assessment are just a couple of the difficulties that the integration of EE into Swedish higher education must overcome (Henry et al., 2017). According to Henry et al. (2017), there are additional concerns over the calibre and worth of EE in academia and the requirement for ongoing improvement and market adaption.

Despite these challenges, it is essential to recognise the value of EE at Swedish universities. According to research (Del Vecchio et al., 2021), it is crucial to encourage students' entrepreneurial activities and skills and their attitudes towards sustainability (Strachan, 2018). Furthermore, EE is among the most cutting-edge teaching methods used in higher education, according to Hägg and Gabrielsson (2020). Students must deal with real-world business start-ups and action-oriented pedagogies, such as experiential learning through company planning and simulations (Hägg & Gabrielsson, 2020).

In addition to the integration of EE into Swedish university curricula, the integration of sustainability education (SE) also plays a crucial role (Cars & West, 2015). In the early 2000s, the UN declared 2005-2014 as the Decade of Education for Sustainable Development to strengthen SE and education for sustainable development in school and university curricula globally (Berglund et al., 2014; Cars & West, 2015). Sweden was no exception but was already considered a pioneer in integrating SE into curricula at the time. SE in Sweden can be dated back to the 19th century (Cars & West, 2015). At that time, the aim was to playfully incorporate nature into school curricula. Since the 1960s, SE has changed (Cars & West, 2015; Jordan, 2022). From a pure knowledge transfer to a more critical approach to sustainable development education (Jordan, 2022). This integration was facilitated by the already solid foundation of environmental awareness and should raise awareness of pressing environmental issues (Cars & West, 2015). According to Berglund et al. (2014), SE

has evolved steadily since the 1960s and is now taught as a complex system that includes not only the environment but also the economy and society. The approach in Sweden is to teach SE as a holistic concept to enable sustainable action in all aspects of everyday life (Berglund et al., 2014). Furthermore, according to Cars and West (2015), SE is considered an effective tool to prepare people for today's labour market and thus create a sustainable society. Sweden has successfully adopted SE in school and university curricula and has created new approaches to learning and teaching (Cars & West, 2015). On the other hand, Argento et al. (2020) argue that today's society is in an alarming context. They go on to argue that further significant efforts are needed to integrate sustainability more into educational institutions. The role of educators is to integrate sustainability more so that students learn to be more aware of their role in society and its impact (Argento et al., 2020).

As the world faces unprecedented environmental challenges, including climate change and biodiversity loss, the need to incorporate sustainability issues into EE on the one hand, and SE with entrepreneurship courses and requirements on the other, has become even more urgent (Valerio et al., 2014; Farley & Smith, 2020). EE and SE have the potential to play a crucial role in promoting sustainable development by providing people with the necessary skills, knowledge, and competencies to start and run socially responsible and environmentally sustainable businesses, or to implement their experience and knowledge into existing businesses and processes (Valerio et al., 2014). Several studies have not only shown the positive impact of SE on sustainable development but in particular, the significance of EE as it promotes an entrepreneurial mindset that values innovation, creativity and risk-taking, which are essential for the development and implementation of sustainable business models (Fayolle & Gailly, 2015).

The significance of mainstreaming sustainable concerns in EE is generally acknowledged since entrepreneurs and small firms play an important role in fostering economic growth and social change (Strachan, 2018). The incorporation of sustainability topics into EE lectures has been demonstrated to improve students' attitudes towards sustainable development (Fayolle & Gailly, 2015). Lourenço et al. (2012) performed research on integrating sustainable development into business education, including EE, and found that including sustainability themes into EE can

aid in the establishment of a more responsible and sustainable company culture. The authors also discovered that incorporating business practises into SE is a vital step towards developing a new generation of entrepreneurs who have the knowledge, skills, and attitudes required to foster long-term economic growth and encourage the accomplishment of the Sustainable Development Goals (SDGs).

In conclusion, the integration of sustainable concerns in EE and entrepreneurial issues in SE has been identified as a critical aspect in encouraging sustainable economic growth and supporting SDG accomplishment. It has the potential to have a substantial influence on social development since entrepreneurs, in particular, have the capacity to play a critical role in all sectors on the path to greater sustainability. These studies emphasise the significance of incorporating sustainable principles and entrepreneurial practices within EE and SE. (Fayolle & Gailly, 2015)

1.2 Problem Discussion

According to present research, both, how people think about sustainability and how they act towards the environment are strongly influenced by their exposure to these topics in higher education (Fisher & McAdams, 2015). Education is a powerful and proven tool for sustainable development (Wamsler, 2020) and is seen as both the means and the end of the transformation towards more sustainability in society (Linnér & Wibeck, 2019). According to Jónsson et al. (2021), the Swedish educational system has highlighted the importance of SE for decades and included sustainable development in the national curriculum as early as 1994. Even before this, Sweden promoted environmental education, which was later complemented by social and economic topics. To analyse the incorporation of SE within the Swedish education system, a specific government committee solely focused on SE, the so-called "kommitté för utbildning för hållbar utveckling", was established in 2003. Even though social dimensions are included, SE in Swedish curriculums often refers to the environmental aspects (Jónsson et al., 2021). Fisher and McAdams (2015) agree that there is a stronger focus on environmental aspects instead of the broader concept of sustainability, leading students to perceive sustainability as an exclusively environmental issue (Fisher & McAdams, 2015). Jónsson et al. (2021) state that the least attention in the curriculum is given to the economic dimension of sustainability.

Unlike in natural sciences courses, students learning about sustainability in entrepreneurial-centred and business courses tend to think about the topic of efficiency (Fisher & McAdams, 2015).

Entrepreneurship not only plays an essential role in wealth creation but also in social development. Therefore, governments worldwide try to promote entrepreneurship (Valerio et al., 2014). Dodd et al. (2022) agree that entrepreneurship is a means for sustainable change, such as social transformation, changing norms, and empowerment. According to Valerio et al. (2014), an important instrument to encourage sustainable venture creation is creating and improving the country's EE and investigating the skills and knowledge needed for successful entrepreneurs. In fact, EE is already an established field of study in which students and policymakers alike are interested (Valerio et al., 2014). However, more than merely educating traditional entrepreneurship theories and practices is required in the ever-changing world, especially regarding environmental and social sustainability. Therefore, EE must help establish innovative competencies for the circular economy and support experiential learning processes (Del Vecchio et al., 2021). Sustainable value creation is essential in current entrepreneurship scholarship (Dodd et al., 2022). Universities responded to various sustainability issues, such as climate change, by adjusting and modifying their educational programmes (Mets et al., 2021). Mets et al. (2021) explain that universities considered the new business skills and competencies needed, particularly concerning sustainable and social development, eco-entrepreneurship, and social entrepreneurship. Dahlstedt and Hertzberg (2012) explain that EE in Sweden was primarily introduced in the education system due to its positive effect on the Swedish labour market, economy, and society. Nowadays, it is self-evident that education forms society's green awareness and sustainable, environmentally active attitude (Mets et al., 2021). A few studies, such as the one from Dodd et al. (2022), investigate what EE contains and looks like regarding sustainability and social justice. Moreover, there are uncertainties about which kind of teaching methods should be used. Hägg and Gabrielsson (2020) systematically reviewed the development of research on teaching entrepreneurship since the 1980s. They found that there is an ongoing debate on the most suitable approach to teaching entrepreneurship. On the one hand, there is a narrow start-up view focusing on the

specific context of business creation. On the other hand, the broad enterprising perspective emphasises personal development, mindset, and capabilities. Despite this, experiential learning theory has remained a core framework for developing knowledge on teaching and learning entrepreneurship. The review concludes that while there has been much interest in EE, the field is at a crossroads, and there is still much work to be done in its development (Hägg & Gabrielsson, 2020).

Studies show that SE is important, yet there is a lack of research on how sustainability is talked about and taught explicitly in Sweden (Linnér & Wibeck, 2019). Currently, SE emphasises addressing the external world, such as ecosystems and socio-economic structures, yet neglects the inner dimension that is restricting SE both as a means and as an end (Wamsler, 2020). Those internal aspects include values, beliefs and worldviews, and guide individuals' decision-making process (Wamsler, 2020). Wamsler (2020) discovered that inner dimensions facilitate enhanced and more critical SE. Additionally, Sandri (2022) argues that there is a lack of investigation of educators' assumptions and philosophies in the field of SE. Understanding the educator's values helps to show how educational practices are oriented. Moreover, the various teaching pedagogies and tools applied in SE will allow to create models for teaching sustainability in higher education and are, therefore, worthy of further investigation (Sandri, 2022). Wamsler (2020) states that SE requires interdisciplinary and system teaching approaches and pedagogical models that challenge assumptions of mass education and allow students to become change agents. She continues to argue for establishing a supportive community to create space for new approaches that serve people, places, and the Earth.

Regarding EE, research needs to look deeper into the competencies needed for green transformation (Mets et al., 2021). Mets et al. (2021) explain that especially the combination of entrepreneurial and transdisciplinary competencies in sustainability has hardly been an area of study. Since EE methods are still developing, there needs to be more scientific evidence of appropriate methods for EE within the various age groups and levels of education. Furthermore, there needs to be more clarity on how and at which level what kind of competencies should be taught (Mets et al., 2021). Hägg and Gabrielsson (2020) agree that the content which courses and programmes in EE should have is still unclear. Lastly, Sharma et al. (2021) mention a lack of

sustainability content in EE in higher education programmes and a lack of pedagogical approaches combining sustainability and entrepreneurship in university programmes. Generally, there are still no specific answers to how sustainability should be included in the academic curricula of EE. This leads to the challenge of balancing sustainability and entrepreneurship competencies when designing the academic curriculum (Sharma et al., 2021). Despite the international interest, information on EE programmes is scarce (Valerio et al., 2014). Little is known about EE's role in shaping the sustainable thinking of citizens (Mets et al., 2021). Therefore, there is a need for further research and in-depth studies on EE and its incorporation of sustainability topics (Sharma et al., 2021).

There are various reasons why gaining a more profound knowledge of EE and SE at the university level is crucial. First, sustainability lacks a precise definition (Fisher & McAdams, 2015; Jónsson et al., 2021). Although the Brundtland Commission offers a common and popular definition across the globe (Fisher & McAdams, 2015), there is no specific definition of sustainability in the curriculum in Sweden (Jónsson et al., 2021). Secondly, improved quality of education is one of the driving factors for social change and more sustainable transformations (Linnér & Wibeck, 2019). However, SE is not prioritised by many countries (Linnér & Wibeck, 2019). Furthermore, Fisher and McAdams (2015) argue that SE should be interdisciplinary and connected to other areas of study. To create such an integrated approach, it is essential to understand how particular coursework affects students' perceptions and attitudes (Fisher & McAdams, 2015). According to Sandri (2022), not only students but also teachers must be learners. Furthermore, educators must engage with various worldviews, explore values and norms, and work across disciplinary boundaries within their curriculum (Sandri, 2022). In general, sustainability challenges traditional ways of teaching in higher education due to the inherent attempt of SE to question societal norms (Sandri, 2022).

The lack of definition is also the case for entrepreneurship (Valerio et al., 2014). Additionally, the concept of entrepreneurship is filled with various notions, including those used by politicians, researchers in critical schools, and more positivistic researchers. Nevertheless, understanding both entrepreneurship and the various types of sustainability is essential for EE programmes. According to Sharma et al. (2021),

education is crucial for developing sustainable objectives as an entrepreneur, creating, and performing sustainable business opportunities, and promoting sustainable business practices. Mets et al. (2021) agree that EE has a significant part in advancing society's green transformation and sustainable development. This is not only because it equips students with entrepreneurial and sustainability skills but also because these students can serve as ambassadors and encourage responsible behaviour throughout society. Over the last decade, EE shifted from a traditional perspective towards a more sustainability-oriented approach (Sharma et al., 2021). On the one hand, Sharma et al. (2021) claim that there is an increasing number of entrepreneurship programmes integrating sustainability-oriented courses. On the other hand, Del Vecchio et al. (2021) disagree and suggest that there is still an inadequate number of higher education programmes focusing on sustainable entrepreneurship despite EE being widely considered essential for a more sustainable society. However, Del Vecchio et al. (2021) mention that most initiatives emerge from (Northern) European countries, including Sweden, Norway, Finland, and the Netherlands, which are among the pioneer countries in circular economy policies. Apart from the number of EE programmes specialising in sustainability, Aaboen et al. (2022) point out that Nordic higher education institutions primarily use cases from North America which often cannot be applied within the context of Nordic countries. Even though case narratives within the field of EE from around the world are beneficial for students, understanding the context of those cases is essential. Consequently, Aaboen et al. (2022) develop cases and teaching methods within EE for the Nordic context, focusing on entrepreneurial action and students who want to become business owners, varying from early-stage entrepreneurs to established organisations. This shows the significance of considering the context and environment.

Even if those studies offer valuable insights, the whole picture has yet to be captured. Currently, there is a lack of research on the integration of entrepreneurship in sustainable development matters (Lourenço et al., 2012) and vice versa. Mets et al. (2021) agree that research on the role of education, and specifically EE, for more sustainable citizens still lies ahead. Education, notably higher education and skill training programmes is essential for sustainable development (Linnér & Wibeck,

2019). However, linking entrepreneurship and sustainability competencies is challenging for scholars (Mets et al., 2021). Moreover, Valerio et al. (2014) suggest that considering the context is crucial. In general, universities play a key role in addressing EE (Del Vecchio et al., 2021), and so far, no EE approach offers an answer to how exactly entrepreneurship can be taught at this level (Mets et al., 2021).

1.3 Purpose of the Study and Research Questions

This study aims to contribute to the academic field of EE and SE in higher education in Sweden and shows the interrelations between the two topics. As Sharma et al. (2021) have demonstrated, EE plays a crucial role in supporting sustainability efforts, which is why this research aims to gain an in-depth understanding of sustainability and entrepreneurship as well as the direction that Swedish university educators indicate. The types of sustainability are investigated, and the construction of entrepreneurship is explored. For this, it is essential to understand the underlying assumptions of sustainability. The participant's views are analysed through two partly contrasting sustainability theories, explained further in Chapter 2.1. In addition, we are curious about the images of the future that are being formed and produced by SE and EE at Swedish universities are analysed. Those images are constructed by the interviewee's values and mindsets and shown collectively in Chapter 5. The study results will provide valuable insights into the role of EE in promoting sustainable development, developing entrepreneurial competencies, and encouraging sustainability-oriented entrepreneurial activities among students. Furthermore, this study, as well as the promotion of sustainable EE in general, is beneficial for both companies and academia in the context of Sweden as it highlights the social value EE programmes can have and encourages the incorporation of sustainability in EE.

Therefore, the thesis aims to answer the following research questions:

1. How do university educators in Sweden work with and talk about entrepreneurship and sustainability?
2. How are entrepreneurship and sustainability taught and intertwined in higher education in Sweden?

1.4 Thesis Outline

Chapter 1: Introduction

The first chapter of the study serves to introduce the topic of the research by first discussing background information and the research problem. It also introduces the purpose of the study and the research question that will guide the study.

Chapter 2: Theoretical Framework

The second chapter constitutes the theoretical framework of the study. It links the theoretical framework to the research topic and highlights the study's objectives. To this end, it provides an overview of the main theories and models used to examine the empirical material later.

Chapter 3: Methodology

The third chapter presents the methods and design of the study. The section presents the method of material collection, data analysis and sampling approach for the study. It also elaborates on the study's setting and participants and highlights the study's ethical aspects and limitations.

Chapter 4: Empirical Material

The fourth chapter presents the empirical material constructed during the study. The section provides a detailed description and overview of the empirical material. This is the basis for the later analysis and discussion of the constructed material.

Chapter 5: Analysis and Discussion

The fifth chapter analyses and discusses the results of the empirical material collection. Finally, the section interprets and relates the results to the research questions and objectives.

Chapter 6: Conclusions

Finally, the main findings and conclusions of the study are summarised. The study's contributions to the existing literature are highlighted and the section provides recommendations for future research.

2. Theoretical Framework

Six theories form the theoretical framework for this study, two each on the core themes of sustainability, entrepreneurship, and pedagogy. These theories serve as the foundation for the subsequent analysis in Chapter 5. Two theories from each category were chosen to provide a contrast between two different viewpoints on the subject. This is an attempt to illustrate a span, not the entire subject. To provide a comprehensive understanding of society's environmental concerns and the role of innovation and entrepreneurship in tackling them, we have chosen the Planetary Boundaries (PB) theory and the Ecological Modernisation Theory (EMT) as our theoretical framework for sustainability. The PB theory emphasises the environmental processes that must be preserved for the planet to continue to support human habitation. The EMT examines how technological advancement might support sustainable development. We have opted for the theories of innovation and entrepreneurship and Critical Entrepreneurship Studies (CES), which strongly focuses on the value of creativity, taking calculated risks, and critical thought in entrepreneurial endeavours. Entrepreneurship's economic and business components are given more attention in the theory of innovation and entrepreneurship. In contrast, the CES theory adopts a more critical and reflexive stance that highlights the social and political components of entrepreneurship and disproves conventional wisdom. We have chosen constructivism and reflective theory for pedagogy to understand the procedures that go into student learning and professor teaching. The importance of reflection in learning and teaching is emphasised by reflection theory. Professors can use the notion to develop their learning styles and alter their instruction through reflection. It is a process that both professors and students go through internally in which they consider what they have learnt or been taught in the context of their personal growth. Contrarily, constructivism places a strong emphasis on the value of students' past knowledge in the learning process. It encourages the use of real-world examples to help students grasp new ideas. It is an external learning process that is particularly encouraged by hands-on techniques, including group projects, presentations, and general social engagement throughout learning.

2.1 Sustainability Theories

To show the spectrum of the various existing sustainability approaches, the theory of PB and its related theory of Doughnut Economics as well as the EMT, have been chosen for this study. The empirical findings will be analysed in Chapter 5 through the lens of both approaches.

2.1.1 Planetary Boundaries and Doughnut Economics

Throughout history, societies have faced environmental limitations, yet nowadays, they are faced at a global level. Introduced in 2009, the approach of PB establishes safe environmental limits for human activities that allow us to prosper and progress. This idea has since played a significant role in shaping global sustainability policies and providing valuable guidance to decision-makers (Steffen et al., 2015). Whiteman et al. (2012) and Steffen et al. (2015) state that the PB framework offers a scientific evaluation of the risk that human disruptions could lead to the destabilisation of the Earth System (ES) on a planetary level. If the PBs are exceeded, there is a significant possibility of destabilising the ES's Holocene state, which has persisted since the last ice age (Steffen et al., 2015) and is the only period in Earth's history where humans have thrived (Leach et al., 2013). Limits are necessary for societies to pursue individual and societal well-being. The COVID-19 pandemic has shown the importance of setting limits to protect public health, especially for the most vulnerable. Limits to consumption are not only necessary for the environment but also liberating for individuals (Fuchs et al., 2021).

PB consists of nine critical ES processes with associated thresholds that signify ecological constraints. These boundaries are climate change, biodiversity loss, nitrogen and phosphorus cycle interference, ozone depletion, ocean acidification, freshwater use, land use change, chemical pollution, and atmospheric aerosol loading. The nine planetary boundaries have different operating methods and vary in critical threshold levels (Whiteman et al., 2012). As Steffen et al. (2015) explained, observing these boundaries would significantly diminish the likelihood of unintentionally pushing the ES into a much less liveable state through human activities. According to its original definition, a PB does not constitute a tipping point on a global scale. Even if a global or regional threshold in an ES process exists,

the PB is placed upstream of it to provide a buffer between the boundary and the threshold. This buffer accounts for the uncertainty in the threshold's exact location. It provides society with time to respond to early warning signs before reaching the threshold, preventing abrupt or risky changes. (Steffen et al., 2015). Ideally, individuals can meet their needs without infringing on the needs of others or damaging the planet. However, the reality is that humanity is already operating outside the planet's safe limits (Fuchs et al., 2021). Three PBs have already been crossed, namely, climate change, biodiversity loss, and nitrogen/phosphorus use, and others are under intense pressure due to environmental degradation (Whiteman et al., 2012; Leach et al., 2013).

The concept of PB does not prescribe the direction of societal development, as these decisions are political and should consider human factors such as equity that are not addressed in the framework (Steffen et al., 2015). However, the concept is an extension of social-ecological systems thinking, acknowledging that individual issues cannot be managed in isolation (Whiteman et al., 2012) and instead are determined by a complex interplay of environmental and social dynamics (Fuchs et al., 2021). While crossing PB leads to environmental degradation, overstepping social boundaries causes resource deprivations that endanger human well-being (Leach et al., 2013). Inspired by modern ES science, Kate Raworth developed the seven principles of Doughnut Economics in 2012 (Raworth, 2017). The notion of Doughnut Economics establishes a link between PB and social foundations, highlighting the imperative of establishing an ecologically sound and socially equitable environment for humanity (Fuchs et al., 2021). Raworth's (2017) concept is shown in Figure 1 and consists of an inner ring showing the twelve social foundations, including clean water, access to energy, education and healthcare and minimum income. The outer circle represents the nine ecological limitations of the PB concept.
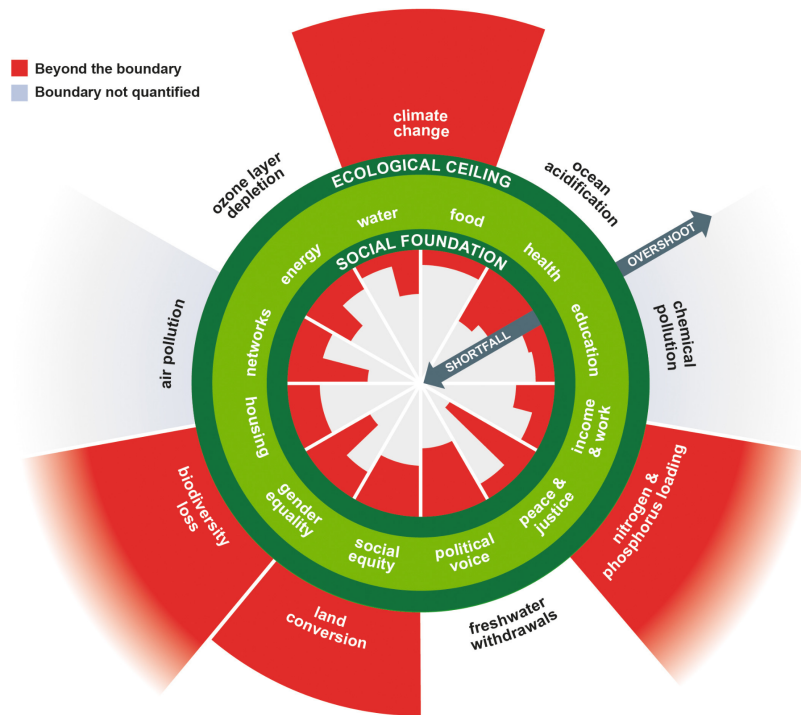
Figure 1: Graphical Representation of the Doughnut Economics Model (Raworth, 2017)

The concept includes seven principles: Firstly, governments must change their goal of consistently increasing their gross domestic product towards the sustainable framework of the doughnut in which every person's needs are fulfilled while ensuring that future generations have the same opportunities. Secondly, economists need to see the big picture and switch from a self-contained market represented in the circular flow diagram to an economy that is embedded within society and the natural world. Thirdly, there must be a change from the rational economic man created by Adam Smith to social, adaptable humans that depend on each other. The fourth principle explains that, unlike physics, economics has no fixed laws. Economic models are consistently evolving, and economists must embrace the dynamic complexity of the market by getting savvy with systems. Principle number five shows that economies can be designed in a way that distributes wealth more evenly among those who help generate value. Like the restrictive idea that growth will even up inequality, there is also the belief that growth will clean up again, meaning that pollution must first increase to decline again. The sixth principle addresses this misconception. A regenerative design has the potential to establish a circular

economy that allows future generations to have the same natural resources as current ones. Lastly, instead of being financially, politically, and socially dependent on growth, we should be agnostic about it. Just like nothing in nature grows forever, neither can economies. There is a need for economies that make us thrive, regardless of their growth (Raworth, 2017). Combining the inner limits of social boundaries and the outer limits of PB creates a space within which all of humanity can thrive by pursuing inclusive and sustainable development (Leach et al., 2013).

2.1.2 Ecological Modernisation Theory

The EMT proposes to tackle environmental issues without abandoning modernisation by using new technologies and reforming society incrementally (Islam, 2018). This social science concept advocates for integrating environmental protection and economic development through innovation and technological advancements. It posits that eco-productivity, or efficient use of natural resources and ecological media, can be a foundation for future growth. This can be achieved through product and process innovations such as environmental management, supply chain sustainability, clean technologies, replacement of hazardous materials, and environmental product design (Pal et al., 2023). The EMT further assumes that environmental concerns have been incorporated into society and institutions. However, it does not challenge capitalist dynamics and production relations as necessary for overcoming ecological problems. The EMT believes that environmental changes can occur through political modernisation, technological development, and social transformations in consumption and civil society. Despite recognising the dire ecological crisis, the EMT persists in its eco-optimistic defence of capitalism (Ewing, 2017). In fact, Islam (2018) states that according to the EMT, capitalism can self-regulate and evolve towards sustainable capitalism. The theory recognises that a capitalist society can re-examine its circumstances and develop a heightened awareness of environmental problems, leading to consumer demand for green products and government and corporate policy changes (Islam, 2018).

The EMT has developed in a Western European context, and participatory governance practices have emerged to compensate for failures at the state level. Political modernisation has led to a more decentralised, consensus-oriented model of environmental governance, and voluntary environmental protection measures tend to

outnumber state-initiated actions. The EMT provides a framework for considering contemporary governance arrangements that have the potential to redistribute power imbalances among economic interests, political actors, and communities. Hybrid arrangements between the state, market, and civil society have created new opportunities for innovative approaches to environmental governance. The EMT is a practical solution to problems associated with modern-day capitalism and believes it is flexible enough to evolve into a sustainable economic system. The industrial system can be transformed into an ecologically sound one through a process of greater industrialisation (Islam, 2018). Many non-Western and/or indigenous perspectives also posit a more relational approach to human-ecological relations (Ewing, 2017). The EMT focuses on relative but significant changes in more environmentally sound directions, in contrast to the "absolute" sustainability sought by neo-Marxist scholars, and tends to focus on conventional environmental problems such as waste and pollution rather than on the ecological issues central to Marxian political ecologies, such as climate change, biodiversity, ozone layer depletion, and the like (Ewing, 2017).

Critics argue that too much faith is placed in technology, and political and economic forces may not align for environmental conservation (Islam, 2018; Pal et al., 2023). Furthermore, some scholars believe sustainable capitalism is not possible, and market-based strategies are inherently contradictory to the asymmetries of access to natural resources and exposure to environmental harm under capitalism (Pal et al., 2023). The EMT oversimplifies complex environmental problems and ignores the political and economic dimensions involved. Additionally, critics point out that the assumption that ongoing modernisation and industrialisation can solve environmental problems contradicts perspectives in environmental sociology that view economic growth as incompatible with environmental protection. Ultimately, while sustainable development and the EMT may address some environmental harm, they may not resolve underlying social and economic inequalities that contribute to larger-scale degradation (Islam, 2018).

2.2 Entrepreneurship Theories

To show the spectrum of the various existing entrepreneurship approaches, the theory of innovation and entrepreneurship and its relation to Joseph Schumpeter and the CES have been chosen for this study. The empirical findings will be analysed in Chapter 5 through the lens of both approaches.

2.2.1 Theory of Innovation and Entrepreneurship

Entrepreneurship stands for building and growing existing and new businesses and creating work and wealth (Hisrich et al., 2013; Kyrö, 2015). Innovation, novelty, and the will to break with given structures are central to entrepreneurship (Kuratko, 2009; Løwe Nielsen et al., 2021). In this sense, entrepreneurship is often described as a process of discovering and identifying new opportunities (Valerio et al., 2014). According to Dahlstedt and Hertzberg (2012), entrepreneurs willing to innovate must be curious, creative, and confident. Therefore, to shape the future and generate advantages for the economy, environment, and society, entrepreneurs and entrepreneurship are crucial (Aaboen et al., 2022).

The notion of how entrepreneurship is often described today is highly based on Schumpeter's theory of innovation and entrepreneurship and his concept and assumption of creative destruction. (Dalton & Logan, 2020; Løwe Nielsen et al., 2021). According to the theory, entrepreneurs are the ones who propel economic expansion by guaranteeing that creative activities create new industries and displace obsolete ones (Henrekson & Sanandaji, 2020). New economic structures are developed as a result of this creative destruction process, according to Schumpeter (Dalton & Logan, 2020). Entrepreneurs that spot market opportunities and transform the market through their passion for innovation are what propel this process of perpetual creation (Løwe Nielsen et al., 2021). In Schumpeter's view, entrepreneurs are the main drivers of economic growth since they are active agents of change rather than passive recipients of these market opportunities (Dalton & Logan, 2020).

According to Schumpeter's theory, the starting point is equilibrium in the economy (Løwe Nielsen et al., 2021). Entrepreneurs then play a crucial role by being able to identify and exploit new opportunities in the marketplace, thereby generating innovation. They do this by disrupting and displacing the status quo within the

market through new products, services, and processes (Henrekson & Sanandaji, 2020). By creating new opportunities, the market becomes unbalanced (Løwe Nielsen et al., 2021). According to Schumpeter, this market disequilibrium contributes to the development of the economy by redistributing resources and displacing less productive sectors and industries with more productive sectors and industries. Generally, this happens by the entrepreneur looking beyond the usual and introduces new combinations that break the old ones, thus forcing a new equilibrium in the market (Dalton & Logan, 2020).

This perspective of Schumpeter's creative destruction challenges the traditional view of entrepreneurship (Dalton & Logan, 2020). In the traditional view, the entrepreneur is seen as someone willing to take risks and identify opportunities. Whereas Schumpeter emphasises the role of the entrepreneur as a creator, innovator, and disruptor in the market, stressing that this is the only way economic growth can occur. Figure 2 shows the essential aspects of Schumpeter's theory.
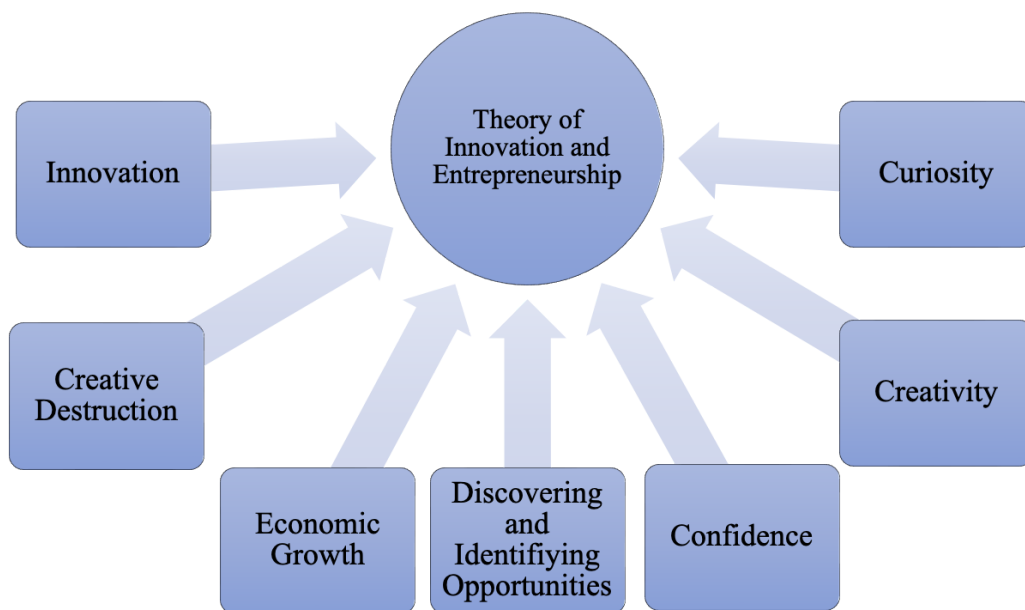

Figure 2: Key Aspects of Schumpeter's Theory of Entrepreneurship and Innovation (own figure)

According to Løwe Nielsen et al. (2021), technological innovation plays an essential role in Schumpeter's theory. Løwe Nielsen et al. (2021) claim that Schumpeter's theory relies substantially on technological innovation. Schumpeter discovered that entrepreneurs might introduce various innovations to spark an economic revolution. These, according to him, include market innovation, innovation in processes, and innovation in products. By way of new product introductions, product quality improvements, or innovative production techniques. Likewise, the creation of novel markets and supply sources. Schumpeter supposes that innovations are consistently superior to the old ones and that new organisations operate better than the old ones. (Løwe Nielsen et al., 2021)

The knowledge of entrepreneurship today and the understanding of the role of entrepreneurship in economic growth and development are significantly influenced by Schumpeter's theory of innovation and creative destruction (Henrekson & Sanandaji, 2020). However, there are detractors of the notion as well, and it is frequently questioned if the new is always preferable to the old and what role uncertainty plays in creativity. However, Schumpeter has significantly impacted how people perceive the connection between entrepreneurship, innovation, and economic progress (Løwe Nielsen et al., 2021).

2.2.2 Critical Entrepreneurship Studies

Unlike the conventional theory from Schumpeter discussed above, CES does not treat entrepreneurship as a mere means to create value in a capitalist society. In fact, CES challenges traditional perceptions and associations of entrepreneurship and entrepreneurs and incorporates social and cultural factors in addition to the common economic ones. The traditional approach to teaching entrepreneurship is too focused on technical skills. It lacks critical reflection on the social, economic, and political context in which entrepreneurship takes place. Entrepreneurship in universities can be used to critique, develop, and advance knowledge for societal outcomes. It should be seen as a process of social action rather than just a way of gaining financial wealth. Critical EE can contribute to social and economic justice by encouraging students to consider the impact of their entrepreneurial activities on society and the environment. (Berglund & Verduijn, 2018)

To teach entrepreneurship meaningfully, there needs to be space created for a more critical approach to the field. Critical EE programmes are emerging in universities worldwide, yet face challenges such as resistance from traditional business schools and a lack of resources and support. Therefore, educators must offer differing views and a language for students to articulate their views. Adopting a critical approach to teaching in, for and about entrepreneurship requires rethinking the curriculum, methods, and assessment practices. Both critique and affirmation are essential for teaching students about creativity and entrepreneurship. Figure 3 shows the adjusted IFTA model from 1984, which divides EE into the four categories of "in", "for", "through", and "about", and shows the various angles of how EE is shaped and practised. (Berglund & Verduijn, 2018)
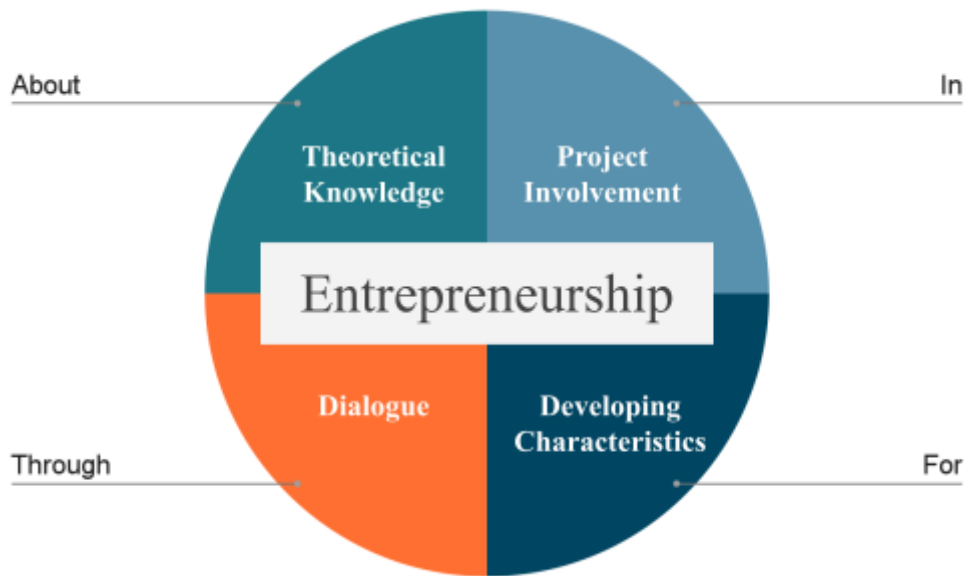
Figure 3: Graphical Representation of the IFTA Model of EE (own figure)

The "in" of EE is about performing entrepreneurship in some form, such as through projects, NGOs, artistic enactment, or social involvement, and can be used as training for already existing entrepreneurs. "For" prepares students to become aware decision-makers and develop characteristics of entrepreneurship to start new ventures. "Through" encourages learners to engage in dialogue and critically reflect while obtaining entrepreneurial skills and business understanding. Lastly, the "about" of EE is the traditional theoretical knowledge about entrepreneurship that explains

the rules for change. The developers of the approach recommend a playful approach to teaching entrepreneurship, challenging the conventional educational process through interventions and alternative views. They view their pedagogy as a series of practices, or interventions, that generate effectual flows and may lead to a reinvention of teaching. In EE, the role of the educator is to guide and facilitate student learning rather than being an expert on the academic discipline of entrepreneurship. Critical EE can help students develop a deeper understanding of the broader issues that affect entrepreneurship and enable them to become more effective and responsible entrepreneurs, which in turn creates a positive impact on their communities. (Berglund & Verduijn, 2018)

2.3 Pedagogical Theories

To highlight the spectrum of the various existing pedagogy approaches, the reflective theory and its relation to Donald Schön as well as constructivism and its relation to Jean Piaget, have been chosen for this study. The empirical findings will be analysed in Chapter 5 through the lens of both approaches.

2.3.1 Reflective Theory: Continuous Learning

The relevance of reflection in professional practice is emphasised by Donald Schön's idea of reflective theory, which is regarded as a way of learning and functioning (Schön, 1984; Tan, 2020). Schön (1984) claims that experts in many disciplines deal with unpredictable and complex situations that routine processes or established norms, often known as technical rationality, cannot handle. Accordingly, technical rationality is insufficient in the actual world to operate skilfully in challenging and unpredictable circumstances. Professionals must rely on their judgements and experience to make decisions in these circumstances. From this vantage point, reflection theory asserts that one unlocks a powerful source of learning through their activities. According to Schön (1984), the interplay between acting, thinking, and reflecting broadens one's range of activity.

Schön (1984) argues that for professionals to improve their practice, they must engage in "reflection in action" and "reflection on action". When experts are actively engaged in a task, reflection in action occurs. They can review their activities and

immediately make adjustments thanks to it. This response to circumstances while considering internal factors, including attitudes, values, emotions, and aspirations. This type of introspection necessitates being aware of when things are not going as planned and changing one's course of action accordingly. High levels of self-awareness are necessary for this. While working on a task, professionals need to be able to consider their ideas and presumptions (Schön, 1984). New insights may be gained from this action-related reflection, their past knowledge, and other sources (Tan, 2020). Then, new and/or modified hypotheses can be created based on this.

On the other hand, reflection on action entails thinking back on previous experiences, dissecting them, and spotting trends and presumptions that might have shaped one's actions (Schön, 1984; Tan, 2020). Professionals can take lessons from their past mistakes and apply them to their job to become more analytical and thoughtful. Tan (2020) contends that reflection during the action is more successful since it can be applied immediately. However, both kinds of reflection are valuable methods for testing new hypotheses, reflecting on them, and revising them. According to Tan (2020), this contemplation is an ongoing and ever-evolving learning process. Figure 4 shows both processes of reflection in and on action.
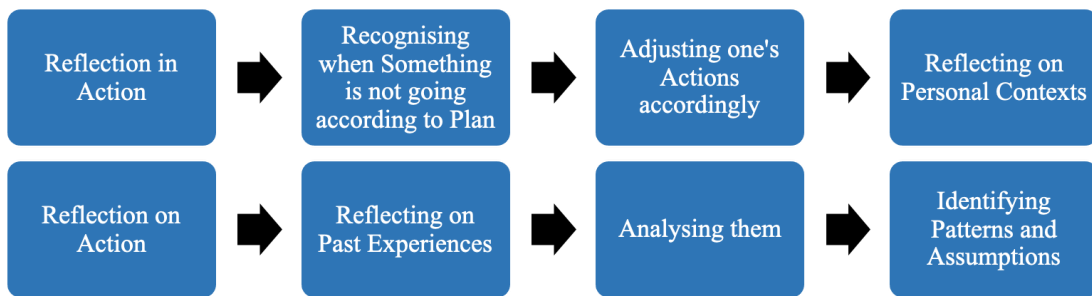
Figure 4: The Process of Reflection in and on Action (own figure)

In various industries, including management and education, Schön's theory of reflection is frequently applied (Boud et al., 2013). Reflective practice is used in education to enhance the quality of teachers and their professional growth. Reflective practice can aid teachers in developing their self-awareness and instructional methods. It has been demonstrated that reflective management practice enhances organisational performance and leadership. They contend that managers can acquire

a more strategic approach to decision-making by using reflective practice to determine their strengths and shortcomings. (Boud et al., 2013)

In conclusion, the relevance of reflection in professional practice is emphasised by Schön's theory of reflection. Professionals can hone their judgement and knowledge and enhance their performance in challenging and unpredictable circumstances by reflecting in acting and reflecting on acting.

2.3.2 Constructivism: Experiential Learning

Constructivism is a pedagogical theory or educational philosophy and is a way of experiential learning. It emphasises the active role of learners in constructing knowledge through their experiences, understandings, and interactions with the environment (Jonassen & Rohrer-Murphy, 1999). It is a learner-centred approach that states that learning knowledge, for example, in school or university, is not merely ingestion but rather an active process that occurs through social interactions and exploratory learning (Kirschner et al., 2006).

Constructivism was formed from numerous writings by philosophers, including John Dewey, Lev Vygotskij, and Jean Piaget, published in the 1900s (Kirschner et al., 2006). In his work on a progressive education theory, John Dewey underlines the value of hands-on learning experiences and using practical problem-solving techniques (Dewey, 1986). Collaboration and social contact among students are emphasised in Lev Vygotskij's sociocultural theory of learning (Vygotskij & Cole, 1978). Jean Piaget produced one of the essential early constructivist works. According to his theory of cognitive development, infants build their knowledge of the world from their experiences, which are continuously altered through contact with their surroundings. He states that active involvement in learning affects how one builds their worldview. The constructivist viewpoint generally holds that information is not solely transferred from educator to student but is a dynamic process that blends prior knowledge and real-world experiences into learning (Piaget, 1970).

According to Jonassen and Rohrer-Murphy (1999), the constructivist theory holds that learning is an active process based on the learner's experiences to comprehend new information and gain new knowledge. Problem-solving and inquiry learning are components of a constructivist learning strategy. Students are given tasks and

problems from the actual world under this method. They must apply their existing knowledge and experience to resolve the issues. They claim that students can improve their abilities through this process and pick up new information and abilities. Furthermore, constructivism promotes interpersonal communication and teamwork in the educational process, including group projects, presentations, and other cooperative endeavours. In these instances, students are urged to share their knowledge and pick up new skills from others. This should foster the spread of ideas inside the class or amongst students and the emergence of fresh concepts through dialogue and cooperation. The idea is to help students improve their social and communication skills while allowing them to learn from one another and professors since everyone has unique backgrounds and experiences. (Jonassen & Rohrer-Murphy, 1999)

Nowadays, constructivism is used in various settings and many different educational institutions. These could be interactive museums, online learning environments, or classrooms and lecture halls in colleges and universities (Jonassen & Rohrer-Murphy, 1999). For instance, constructivist methods, including group work, presentations, inquiry learning, and various problem-solving tools, are used in classrooms and other learning environments in schools and universities to help students learn by experience (Duffy & Jonassen, 2013). Likewise, constructivist methods are applied in online learning settings to build learning communities, promote, and support knowledge and idea sharing, and improve communication among students (Jonassen & Rohrer-Murphy, 1999). Constructivist ideas are also employed in interactive museums to engage a broader audience in learning new information and reinforcing visitors' experiences while offering enjoyable and engaging knowledge to visitors (Duffy & Jonassen, 2013).

Some people disagree with constructivism in education theory even though it is widely accepted in schools, universities, and other institutions focused on education (Kirschner et al., 2006). Constructivism lacks empirical support, and they claim that only a few students can benefit from the theory because it is frequently challenging to implement. They assert that the theory promotes relativism and subjectivity in the creation of knowledge and that it lacks a simple technique for evaluating learning outcomes (Kirschner et al., 2006). Contrarily, proponents of the theory contend that

constructivism is grounded in a thorough understanding of how learning occurs and that it is a successful teaching strategy for students in various settings (Jonassen & Rohrer-Murphy, 1999).

3. Methodology

This section showcases the research strategy and design, the data collection and analysis process, ethics, credibility and authenticity of the study, and existing limitations.

3.1 Research Strategy

A research strategy directs the study (Ghauri & Grønhaug, 2010; Bryman & Bell, 2015). This master's thesis follows a qualitative research approach, exploring how sustainability and entrepreneurship are understood and taught within EE and SE programmes in Sweden. The choice of strategy depends on the problem and object being studied (Alvesson & Sköldberg, 2017). The aim is to understand how educators at various Swedish universities define and teach EE and SE rather than focusing on their impact and efficiency, which would require a quantitative study. A qualitative approach emphasises analysing empirical material through words and opinions (Creswell & Poth, 2017). In fact, qualitative research looks at a few cases with various variables (Creswell & Poth, 2017) and strives to generate new theories (Bryman & Bell, 2015). Its goal is to provide clarity on processes, institutions or connections through observations and interpretations (Alvesson & Sköldberg, 2017).

3.1.1 Ontology

In social science, ontology and epistemology are research philosophies that concern the development of new knowledge (Saunders et al., 2019) and influence the quality of the study (Alvesson & Sköldberg, 2017). Ontology questions the assumptions we make about how the world functions (Saunders et al., 2019). This theory describes how we sense the world and that it is characterised by objectivism or constructionism. Instead of collecting specific data, material is constructed together with the participants. Objectivism assumes that reality is given an objective, whereas constructivism presumes reality is constructed and subjective (Bryman & Bell,

2015). We align with the latter because we assume that everyone forms and modifies their perception of the world, including the participants, the readers and ourselves (Creswell & Poth, 2017). Constructivism is the theory that human interaction causes individuals to establish their meaning and add it to a social phenomenon (Bryman & Bell, 2015; Saunders et al., 2019). It is commonly used for qualitative research (Bryman & Bell, 2015). Furthermore, it considers that individuals might change their perceptions, and observations can be made before and after a situation occurs (Creswell & Poth, 2017). Each educator's perspectives and opinions regarding what entrepreneurship and sustainability mean to them and how they are incorporated into both fields are considered. However, the research is influenced by our perception of reality, which is most certainly different from other researchers. Creswell and Poth (2017) state that in qualitative research, various realities are collected and interpreted through the words of the participants. Therefore, we intend to reflect their words and realities rather than ours.

3.1.2 Epistemology

The second philosophical perspective is epistemology. The theory of knowledge explains what is recognised as valid knowledge in a particular context (Saunders et al., 2019). Understanding this philosophical viewpoint is essential to comprehend the knowledge produced within this study and ensuring its legitimacy. Epistemology is concerned with the relationship between the research topic and the researcher (Creswell & Poth, 2017). Studying entrepreneurship and sustainability at a Swedish university, both authors have a close relationship with the topic of EE and SE. However, we ensured to be open and understand reality through the interviewees' viewpoints and previous studies in this field.

According to Bryman and Bell (2015), the two main epistemological assumptions are positivism, which is common in natural sciences, and interpretivism (also known as constructivism), which is focused on understanding social reality. Unlike interpretivism, positivism is strictly objective and allows no space for personal interpretations. In fact, interpretivism insists on interpreting observed situations and focusing on the subjective actions of the individuals. It is commonly used in qualitative studies (Bryman & Bell, 2015). This research investigates the current and

future images of entrepreneurship and sustainability that shape EE and SE. We attempt to understand how different Swedish university educators understand and teach this topic and make sense of this research phenomenon. Therefore, an interpretive approach is most applicable and chosen for this study. Creswell and Poth (2017) claim that a close relation to the research subject increases the knowledge that can be gained. Even though we cannot exclude personal values and bias from the study, we vigorously strive to minimise any distortion of the empirical material collected and analysed. Producing generalisable outcomes is only possible with an extensive sampling that represents a population. Since we selected a non-representative sample of eleven university educators in Sweden, our intent is not generalizability to the research outcome.

3.1.3 Axiology

According to Saunders et al. (2019), axiology studies the researcher's view on values and their influence on the study. It must be taken into consideration during the interpretation of the empirical material that neither our values and biases nor the ones of the interviewees can be eliminated from this research. However, considerable importance was placed on each participant's view on EE and SE rather than assuming there is one right way to examine this topic. A clear statement on one's value position supports the specification of appropriate research ethics (Saunders et al., 2019).

As students involved in EE and SE, we value both fields as relevant and essential to be researched. Furthermore, we believe that entrepreneurship and sustainability can be taught, and continuous education within those dynamic fields is valuable. Even though those values shape the orientation of the study, we strongly strive not to project them onto the interviewees but rather welcome various perspectives and viewpoints.

3.1.4 Abductive Reasoning

Bryman and Bell (2015) explain that the connection between theory and research can be deductive or inductive. On the one hand, the deductive approach describes the process from a general idea to a precise conclusion, which means that a theory is tested. On the other hand, inductive reasoning searches for patterns in various

situations and attempts to generate a general conclusion that can be seen as a theory (Bryman & Bell, 2015). Apart from induction and deduction, there is abductive reasoning, which strives to overcome the limitations of the first two approaches (Saunders et al., 2019). Which reasoning is chosen strongly influences the collection, analysis, and interpretation of empirical material, also known as the research design (Saunders et al., 2019). As the scope has only been partly defined at the beginning of the research, an abductive approach is chosen for this study. Abduction evolves from empirical material similar to induction yet allows theories during the collection process just like deductive reasoning, and is beneficial for identifying incomplete facts. By investigating and adapting existing literature throughout the research process, we disclose insights and patterns of EE and SE at the university level in Sweden. With this abductive approach, we can create an iterative process and go back and forth between theory and empirical findings to better understand the topic and empirical material collected. Alvesson and Sköldberg (2017) describe this theory, and empirical material is reinterpreted when considered in each other's context.

3.2 Research Design

The research design shows the general orientation of the study and provides the framework for data collection and analysis (Bryman & Bell, 2015). This study follows a qualitative research design as we collect in-depth empirical material through semi-structured interviews. The research period is limited to five months, from January to May 2023. As master's students with a specialisation in entrepreneurship, sustainability and social change, our thesis is based on a theoretical problem within the field of business administration.

The main research design types are exploratory, causal, and descriptive, with the latter two being useful for structured research problems (Ghauri & Grønhaug, 2010). As this study is of unstructured nature and the topic has not been fully understood beforehand, the exploratory design is used. Exploratory research design is typical in social sciences and endorses flexibility when collecting and reviewing empirical material (Alvesson & Sköldberg, 2017). Ghauri and Grønhaug (2010) highlight that this approach requires skills to observe and derive explanations from the collected

empirical material. The exact outcome of this study only slowly emerged throughout the process. Therefore, gathering, analysing, and interpreting materials is central to this research. The exploratory design seeks information from various perspectives on a particular topic.

3.2.1 Research Subject

The subject of this study is the link between EE and SE, as well as the different perspectives and approaches to how those topics are being taught. To limit the scope of the research, we decided to focus solely on their teachings within higher institutions in Sweden. So far, there has been a lack of consensus on what should be taught regarding entrepreneurship and sustainability. The purpose is to gain an in-depth understanding of the underlying assumptions of entrepreneurship and sustainability.

3.2.2 Interviews

Sources of information can be of various natures, including interviews, observations, and artefacts (Ghauri & Grønhaug, 2010). The empirical material for this study is collected through semi-structured interviews. This choice is further explained in the next chapter. All Swedish university educators interviewed were anonymised, as suggested by Creswell and Poth (2017). The different universities of those educators are named alphabetically at the beginning of the analysis. However, the universities are not linked to the individual participants, and their programmes are not mentioned as this information discloses irrelevant empirical material for this study. Moreover, after receiving consent, we audio-recorded the interviews, which were later transcribed and added to the handwritten notes taken during the conversation. As proposed by Creswell and Poth (2017), we predesigned protocols for each interview, including questions and space for notes. However, instead of strictly following a list of questions, we allowed for a natural flow of conversation and were open to issues that occurred during the process. The purpose of predefined questions is to ensure that all critical matters are being discussed and to stay within the predetermined time frame (Creswell & Poth, 2017).

Participant	Role/ Position	Field	Length of Interview (in minutes)	Date & Time
A	Assistant Professor	Entrepreneurship	31:22	March 24, 2023
B	Professor	Business	34:43	March 26, 2023
C	Associate Professor	Entrepreneurship	32:11	March 27, 2023
D	Lecturer	Entrepreneurship	30:52	March 29, 2023
E	Programme Director	Business	31:05	March 30, 2023
F	Professor	Sustainability	31:31	March 31, 2023
G	Assistant Professor	Business, Sustainability	30:47	April 3, 2023
H	Professor	Entrepreneurship	35:52	April 3, 2023
I	Professor	Business	23:27	April 3, 2023
J	Programme Director	Entrepreneurship in Health Sciences	28:47	April 4, 2023
K	Adjunct Lecturer	Sustainability	32:45	April 6, 2023

Table 1: List of Interview Participants (own table)

3.3 Data Collection

Different types of empirical material were accessed and utilised for this qualitative study. A mix of primary and secondary data sources was used. Saunders et al. (2019) describe primary data as material collected solely for the purpose of the study, including, for example, structured, and/or semi-structured interviews or focus groups. The authors further state that secondary data are data that were collected for another

purpose. However, these can be further analysed for more information, interpretation, context, and knowledge.

3.3.1 Sampling

Sampling is an essential component of qualitative research in which specific individuals or groups are selected for the study. Sampling aims to select participants who can provide abundant and detailed information about the research question being investigated. (Devers & Frankel, 2000)

3.3.1.1 Sampling Strategy

The study used purposive sampling, which falls under non-probability sampling. This technique is often used for qualitative studies. The strategy selects participants based on specific criteria relevant to the study and the research objective. We specifically selected participants who teach EE and SE at Swedish universities and thus can provide rich and detailed information. Furthermore, purposive sampling has the advantage of explicitly selecting participants who are knowledgeable about the topic in question and have experience in the field. This increases the likelihood of obtaining in-depth and comprehensive empirical material from the interviews. (Devers & Frankel, 2000)

3.3.1.2 Selection of Participants

A criteria-based sampling approach is described as selecting appropriate participants to identify potential study subjects (Devers & Frankel, 2000). Inclusion and exclusion criteria are often developed which are critical to ensure that research study participants meet specific requirements necessary for the research question being investigated. By establishing clear and objective criteria, researchers can select participants who will likely construct valuable material to answer the research question. In this study, the inclusion criteria were that the person teaches in the field of EE or SE. We also restricted ourselves to courses and programmes taught at master's level and in English. For this purpose, we looked at the syllabus of the individual programmes to determine whether the course's objectives and content corresponded to our requirements for EE or SE. Exclusion criteria were persons who did not teach in the mentioned field. In addition, all courses and programmes at

bachelor's level and all languages other than English were excluded. (Devers & Frankel 2000)

3.3.1.3 Sampling Size

Devers and Frankel (2000) describe sample size as a process of purposely selecting participants until data saturation is reached. Data saturation describes the point in a qualitative research study where no new information or themes emerge from the empirical material. This point is reached when the researcher feels they have collected enough information to achieve the research goal and answer the research question. At this point, further empirical material is unlikely to yield new insights and be important in the analysis. Awareness of data saturation in a qualitative research study is critical to ensure that the study is comprehensive and relevant information has been collected. It is also essential so that the study is manageable. In this study, eleven educators were interviewed to achieve data saturation. (Devers & Frankel 2000)

3.3.2 Primary Data

For primary data, three different approaches were considered: focus groups, structured interviews, and semi-structured interviews. A semi-structured interview is a type of empirical material collection in which the researcher prepared questions, as in structured interviews, but can deviate in the order of questions (Saunders et al., 2019). In addition, this type of interview allows the respondent to ask follow-up questions if the researcher feels that the participant has more information on a particular topic.

For this study, we chose the tool of semi-structured interviews because of our research question. We aim to gain a deeper understanding of EE and SE, explore what is expected, and portray how educators talk about it. This method offers the most advantages for our study as the educators' interview dates could be arranged flexibly and it is possible to respond flexibly to the topics and reports of the individual lecturers during the interview to explore issues raised. The guide and questions were adjusted after the interviews if we felt that specific questions were irrelevant. This would not have been possible with structured interviews, as this approach required asking all interviewees the same questions (Saunders et al., 2019).

A structured interview has the advantage that the empirical material is more comparable due to the same questions. As the professors interviewed come from different backgrounds and do not all teach in the same field, the questionnaire often had to be specifically adapted. The third type of interview considered was focus groups. Focus groups are a particular form of group interview in which a small number of participants are interviewed under the guidance of a moderator. The topic is predetermined and precisely defined (Saunders et al., 2019). The role of the moderator or researcher is to stimulate discussion among the participants (Krueger & Casey, 2015; Saunders et al., 2019). As group interviews often keep the number of participants to four to twelve, this would have been perfect as we interviewed exactly eleven educators. It would also have been exciting to have a stimulating discussion between the professors on individual questions, as all of them come from different backgrounds and could bring different perspectives to the discussion. Focus groups were not targeted solely for time feasibility and location. In addition, focus groups are more difficult to conduct online than in person, and having all professors in one room would have been impossible in terms of time and cost.

Due to the advantages of semi-structured interviews for our research question and the listed obstacles of structured interviews and focus groups, semi-structured interviews were the method of choice.

3.3.3 Data Collection Process

Professors teaching in the field of EE and SE were introduced to the idea of this study and asked about an interview. After positive feedback, participants received a consent form and an information sheet about the study. Participants could ask questions and clarify any problems beforehand. The semi-structured interviews were conducted in a private setting via Zoom. Furthermore, by showing genuine interest in the participants' opinions and viewpoints and avoiding judgement, we attempted to make the interviewees feel more comfortable sharing truthful information. Each interview lasted between 23 and 36 minutes, was recorded with the participant's consent and transcribed afterwards. It is important to note that further steps were taken to ensure ethical considerations, credibility, and authenticity. As these issues

are particularly important, we address them separately later in the methodology section.

3.3.4 Secondary Data

For this study, secondary data was collected alongside primary data to ensure a mix of sources, information, and knowledge. We specified secondary sources based on a literature review according to Saunders et al. (2019).

3.3.4.1 Literature Review

A literature review, or critical review, is essential for qualitative work to understand the research topic and show the reader familiarity with the topic (Hart, 2018; Saunders et al., 2019). It shows what and how research has been conducted previously to show a grasp of essential theories (Hart, 2018). A literature review includes highlighting the strengths and weaknesses of the literature, reviewing prior research, and evaluating its applicability to one's project (Saunders et al., 2019). Hart (2018) makes a distinction between the scholastic (traditional) method and the interventionist (systematic) approach when performing a literature review.

3.3.4.2 Scholastic (Traditional) Review

The scholastic review, or traditional review, is one of the approaches used to create a review of the existing literature and has been used in research for decades. This approach focuses on critically analysing and summarising the existing literature in a field to highlight the main arguments, findings, and debates in the literature. Scholastic review is often used in qualitative research and can help develop theoretical frameworks and identify gaps in knowledge in a field. (Hart, 2018)

3.3.4.3 Interventionist (Systematic) Review

Interventionist review, or systematic review, on the other hand, is a more rigorous and structured approach to the literature review that involves a systematic search and analysis of the literature (Hart, 2018). In this more current approach, a research question is defined in advance, and a search strategy is developed. The interventionist review assesses the quality and relevance of the literature and summarises the findings systematically. This approach was developed to provide

evidence for intervention and, for example, to provide practical guidance for policy change. (Hart, 2018)

The main difference between the two approaches is the rigour and structure of how the literature is sought and explored. Scholastic review is more interpretive, calling for critical analysis of the literature. Interventionist review, on the other hand, has clearly defined steps on how literature should be researched and aims to provide intervention at the end of the analysis. (Hart, 2018)

3.3.4.4 Procedure

In our literature analysis for this master's thesis, we have chosen the scholastic review. We want to analyse the existing research to gain a broad understanding of the topic. We also want to use it to highlight the most important arguments, debates, and theories to have a reasonable basis for the data analysis. The interventionist approach would also be helpful as we interview educators from different universities. One could then analyse the empirical material to make a recommendation for action as to which method or approach to teaching is best. However, since this is a qualitative master's thesis and we will not collect data that generates systematic comparisons, we have opted for the traditional approach.

To gain a comprehensive and broad understanding of the topic, we used different channels to get secondary empirical material sources. On the one hand, we used the public search engine "google scholar" to access digital articles, journals, and books. In addition, we have used Linnæus University's digital library, "OneSearch", and the physical library at the campus in Växjö. Through these three channels, we obtained all our secondary empirical material using keywords like entrepreneurship, entrepreneurship education, sustainability, sustainable development, Sweden, Swedish universities, and higher education. We found relevant articles, journals, and books. We then checked these for their relevance to our topic by reading the abstract or introduction to get a rough understanding of the text and the approach. We then clustered texts as not relevant, relevant in some areas and relevant to the whole topic. After that, we made an overview of the texts and wrote out the most critical findings, debates, arguments, and theories of each relevant text. Thus, we gained a broad understanding of the existing literature and highlighted six relevant theories with which we will analyse our empirical material from the primary source.

3.4 Data Analysis

When interpreting large and small amounts of empirical material, there are different approaches and techniques to analyse qualitative empirical material. One of the techniques is thematic analysis. It is a general approach to analyse larger and smaller sets of qualitative empirical material, such as interviews. The thematic analysis involves searching for themes or patterns within the set. It is described as a systematic but flexible and accessible way of analysing, as it provides a logical and orderly way to analyse qualitative empirical material (Saunders et al., 2019). We have chosen the thematic analysis, because first, it helps to understand large amounts of empirical material, as we have more than 100 pages of transcription from eleven interviews. Second, it is also easy to integrate empirical material from different transcripts and highlight key themes and patterns within the empirical material, which is vital in a qualitative research approach.

3.4.1 Procedure

Saunders et al. (2019) describe the procedure for thematic analysis in four steps: *"becoming familiar with your data; coding your data; searching for themes and recognising relationships; refining themes and testing propositions" (p. 652)*. This procedure does not always have to take place in this order. During the process of the analysis, for example, new empirical material is added, or new themes emerge so that it is possible to jump back and forth between the individual steps. (Saunders et al., 2019)

3.4.2 Becoming Familiar with the Material

Engaging with empirical material happens by creating transcripts of the interviews. Familiarity with the empirical material requires immersion and engagement with thereof. This is a continuous process of analysing and happens through reading and re-reading the material. (Saunders et al., 2019)

3.4.3 Coding our Empirical Material

Qualitative material is often extensive and complex (Saunders et al., 2019). Coding the material is used to get an overview of the empirical material and categorise

empirical material with similar meanings. It can be challenging to capture all the meanings, such as ideas, relationships, and interactions of the empirical material, without coding the empirical material. The process of empirical material coding involves fragmenting material elements and regrouping empirical material units with similar relationships or ideas. A code can be a single word, a short sentence, or a longer word. Whereas, a material unit is often a whole line, a sentence, but it can also be a single keyword. It is not essential or excluded that material units do not overlap so that they can have more than one code. (Saunders et al., 2019)

3.4.4 Constructing Themes and Recognising Relationships

Searching for themes follows coding (Saunders et al., 2019). Patterns and relationships are looked for within the codes to create a list of themes. It is essential to note the research question(s) so that the themes relate directly. Themes are broad categories that include multiple codes related to each other or share the same ideas. Codes and themes are often used as synonyms in literature. However, there are differences, *"(...) data are organised by coding them while codes are organised by drawing them together as themes" (p. 657)*. Themes which should answer the research question take time to find. In the search for these, the empirical material must be assessed. (Saunders et al., 2019)

3.4.5 Refining Themes and Testing Propositions

The final and most crucial part of the thematic analysis process is to refine the themes and the relationships between them (Saunders et al., 2019). The themes must be chosen to provide an appropriate analytical framework for the analysis. Once the themes have been determined, it is necessary to check that all the codes fit the theme and that the individual relationships are correct. This involves re-reading the empirical material and re-organising it if necessary. Finally, it is essential to check whether the codes are sufficient for and support the theme and whether they are unusable or relevant for several themes. This is a development process in which themes are repeatedly refined, readjusted, merged, or discarded to begin the subsequent analysis. (Saunders et al., 2019)

3.5 Ethical Considerations

Throughout the research process ethical considerations must be taken into account. The research design, accessibility, empirical material collection and storage, as well as analysis and every stakeholder, must be dealt with appropriately by the researcher (Saunders et al. 2019). Ethics defines what is right and wrong, shows the moral position and principles considered in the research process and is particularly important for qualitative research (Ghauri & Grønhaug, 2010). However, ethical conflicts can arise when different ethical principles between people and organisations collide (Ragin & Amoroso, 2019). In fact, Ragin and Amoroso (2019) state that right and wrong can depend on the individual(s) and situation. Additionally, as researchers, we must conduct truthful and accurate studies (Ghauri & Grønhaug, 2010). Our moral duty is to avoid harm and notify the reader of potential biases.

The participants in this study have been our main priority. The most sensitive ethical principles are valid for studies dealing with other human beings (Ghauri & Grønhaug, 2010). Attention has been taken to give the participants the flexibility to carry out the interview at their homes or in their offices, as the interviews were conducted via Zoom to ensure a safe environment. Before the interview, we informed each informant about the purpose of our study and obtained their consent to be part voluntarily. Ghauri and Grønhaug (2010) state that voluntary participation and withdrawal at any time must be accepted by the researcher. We asked permission to record the interviews, informed them about using their empirical material in the study, and were open to potential objections. In addition, we notified them about the anonymity. In this study, anonymity and confidentiality are of the highest significance for us to protect participants' empirical material and privacy. Creswell and Poth (2017) suggest that pseudonyms should be used for participants and numbers for organisations they are employed in. We adopted this recommendation for this master's thesis and used the letters A to K for our interviewees. Participants were treated fairly, both personally and concerning their content. Great care has been taken in analysing the empirical material collected to avoid any bias or inaccuracy.

3.6 Credibility and Authenticity

Credibility and authenticity are crucial in qualitative research as they contribute to the dependability and trustworthiness of the findings (Creswell & Poth, 2017; Saunders et al., 2019). The steps taken to ensure the credibility and authenticity of this study on the role of EE and SE at the higher education levels in Sweden are covered in this part.

According to Saunders et al. (2019), some measures must be taken to guarantee the credibility and authenticity of a qualitative study. The study design must, first and foremost, be appropriate for the research question being examined. The sampling strategy and the procedures for gathering and analysing empirical material should all be explicitly outlined in the study. The collection of empirical data ought to be meticulous and organised. This means that the reader must have a clear explanation and understanding of the method used to gather the empirical material, including the instruments utilised, the process used to identify participants for interviews, and how the interviews were performed. This should result in the empirical material being recognised as trustworthy and reliable. The empirical material analysis procedure ought to be straightforward and traceable. It must explain the methods employed in the analysis of the empirical material. Furthermore, Saunders et al. (2019) describe that reflexivity plays a unique role in a qualitative study. Researchers should demonstrate reflexivity throughout the study by clearly describing their positioning, acknowledging, and outlining biases and assumptions, and describing how these may have influenced the research. This can be expressed, for example, in the limitation of the study by clearly describing what was focused on, what areas within the study could not be carried out, and why not. (Saunders et al., 2019)

3.7 Limitations

The study focuses solely on Swedish universities. Within these universities, the study was limited to programmes and courses related to entrepreneurship and/or sustainability. The study was not limited to one field, for example, economics, but all possible fields of study were considered. However, the study was limited to master's programmes and courses taught in English. Lower or other levels of education are

not considered here. Further research is needed to investigate the same phenomenon in Swedish and lower educational levels. Also, to study it in other countries.

The participants in this study are all from Sweden or work in Sweden, which might limit the transferability of the results to other cultural contexts. Further research is needed to investigate the same phenomenon in other cultural contexts and to assess the impact of cultural differences on the results.

The sample of this study is relatively small and includes only eleven interviews with university professors from nine different universities, in addition to an extensive literature review. This limited sample does not represent the entire population of entrepreneurship and sustainability educators in Sweden. The difficulty here is the time frame and the narrowing down that has already taken place before. Not all universities offer programmes in English or at master's level. In addition, only some universities offer programmes related to entrepreneurship and/or sustainability. Therefore, possible programmes or courses might not have been included, as it was difficult to see possible courses, get contact details for professors, and accessibility of professors.

Another limitation to the transferability of the study is that the empirical material collected in this study came from self-reporting by professors. This can lead to biases and limitations in recall and accuracy (Saunders et al., 2019). This means that, for example, professors from the same programme could come to different conclusions. However, this constraint is limited since, mainly one person per programme was interviewed. The results may also be biassed by the researcher's opinion or biassed by the relationship with the interviewees. Bias can occur at any stage of the research process, from study design to empirical material collection and analysis (Creswell & Creswell, 2018; Saunders et al., 2019). In this study, only a qualitative research design is used. A mixed-methods approach or a quantitative study could provide additional insights and increase the external validity of the findings or even lead to different results. The empirical material for this study was collected over a relatively short period, which may limit the depth and breadth of the findings. For example, each programme's curriculum was only looked at briefly upfront to check if the participants were a good fit, but further information was not taken. Longitudinal

studies or studies with a longer time frame would provide a more comprehensive understanding of the phenomenon under study.

4. Empirical Material

This section demonstrates the findings of the interviews held in March and April of 2023. It is divided into core topics based on the two research questions of understanding entrepreneurship and sustainability and their interrelationship. The following list shows the universities in alphabetical order from which we interviewed programme directors, professors, associate professors, lecturers as well as adjunct lecturers: Blekinge Institute of Technology, Chalmers University of Technology, Karolinska Institutet, KTH Royal Institute of Technology, Linnæus University, Malmö University, Stockholm University, University of Gothenburg, and Uppsala University. Programmes and educators are anonymised on purpose.

4.1 Understanding of Entrepreneurship and Sustainability Education

The following findings demonstrate the empirical material allowing us to answer the first research question about how university educators work with and discuss entrepreneurship and sustainability. The empirical material is divided into information about the educators, the structure and objectives of the programmes and courses, their content and learning material as well as their past and future development.

4.1.1 Educators

A total of 11 educators from nine higher institutions in Sweden have been interviewed. The years of experience in teaching vary among the participants. Three have been teaching for 15 or more years (C, H, I), three for 10-15 years (D, E, J) and one educator has been at the university for five years so far (K). Some interviewees are involved in an entrepreneurship programme (A, C, D, E, H, J) or focus on business and economics in general (B, E, I). In contrast, others are in a sustainability-focused programme (G, K). The educators have backgrounds in

business (C, D, G), engineering (C, E, H), health sciences (J) as well as design (F). Participant J combines health sciences with entrepreneurship. Participant F states that despite not teaching entrepreneurship, or "entre-do-neurship", under its name, it is embedded in their courses. Furthermore, several educators mentioned that they worked in the industry (E, I, K).
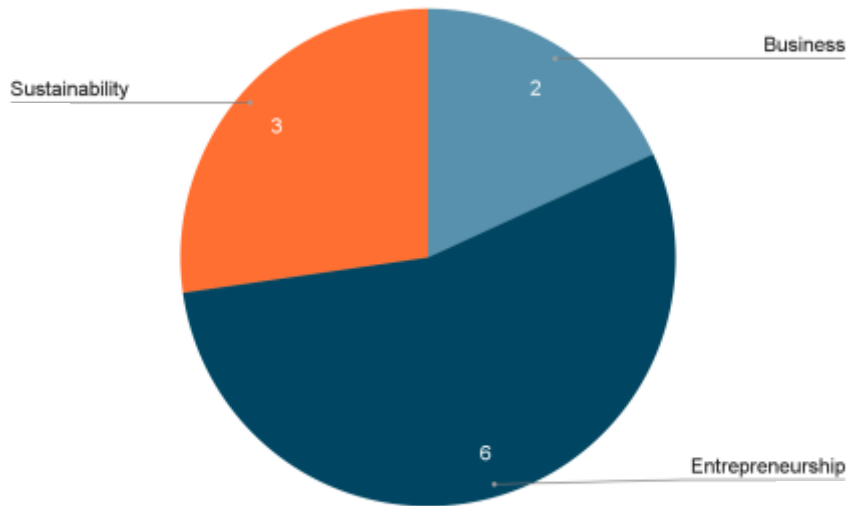
Figure 5: Educators in the Three Main Areas of Entrepreneurship-oriented Programmes, Sustainability-oriented Programmes and Business Programmes (own figure)

There is a range of interests and reasons why educators are curious about entrepreneurship and sustainability - from the general curiosity of learning, developing, and sharing new knowledge as well as the freedom related to working as an academic (C) to the opportunities entrepreneurship offers as such a broad topic with different perspectives (D) and the impact it can have on society (A, D, E). In addition, some participants mention more specific areas of interest, including the human side of entrepreneurship, individual and organisation dynamics (C), and the connection of entrepreneurship to innovation and problem-solving (E). Interviewee (H) had already been involved in small ventures as a kid.

![Linnæus University logo]

Linnæus University
Sweden

4.1.2 Structure and Objectives

The number of students in the entrepreneurship and sustainability programmes of the educators interviewed varies per class between less than 20 (E, F), 20 to 30 (A), 30 to 50 (D, G, I, J, K), 50 to 70 (B, C) and 70-120 (H).
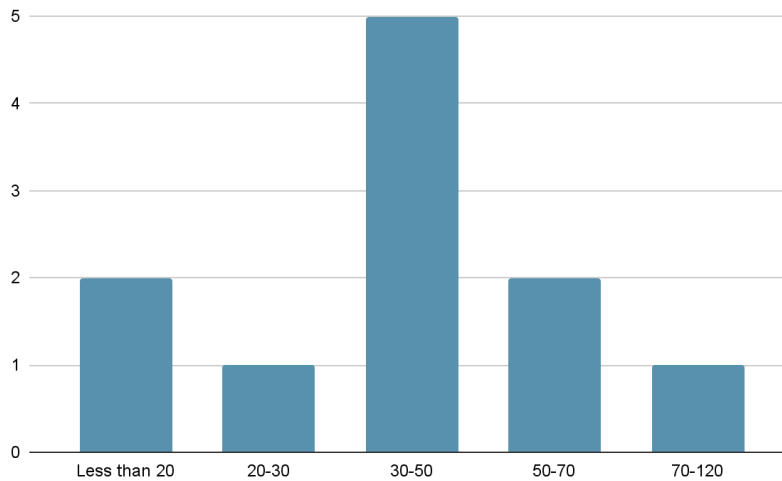
Figure 6: Number of Students in Entrepreneurship and Sustainability Programmes (own figure)

When asked what kind of characteristics entrepreneurship students should bring, Interviewee E mentions curiosity, creativity, and a driving mindset. It is less about having a great idea than taking action (E). Grades are less important during the admission process, however, extracurricular activities and other types of engagement show a passion and desire to act which is beneficial for entrepreneurship students (J). Moreover, students tend to be older than the average student at university, with some either having started ventures before or during their education (I). However, the entrepreneurial skills taught at university can be applied in numerous fields, including intrapreneurship and corporate entrepreneurship, academia, and politics (H). In fact, Participant H explains that more than 90% of the students use their skills in an organisation rather than starting their own independent venture.

Moreover, in several interviews, the international aspect of their programme came up, mentioning the differences between Swedish, European, and non-European students. Many international students study the programme (G, I, J, K), both

European and non-European (I, K). According to Interviewee J, international students are more likely to request collaborations, not only with businesses but also with other programmes within the university. Participant J explains the benefits of Swedish and international students working together, mainly thanks to the different systems they were brought up with. However, Interviewee K also shows the challenges of those differences in education and doing research. While German and Dutch students tend to know the academic research process well, Asian, and Australian students do not have the same rigour in this aspect (K). Additionally, there are disparities in how sustainability is understood and which aspects should be focused on within the programme (K).

The structures of the programmes are diverse and include opportunities for extracurricular activities (G), consulting companies and developing projects on sustainability (D, H, K), and external lectures (E, I, J). According to Interviewee D, their students get assigned to an organisation of a social entrepreneur and must find solutions for certain issues that the company is tackling at the moment. Interviewee E also points out their interactions and collaborations with companies in which they solve societal issues and projects with external stakeholders. Instead of working with pre-documented case studies, students find their own innovative start-ups in areas such as sustainability and digitalisation and analyse them in terms of various criteria (E). Participant K explains that everything is group work as sustainability requires total collaboration. This generally creates conflict and fights but also great learning opportunities (K).

"You come in here with the belief that everyone is going to be like you because you all have the desire to create a sustainable world. And then you realise, actually, you all have different viewpoints on that. So the first months tend to be really good, and they have a honeymoon, and then this kind of grind hits, right? Like, wait, you are not saying what I am saying. And this is part of our learning, actually." - Participant K.

In addition, Interviewee G states that they try to create a community around their students on sustainability, and Participant B explains that all projects within their programme should address sustainability. With less of a focus on sustainability, at the University of Participant A, they can either work with external idea providers or

develop a business idea themselves. In another university, students get matched with a research idea and have ownership, responsibility, and equity in that venture despite not initiating it (C).

The objective of the entrepreneurship aspect within their programme is to allow students to develop sustainable entrepreneurial careers and serve the community (C). According to Participant J it is problematic that there are numerous small and mid-sized businesses but only some big companies in Sweden. Therefore, their programme focuses on business skills that allow students to get started in management positions in mid-sized companies and help them grow (J).

Another aspect discussed was how theoretically or practically driven the programmes are. Most participants argue that a combination of theoretical knowledge and practical skills is necessary to teach entrepreneurship and sustainability (A, C, D, E, I, J). Some interviewees clarify that they split theory and practice relatively evenly (A), whereas others have a more substantial theoretical base (C, G). None of the participants mentions a stronger practical focus. The timing of learning theory versus practice also plays a role in EE and SE. Several interviewees state that students should first be familiar with theories, models, and concepts and only afterwards focus on the practical aspects (I, J, K). They need to understand the theory and the logic behind different tools and skills, to eventually apply them (C). Although it is more enjoyable to teach practical skills, theory can be applied to numerous situations and is, therefore, more valuable than a specific case from an entrepreneur (H). According to Participant A, none of the programme's educators are practitioners or entrepreneurs. However, some have had their own businesses. Generally, EE is a lot about "doing", which is why practice is crucial, too (A).

Examining the student's knowledge is done in a variety of ways. Several educators mention that (group) presentations are common (A, D, E, F). Participant F elucidates that instead of exams, students can show their work in a more embodied way, such as through exhibitions or enactments, as well as more conventional presentations (F). Others have exams or take-home exams (A, B, C, D), as well as reports and written assignments (C, E). Interviewee G states that the work is equally divided into individual and group work.

4.1.3 Content and Learning Material

Regarding the content being taught within the entrepreneurship- and sustainability-oriented programmes, Participant G explains that they adjust to and are influenced by their student's expectations and interests and what they bring in, as well as what is happening around at the moment. Understanding both entrepreneurship (A) and sustainability (K) from a theoretical perspective is crucial. Especially within the programme's first year, students gain foundational knowledge of entrepreneurship methodologies (C). Interviewee B explains that their programme is generally more top-down and focuses on the analysis rather than the implementation. According to Participant A, the university's research on entrepreneurship and sustainable development finds its way into the curriculum of the programme. Interviewee K's university created a sustainability framework, which is a core part of the programme. This framework for sustainable strategic development is a process of looking at a vision, understanding scientific definitions of sustainability and eventually creating an organisational/systems approach (K). After understanding the theoretical aspects, the research methods should be applied in the actual workplace (A, C). Interviewee F explains that theory and practice are not separated but rather integrated within their programmes. The framework for sustainable strategic development mentioned above is not only theoretically taught but also practically applied by the students within their chosen organisations (K). They do baseline assessments of their sustainability, work on the company's vision, find solutions and prioritise based on specific indicators (K). Other participants further state that students take on projects within companies to learn about managing a venturing process (C, I). Not only the economic aspects, such as the market and customer but also the societal aspects of the projects are considered (C). Projects are generally vague, with many decisions that must be made by the students themselves (I). There are collaborations with companies, other schools and programmes, and clubs within their university (J). Furthermore, there are workshops and other initiatives started by students (J). Students are generally encouraged to try different things rather than focusing too much on one specific path (I). Furthermore, there are courses in which they create new businesses (B). Students take courses in ideation and business models to understand the process of creating solutions to solve

problems, develop opportunities around identified ideas and create business models to create value (H). Even if students do not start their own ventures, they can work with entrepreneurial aims within existing businesses (I).

Another question was about the meaning of entrepreneurship to the educator. Entrepreneurship can mean a lot of different things (A, J). In fact, Participant J argues for many forms of entrepreneurship, so-called entrepreneurships, that are involved in the healthcare and life sciences industry. According to Interviewee D, people are fascinated by entrepreneurship and its strong force and influence on numerous matters we choose to do in society. Even social entrepreneurship is a broad term stretching from corporations becoming more sustainable to non-profit organisations firmly aiming at social values (D). Participant C states that the connection between the value created and the individual's agency in that process is crucial and argues for a constant iterative process between them. For Participant E, entrepreneurship is about starting an organisation and taking risks, such as financial or reputation risks. Moreover, creating and extracting value, not just monetary gains, is essential in entrepreneurship (E). Participant J agrees that entrepreneurship(s) is about creating value in society in some form. Participant H states that entrepreneurship is boundaryless and applies to all sorts of companies, including profit and non-profit organisations. Participant A calls themself Schumpeterian and is particularly interested in the link between innovation and entrepreneurship as well as doing something new, and less intrigued by profit-driven start-ups and merely exploiting opportunities. Interviewee F argues that any activity leading to change can be seen as entrepreneurial or "entre-do-neurial" and can be either driven by individuals or systematised. According to Participant J, entrepreneurs are "Yes" people, thinking that things are possible. Interviewees H and I firmly believe that entrepreneurship and the skills necessary to be successful can be taught.

When asked what sustainability means to them, the participants mentioned various aspects. Participant E agrees with the definition of the Brundtland Report. In addition, Participant F states that sustainability is about living well together, within the Earth's limits, and having not just equal but equitable, healthy, respectful, and just relationships. Similar to the Brundtland Report, Interviewee F believes that sustainability is about meeting our different needs in a way that all species, before

and after us, can meet theirs. Moreover, Participant C mentions the four leading global limitations and thinks about sustainability from the standpoint of not degrading the Earth for future generations. Interviewee D states that sustainability is about not using more resources than nature can provide and adds that in our current society, it is crucial to consider revenue. According to Participant F, the issue with sustainability is that the overall consumption is too high. Therefore, it is necessary to approach sustainability in an uncompromisingly systematic way and therefore teaches students to look at change from a systemic perspective and understand the connections between ecological, economic, social as well as cultural systems (F). When talking about working from an Earth's logical point of view rather than a profit-driven growth perspective, Participant F explains:

"Then it makes sense to value relationships, it makes sense to take care of what we have got for longer. So my work is about showing that. It's not rocket science at all. It's common sense. But we have to show that, that we have options with the logic we follow. And also that all the systems we are depending on today, including dominant business models, are created by humans, which means that they can be dismantled and rebuilt by humans as well." - Participant F.

Additionally, Interviewee F disagrees with sustainability by numbers and argues that it is too complex to be regulated with metrics. Sustainability can be described as a just world within the natural boundaries of ecological systems, yet the meaning always has and keeps changing (K). According to Participant G, sustainability is a way of looking at the world and how to make structural changes that are more resilient in the long run. Furthermore, it is an ethical approach to our actions and how we handle the environment and social aspects around us (G). In general, Participant G, despite their background in environmental matters, focuses more on social aspects of sustainability and states that this is generally the case for both teachers and students. Moreover, Interviewee K explains that they speak about environmental and social sustainability equally and see the topic as all-encompassing. According to Participant K, ecological issues almost always exacerbate social problems.

Programmes incorporating entrepreneurship topics started focusing more and more on sustainability, integrating sustainable development topics, and showing their impact on SDGs over the last years (A, B, D, F) and even decades (C). In fact, all

research at the university tries to consider its potential sustainable impact, for instance, through an SDG assessment (C). Participant B mentions a semi-elective entrepreneurship course that focuses on the transition towards a sustainable society and how innovation systems interact with it (B). However, despite the efforts towards sustainability, the main emphasis in specific industries is still on creating wealth and profit (F). There needs to be a change in mindset to address societal goals (F). Interviewee J mentioned that the programme itself does not explicitly have the intention to tackle sustainability issues. However, students are encouraged to incorporate sustainability through extracurricular activities like case competitions and boot camps (J).

The constructed skills and competencies mentioned by the educators within the field of entrepreneurship can be summed up in the ability to take action. Participant I states that you must be curious, have drive, and have strong ambition, not just to find answers to questions you have but also to practically act upon them and be brave enough to take risks. Interviewees F, H and J agree that you need the desire to do something. However, apart from identifying a market problem, understanding the skills needed to solve it and selling your idea to people, there are a few skills and capabilities that you must have (H). In fact, nowadays, most things can be outsourced (H).

"If I want to be an entrepreneur these days, I don't really have to do anything, I can have a team, I can outsource, I can get partners, I can get investors, all of these stakeholders that I can build. So then, subsequently, I need the ability to manage those that network in order to accomplish. But the skills that you think, you don't necessarily have to have, you don't have to be a great marketer, you can hire that you don't have to be a great programmer, you can hire that you don't have to be. So typically, you need to be good at one thing. And then you can get the rest." - Participant H.

Regarding sustainability, educators are constructing skills such as systems and complexity thinking, which is understanding complex systems and ways to create positive change within those, as well as being able to hold complexity and deal with large, ambiguous, conflicting amounts of information (K). Furthermore, it is necessary to have the ability to articulate very specifically what sustainability is, as

well as develop self-awareness to regulate and manage oneself (K). The following chart gives an overview of the skills and competencies constructed by the educators and students and shows that taking action and having drive were mentioned most often by the participants.
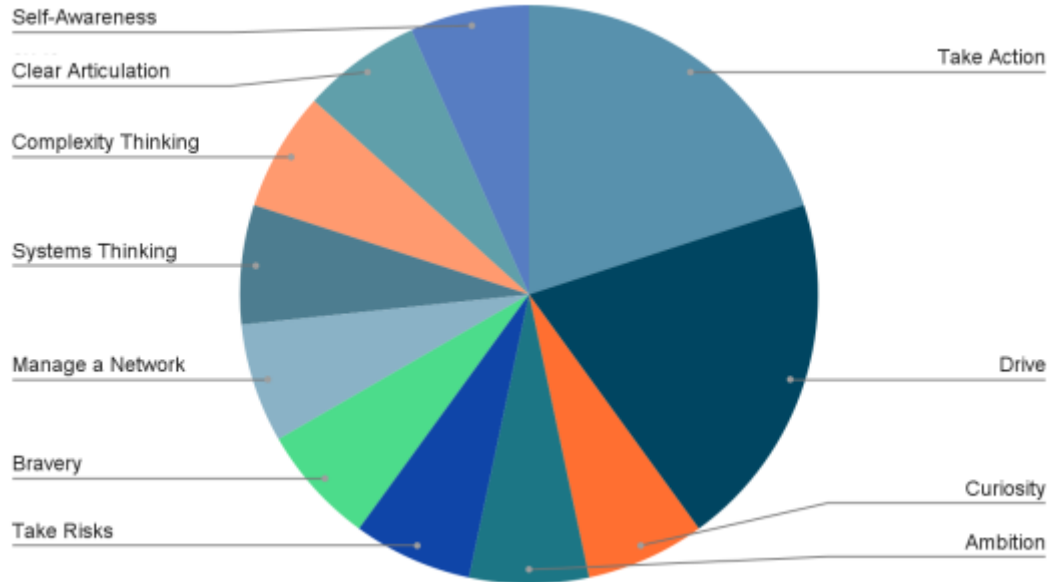
Figure 7: Skills and Competencies of Students Constructed within the Fields of Entrepreneurship and Sustainability (own figure)

4.1.4 Past and Future Development

Responses and reasons for change varied greatly for past and future developments within the programmes. Two interviewees stated that the programme has existed for ten years (A, I), whereby Participant A directly emphasised that it has changed a lot over time. Two other programmes existed for over 20 and 25 years, respectively (H, C). Another programme is still very young and has only existed for two years (E).

Past changes and developments within the programmes vary significantly between participants. Interviewee A says that the programme has become more scientific over time, focusing on hypothesis testing. The programme was more open in the past, and students met with business coaches. Now it has evolved to be more in line with the research focus of the departments (A). Participant D, on the other hand, states that the programme has become more practice-oriented, with closer collaboration with

organisations. Students used to develop their own entrepreneurial ideas linked to an SDG, but this approach sometimes led to superficial or insensitive ideas. To counter this, students now study social entrepreneurship by visiting real-life entrepreneurs, which helps them better understand the theories and practices of entrepreneurship. This highlights the importance of more interaction with real-life examples to gain a deeper understanding of entrepreneurship (D).

Four participants stated there had been more focus on sustainability, and sustainable aspects have been integrated into the programme in recent years (B, C, F, I). Interviewee B explains that there has been a compulsory course on sustainability since the early 2000s. Initially, there was much resistance to it from the students. Nevertheless, it is reversed now, and almost all students have a sustainability dimension in their projects (B). Participant C says the university has significantly progressed in embedding sustainability in its curriculum. Sustainability used to be treated as a separate subject, but now it is integrated into every department. The university aims to ensure that all courses have an awareness of the impacts of their actions. This approach is designed to help students understand the importance of sustainability in decision-making and encourages them to consider the impact of sustainability in their future careers (C). Interviewee F says only recently has it become possible to talk about de-growth or post-growth, and posthumanism. The tolerance for it is new (F). Participant I says that in the beginning, sustainability was not a central topic in teaching, but over time it changed, grew and became more and more critical. Now sustainability is a central theme in the programme (I).

Three participants talked about other changes in the programme (C, F, I). Interviewee C says that the programme was initially a one-year capstone programme but has since expanded to a two-year programme that is open to international students. This expansion aligns with the Bologna Process and has made the programme accessible to more students (C). Participant F says that the language of instruction was changed from Swedish to English, which resulted in many educators leaving, but many came for that very reason. Interviewee I points out that the programme's content has changed, the entire programme has been updated twice with new courses and objectives. In addition, communication courses have been added to teach students

how to bridge the gap between researchers and companies. Despite these changes, the core of the programme remains the same (I).

Two participants commented on changes in how exams are done (D, E). Interviewee D says that much work was done with case studies in the past. This has been changed because *"[...] students are focusing on their own practice and not just studying what others have done, so case studies are not part of the teaching approach at the moment" - Participant D.* Interviewee E says that in the early years of the programme, there were many written assignments, but that now it is more project-based, with presentations and reports, and fewer traditional written assignments. At the beginning of the programme, there are fewer written assignments, as many international students do not yet have experience with academic writing (E).

Besides past changes and developments, a few participants also talked about constant changes. Participant A points out that all master's programme coordinators meet every three months and discuss how they can better teach and integrate issues such as sustainability. Interviewee A continues that entrepreneurship is a constantly evolving discipline. Therefore, it is necessary but also easier to adapt and change within the programme (A). Participant C says that the programme has constantly updated its teaching material, which is crucial to ensure that students receive a relevant and up-to-date education. Interviewee D elaborates on the pedagogy, stating that they are constantly trying to adapt to trends with their pedagogy and are constantly experimenting and seeing what works best. Another participant emphasises that *"[...] education is something that we create together with the students" - Participant F.* They go on to say that it is essential for the educator to recognise that no teaching is perfect and that it is a constant shared learning process in which there is constant change and development. A last interviewee says that the programme is constantly changing. The core remains stable in form (theories and basic questions), but primarily through digitalisation and external influences, the programme is constantly changing (I).

A few interviewees also commented on future changes to the programmes. Participant B says that they want to include the dimensions of equality, diversity, and inclusion in the learning objectives of the master's programme within the next year.

Participants E and B say that from next year they want to integrate a course on professional communication. Interviewee H expressed that they have been building a master's programme for years, which is still in development, but is planned to start next semester (H).

Reasons for the developments and changes within the programmes are manifold. Two participants (A, E) emphasise that some changes are coming from them. Interviewee A emphasises that they wrote their dissertation on the course topic and therefore added additional material which differs from the previous material and should give a new point of view. Participant E points out that a new course in communication will be introduced into the programme next semester. *"That is a course I would like to have, it is a superpower to have the ability to communicate with people in all kinds of situations" - Participant E.*

In addition to the changes and developments within professors' programmes, most interviewees expressed that it is external in nature. Participant A emphasises that there have been many staff changes in the past, and the new staff brings in new ideas and expectations that have changed the programme. Three interviewees emphasise that Sweden has greatly changed in the last 25 years (B, C, H). Higher education, the curriculum in high school and primary school, and the whole school system (B, H), changes in the industry and learning methods (C), openness, computerisation, and availability of information (H). According to the three participants, these external reasons, and the changes within Sweden, are why the programmes have been adapted over the years. Interviewee B also mentions that a very active student group at their university tried to bring the sustainability aspect more into the university's aspirations, and therefore this aspect has changed. Two participants add that the issue of sustainability has become more central in society (H, G). On the one hand, according to Participant H, all students want something to do with sustainability, so they adapt. On the other hand, Interviewee G explains that they are adapting to the sustainability trends. In the beginning, it was more about the circular economy, then more about de-growth and other concepts. Figure 8 below summarises the most important internal and external factors mentioned for change within the programmes by the participants.
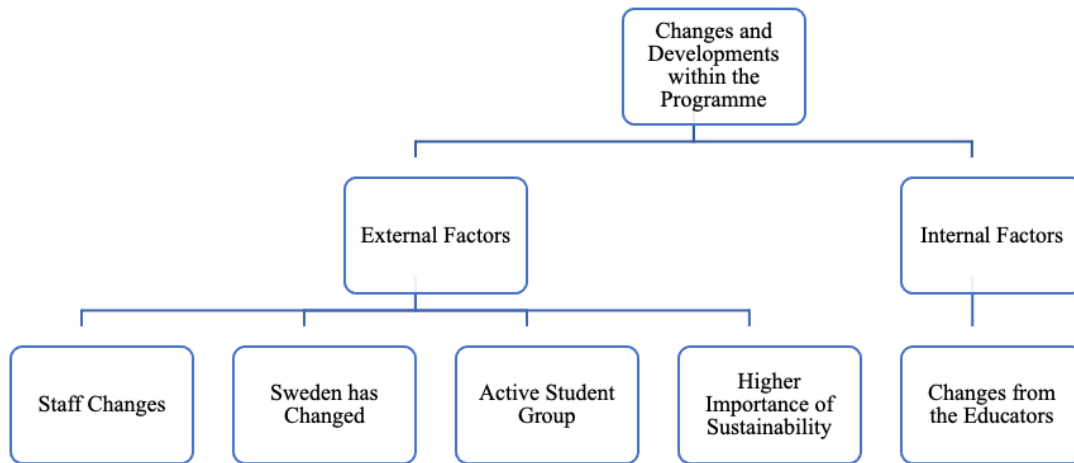
Figure 8: Changes and Developments within the Programmes (own figure)

4.2 Interrelation of Entrepreneurship and Sustainability Education

To answer the second research question of how entrepreneurship and sustainability are taught and intertwined in higher education in Sweden, we present our findings in the following three subsections: Teaching styles of the educators, how sustainability is incorporated into entrepreneurship programmes and how entrepreneurship is incorporated in sustainability programmes.

4.2.1 Teaching Style

The different interviews showed that the content taught, the approach, teaching style, and goal pursued with the pedagogy are very different at the various universities. Eight participants commented on what their goals are with their way of teaching (A, C, D, E, F, I, J, K). Participant A says that as a student of the entrepreneurship programme, it is not mandatory to start a business, and that is not something they aspire to pursue as an educator. The goal is to help students understand how they can be entrepreneurial in many different ways, and contexts. Further, the teaching style should help the students build their confidence, expand their network, and promote personal development. The programme's aim and teaching style is for students to do

well after graduation. It is designed to help them develop professionally and personally and fulfil their potential (A). Following this, Participant C says that the main aim of the teaching style is to teach students skills and entrepreneurial competencies so that they can be widely applied in practice and promote sustainable entrepreneurial careers. The teaching style aims to learn through experience and how an individual responds to different processes. Furthermore, the goal is to teach students about societal problems and impacts so that they also think about long-term effects of certain decisions. This can be seen as an understanding of entrepreneurship as a social phenomenon, which is also the main objective of Participant D's learning style. Moreover, Participant D aims to continuously adapt their teaching methods and ways of teaching to trends and to develop their pedagogy and objectives. Participant E further states that the primary goal of the teaching philosophy is to focus on solving real-world problems. The main goal is to teach communication skills so that students will be able to function in the real world after graduation. Two other participants, like Participant A, are mainly concerned with creating a pedagogical framework that puts students first (F, I). Participant F's primary goal is to encourage students to make mistakes and teach them that dealing with them early in the real world is normal and beneficial. Participant I's teaching style also aims to create a classroom environment where students can try things out and fail. Since failure is part of learning, but especially part of entrepreneurship, you have to learn to fail, and reflect. It is about preparing students for the real world, to make better decisions and deal with failure better because, in the real world, it is about money and the future (I). Whereas, Participant J has the goal to promote the understanding of teamwork, in which students also take courses at other universities. The goal is to make clear that it takes many different team members and skills for entrepreneurial activity (J).

To achieve these goals and successfully transfer knowledge, the different educators use different methods, tools, and teaching styles (A, B, C, D, F, G, H, I, J, K). Many different methods are used, such as general practical things (A, C, H, K), traditional lectures (A, K), flip classrooms (A, I), interactive workshops (A, G), group work (H, J, K), presentations (H, K), case studies (B, G, J), and design thinking (I). Among the different practical things, participants highlight certain types and methods. For example, Participant A says it is very business model-oriented, and much work is done with hypothesis testing. Participant C says it is generally about embedding in

experience, so-called experiential learning. Participant H says that everything is practical and project-oriented. At best, there should not be exams. Instead, students should learn together as much as possible (H). In addition to the commonalities, some participants have specific teaching styles, such as Harvard Business School case-based teaching (B, J), Oxford style with seminars and reflection (B), norm critique (D), meta-design frameworks (D), Bloom's taxonomy (H), and transformative learning (K). Furthermore, they experiment with the teaching style to see which methods work and make progress in education (D). They have no textbook, no fixed knowledge, and no labels students must learn (G). Moreover, Participant J says that sending students to other universities for some courses and learning with new students is another method. In general, all participants have different ways of teaching and use various methods to convey the goal of the programme. Participants A and B again emphasise that it is essential to use a mix and variety of teaching methods and build a close relationship with the students.

It was further asked how educators teach and communicate critical thinking to students. Participant A often holds open discussions to encourage critical thinking, although it can be challenging to get students to participate actively. For critical assignments, the doors are left open to discuss the work and give feedback. They tailor the curriculum to allow more time for in-depth discussions with students (A). The curriculum of Participant B has a methods class where they discuss critical thinking. The main idea of the method called positive problem-solving by Participant C is to question what social impact a decision will have. Thus, it is meant to promote critical thinking in the students by constantly questioning what is being done and what needs to be done (C). In Participant D's programme, there is a course on social entrepreneurship where critical literature is provided. That literature is analysed critically which leads to the students critically analysing their own practices (D). Participants E and H emphasise that it is difficult to teach critical thinking, especially to international students (E) from outside Europe, as it is often not desirable to question authority in these contexts (H). Participant H also emphasises the use of AI as something contrasting to being critical. Nevertheless, the aim is to stimulate students through lectures with controversial ideas and discussion debates, thus teaching critical thinking skills (E). Participants F and G do not explicitly address which methods are used but only highlight that it is essential to think critically.

Nevertheless, Participant G wants to achieve critical thinking through discussions in seminars and interactions between students. Participant I creates a teaching environment in which it is acceptable to fail and try things out. Only in this way, critical skills can be learned. To achieve this, design thinking and the concept of tension approaches are used. The aim is to generate ideas that are presented to the other students to stimulate conversations, discussions, and give feedback (I). In Participant J's classes, students must analyse and find solutions in group work to encourage critical thinking. Contrary to the other participants' statements, Participant K says that they do not have a specific subject in which they intentionally teach critical thinking and that most students studying entrepreneurship or sustainability are good at critical thinking anyway.

Further, it was asked how educators teach and communicate creative thinking. As the question was often asked together with that of critical thinking, not all participants addressed creative thinking (C, E, F, G, H, J). Many of the tools and methods used in Participant C's classes are aimed at promoting creative thinking. There, students are confronted with real problems and must think about values and potentials, and find creative solutions (C). Participant E tries to encourage and bring out students' creativity through tools such as lateral thinking and problem-solving techniques. Participant F uses norm creativity a lot. In a course about design, they work a lot with different materials and food to stimulate students' creativity (F). In Participant G's programme, a three-day field trip is held to walk in nature, read articles, and work on different concepts in small groups to stimulate creativity in harmony with nature. Participant H, as with the critical thinking question, believes it is difficult to teach creativity in today's world with tools like ChatGPT and that new ways must be found to encourage students. Participant J also expresses a similar response to the question about creativity as to that with critical thinking. Prototypes are created with the method of design thinking. Through this method, the creativity of the students should be tested again and again to come up with new ideas (J).

In the end, five participants (A, C, D, G, J) explicitly mentioned how essential students' critical reflection is to them. For them (A, C, D, G, J), it is crucial that students reflect on their learnings and take time to think about assignments, projects, presentations, and group work. Hence, they should not only conduct their tasks

critically and creatively but also question their learnings and give feedback to themselves and to the professors. Figure 9 once again graphically illustrates which methods are used by the different educators in the lectures to also promote creativity, critical thinking, and feedback.
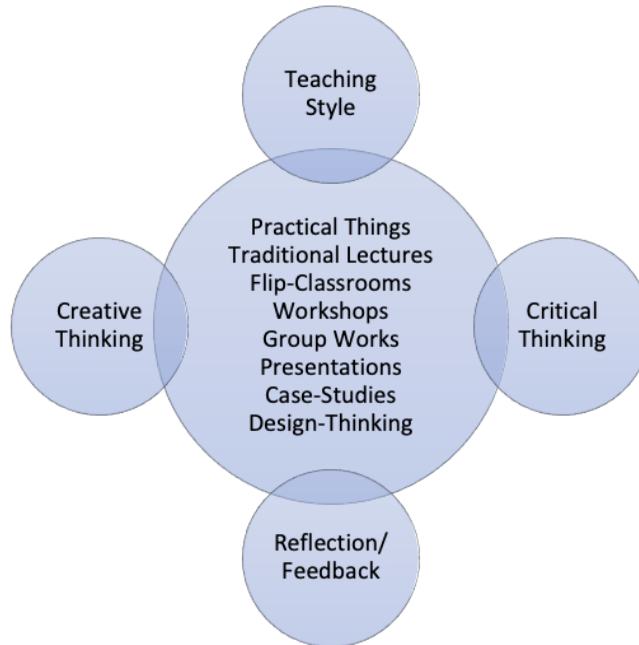
Figure 9: Different Teaching Styles and Methods (own figure)

4.2.2 Sustainability in Entrepreneurship Programmes

All interviewed educators teaching an entrepreneurship programme have some aspect of sustainability in the programme (A, B, C, D, E, F, H, I, J). The reasons vary among the participants. According to six interviewees, the university pressures professors to include sustainability issues (A, B, C, H, I, J): *"There is pressure from above, from the administration and even from the government and the European Union to prioritise sustainability" - Participant A.* It is the university's mandate to integrate sustainable development in all programmes, and thus also in entrepreneurship programmes (A). Additionally, the university introduced a core curriculum requirement on sustainability early in the 2000s and discussed it early on (B). *"It was part of the university's overall efforts to incorporate sustainability" - Participant B.* Sustainability is integrated throughout the university as a critical aspect of university research and integrated into all programmes (C). In the context of entrepreneurship, the university evaluates ideas based on their impact on the

SDGs. Therefore, they encourage students to think about sustainability from the beginning of the ideation process, not only from an economic or customer perspective but also from a societal perspective. The university promotes the use of life cycle analysis and encourages students to make crucial decisions sustainably early on (C). Another university has introduced sustainability by law, which is included in every programme and course (H). Even though it is required to include sustainability, it is not entirely integrated in the courses (I, J).

Furthermore, students demand and wish for sustainability to be included (C, H, I, J). Formerly, they had to bring sustainability into the curriculum on their own initiative. Whereas nowadays, as students are already aware of the issue and demand the topic being discussed (C). This is underlined by *Participant H - "90% of the student's ideas are sustainable and social".* The topic is just there and students bring it into class and demand it (I, J), because students think keeping up with the world is vital (J).

The inclusion of sustainability is seen as positive or necessary (A, B, C, D, E, I). As an educator, it is important to include sustainability in EE, because entrepreneurship can be seen as selfish and solely focused on making money (A). In today's world, it is crucial to consider the consequences of entrepreneurship and the types of role models that are promoted, including consideration of sustainable development alongside profit. Additionally, entrepreneurship is a constantly evolving discipline; therefore, it is easier to adapt and include other perspectives, such as sustainability (A). The field of study should focus on transition and development towards a sustainable society (B). The educators' goal is to build truly sustainable entrepreneurial careers (C). They try to understand what entrepreneurship can do for society (D). Therefore, they use a comprehensive definition of entrepreneurship to give social and sustainable enterprises space (D). One to two weeks of Participant E's curriculum focus exclusively on sustainability, social innovation, and social entrepreneurship and further occur in the programme. Interviewee I says that sustainability has become more critical over time.

"I think we have done too many bad things for the environment in the course of industrialisation, and that's really our fault, and we have to deal with it. So, I think sustainability is very important. And it's also becoming a natural part of many. I

mean, in almost every industry, there is the challenge of sustainability, whether it's customers demanding it, whether it's regulations, or whether it's the innovative companies entering the industry doing it on the basis of the same more sustainable solutions, so the long-established companies have to adapt to that" - Participant I.

Interviewee J's curriculum does not offer sustainability courses per se, but it is integrated into students' final projects. *"In the ethical consideration sections, they also have to think about how their thesis can help, for example, which SDGs it can contribute to" - Participant J.* In doing so, students should always relate to the SDGs, but they do not have to do research on them. Therefore, even though there are no specific sustainability courses, it is in a way non-negotiable to include the topic. Moreover, students are encouraged to participate in extracurricular activities (J).

Only Interviewee H is critical about the inclusion of sustainability. They state that they are not sustainability enthusiasts and do not think everyone should be forced to learn about sustainability issues. They state that they think everyone is different, and if it is prescribed in the programme, that is fine. However, that does not mean everyone must do and focus on it. They are generally against authorities or institutions imposing things on people (H).

4.2.3 Entrepreneurship in Sustainability Programmes

Participants mentioned that there is both interest from students to act and become entrepreneurs and opportunities presented through the programme by guest lectures from previous students, workshops on sustainable entrepreneurship (G) and direct interactions with companies as consultants to develop a sustainability project (H). Furthermore, students themselves organise extracurricular guest lectures, demonstrations, and projects like a community kitchen in which students cook and sell food that is in excellent condition but cannot be sold any more by supermarkets (G). Interviewee G explains the project:

"It's all made out of our leftovers from the industry. So that's, I would say, entrepreneurship and trying to solve something for the food waste situation and so. And it's super interesting. It's working like, in a way, a real business because it's the restaurant." - Participant G.

However, within the last decade, sustainability managers and departments popularised which is an attractive career path as well (G). Furthermore, Interviewee K highlights that their main intention is to produce facilitators. Those are graduates who work in various organisations as well as within governments and municipalities as employees, collaborators, consultants or within groups that help to promote sustainable economic activities (K). Although it is difficult to map exactly what students do after graduation (K), some students become entrepreneurs (G, H, K).

5. Analysis and Discussion

To analyse our empirical findings, two theories of entrepreneurship, sustainability and pedagogy respectively have been chosen to show a spectrum within the three core fields.

5.1 Sustainability Education

All participants agreed that sustainability is actively addressed by the universities and to a certain degree incorporated into their programmes and courses (A, B, C, D, E, F, G, H, I, J, K). When analysing the interviewee's responses, numerous similarities can be discovered with the PB/Doughnut Economics theory. Although fewer viewpoints of the participants seem to agree with the concept of the EMT, there are a few commonalities.

5.1.1 Insights into the Role of Sustainability Education

Many participants discuss the aim to address societal and environmental issues within their programmes (B, C, F, G, J, K). In fact, most educators state that their university integrates sustainable development in all programmes (A, B, C, H, I, J) and even evaluates ideas based on the SDGs (C). Apart from the universities, students demand sustainability to be included (C, H, I, J). More than half of the interviewees view this inclusion of sustainability as positive or necessary (A, B, C, D, E, I). The incorporation of sustainable development topics and SDGs is in line with the Doughnut Economics theory, which emphasises the need for economic development while staying within ecological and social boundaries (Raworth, 2017). Not only entrepreneurship is continuously evolving (A) but also economic models must adapt to the dynamic complexity of the market (Raworth, 2017). A recent example of such a market change was the COVID-19 pandemic. It showed that limits are crucial to protect public health, and consumption limits are beneficial for both the environment and individuals (Fuchs et al., 2021). University educators tend to use SDGs as indicators for assessing students' work regarding sustainability (C, J). One reason why the university fosters awareness of sustainability topics is to make the field attractive for future careers and to show the importance of its consideration in decision-making processes (C). Currently, humanity is already operating outside the

safe global boundaries (Fuchs et al., 2021), which is why it is even more important to educate the young generation and adjust their ways of living and doing business.

Additionally, the participants emphasise the importance of combining and understanding both the theoretical and practical aspects of entrepreneurship and sustainability (A, C, D, E, I, J), which is aligned with Doughnut Economics' focus on balancing economic, social, and ecological systems (Raworth, 2017). Moreover, both the interviewees and the PB and Doughnut Economics theories acknowledge the importance of taking action. After becoming familiar with the theories, students should also apply them in practice (I, J, K). According to Interviewee A, EE is about "doing". The framework of strategic sustainable development created by the university of Interviewee K not only helps their students understand sustainability definitions but also implements this systems approach within their selected organisations (K). Practically learning about all aspects of managing a venturing process (C, I) including societal aspects (C) is important within entrepreneurship programmes. Taking action is also encouraged through extracurricular activities and clubs of the university (J), projects (C, I, K), workshops and competitions (J) as well as practical courses about creating ventures (B, H). Examples of students taking action include organising demonstrations and starting a community kitchen (G). This is in line with the PB concept which highlights the need to interdisciplinary work together to address complex social and ecological challenges (Whiteman et al., 2012; Fuchs et al., 2021). The importance of balancing practical and theoretical knowledge to achieve sustainable development (A, C, D, E, I, J, K) simultaneously aligns with the EMT's core idea that technological innovation should be combined with environmental policies and regulations (Islam, 2018). The EMT stresses the need for innovative solutions to address sustainability challenges and argues that it is possible to reduce environmental impacts while promoting economic growth within our current capitalistic system (Ewing, 2017; Islam, 2018). It is criticised that the EMT does not challenge capitalist dynamics and blame production for our current ecological problems, but rather assumes that political modernisation, technological innovation, and social transformations are the key levers (Ewing 2017). With this aspect, Participant F strongly disagrees as the current overall consumption rate by humans cannot be provided long-term by nature. Whereas, Interviewee H is critical

about including sustainability in every aspect and states that we should not force everyone to learn about sustainability issues. In general, imposing things on people by the authorities and institutions is not beneficial (H). Although suggesting policies, the EMT also argues that economic growth and environmental protection can go hand in hand through the adoption of more efficient and sustainable technologies and practices (Ewing, 2017).

Just like educators, the EMT emphasises the importance of sustainability in modern societies (Islam, 2018; Pal et al., 2023). The EMT argues that economic growth and environmental protection can be reconciled through technological innovation and social reforms (Islam, 2018). In general, as university educators, all participants agree that education is an important tool for change, which is directly reflected in the Doughnut Economics model (Raworth, 2017). Together with networks and income, education is one of the twelve social foundations within the inner ring of the doughnut (Raworth, 2017), and therefore essential for achieving a space within humanity can thrive (Leach et al., 2013). Like the PB and Doughnut Economics model, the EMT values education and training in promoting sustainable economic activities (Ewing, 2017).

5.1.2 Underlying Assumptions of Sustainability

As there is no single definition of sustainability, so do the definitions by (non-) European students (K) and professors differ. Some explain it as meeting one's needs without compromising those of others (C, E, F) and several participants explicitly mention that sustainability is about staying within the earth's limits or natural boundaries (C, F, K). This is in line with the framework of PB, which creates safe environmental limits for societies to ensure humans progress (Steffen et al., 2015; Fuchs et al., 2021). Similarly, Interviewee D defines sustainability as not using more resources than nature can offer. Aligned with the Doughnut Economics model, both Participants G and K mention the social aspects of sustainability. In fact, social issues are commonly exacerbated by ecological problems (K), as individual issues cannot be dealt with separately (Whiteman et al. 2012). According to Doughnut Economics, those issues result from a complex interplay between both environmental and social forces (Fuchs et al., 2021). During the interviews, the change in trends from a circular economy towards degrowth (G) and even ideas of post-growth and

posthumanism (F) were raised. In Doughnut Economics, both paths of circular economy and de-growth facilitate a sustainable future, yet the idea of continuous growth does not exist in nature and is also not possible in economies (Raworth, 2017).

5.1.3 Sustainability within the System

The promotion of collaborations and working with external stakeholders as well as the emphasis on a systems approach to sustainability aligns with the PB concept. Issues cannot be dealt with in isolation (Whiteman et al., 2012), which is why experts from various disciplines must work together to find solutions. Collaboration with external lecturers (E, I, J) and sustainability projects with companies (D, H, K) as well as extracurricular activities (G) are common within the programmes. Especially international students demand collaborations with businesses and other programmes (J). Both Interviewees D and E explain that their students work together with entrepreneurs to find solutions for certain challenges. Furthermore, sustainability needs total collaboration, which leads to conflict but also great learning opportunities (K). Likewise, Interviewee G highlights the importance of establishing a community around sustainability at the university. Collaborations and stakeholder engagement are not only seen as beneficial in promoting sustainable economic activities for the participant's side (D, E, G, I, J, K) but also for the EMT. Especially the pro-active attitude and desire to take action of students (C, F, G, H, J, I, K) is consistent with the theory's argument that we collectively need to take action to achieve environmental sustainability (Islam, 2018). In fact, according to the EMT, environmental policies should involve not only governments and businesses but also civil society and consumers. Additionally, increased awareness of environmental issues naturally results in consumers requesting more green products which in turn forces governments and businesses to change their policies. In fact, voluntary environmental protection initiatives outnumber actions taken by the state (Islam, 2018).

Apart from collaborations, systems and complexity thinking are important skills for students (K). Understanding complex systems and being able to hold and deal with complexity (K) is further essential to understand social and environmental boundaries (Fuchs et al., 2021). In fact, the PB concept is an extension of

social-ecological systems thinking, which argues that humans are part of nature (Whiteman et al., 2012). According to Interviewee F, our overall consumption is too high and sustainability is deeply complex and therefore needs to be approached in an uncompromisingly systematic way that includes ecological, economic, social and cultural systems.

The participants mentioned that entrepreneurship is about creating value in society, following the Doughnut Economics model, which calls for an economy that creates value beyond monetary gain (Raworth, 2017). Entrepreneurship is about creating and extracting more than financial values (E). Similarly, it is important to create value (C, D) and to be confronted with real problems to find solutions (J). Moreover, students develop solutions for problems and establish business models to create value (H). In addition, the interviewees implicitly or explicitly state that they view entrepreneurship as a social phenomenon that creates value in society (C, D, E, J, H), which is consistent with the EMT's focus on social change (Pal et al., 2023).

5.2 Entrepreneurship Education

Schumpeter's theory of innovation and entrepreneurship was addressed only once (A). However, especially the aspect of innovation (A, B, E) and other concepts have been brought up multiple times. Even though none of the participants mentioned CES specifically, certain themes relevant to the theory were touched upon during the interviews.

5.2.1 Insights into the Role of Entrepreneurship Education

Swedish university educators state that entrepreneurship is interesting due to the opportunity and perspectives this broad field offers (D). It is of further interest due to the impact it has on society (A, D, E), the human side of entrepreneurship as well as its dynamics (C) and its connection to innovation and problem-solving (E). The impact of entrepreneurship on society is in line with Schumpeter's argument that entrepreneurs play a crucial role in the process of creative destruction whereby old economic structures are replaced by new ones and society benefits arise from the creation of new jobs, industries, and economic growth (Hisrich et al., 2013; Kyrö, 2015). Simultaneously this impact on society aligns with CES, which critically

examines the social and political implications of entrepreneurship (Berglund & Verduijn, 2018). CES critiques the idea that entrepreneurship is always positive. Therefore, it encourages students to strictly consider the impact of their entrepreneurial activities. Additionally, the human side of entrepreneurship, as well as values, risks and change, are relevant themes. CES scholars argue that entrepreneurship is not just an economic phenomenon but also a social and cultural one shaped by values and norms (Berglund & Verduijn, 2018).

The term entrepreneurship has a slightly different meaning for all interviewees. In fact, there are many forms of entrepreneurship (J), and people tend to be attracted to the field and its influence on numerous societal aspects (D). Entrepreneurship and its connection to values (C, D, E, H, J), risks (E) and change (F) seem to be common. Furthermore, entrepreneurs generally have the belief that things are possible (J). It is a boundaryless field (H) and strongly connected to innovation (A). Frankly, Participant A calls themself Schumpeterian and is interested in entrepreneurship as doing something new rather than exploiting opportunities. The economist Schumpeter emphasised that entrepreneurs are innovators who disrupt the existing economic equilibrium by introducing new products, services, and business models (Kuratko, 2009; Dahlstedt & Hertzberg, 2012).

The objective of EE to teach widely applicable competencies (C), build confidence, network, and foster personal development (A) corresponds with the CES emphasis on developing critical and reflexive education (Berglund & Verduijn, 2018). Students should be able to fail (I) and see the long-term effects of their decisions (C). Those skills correspond with the importance of technical knowledge, managerial skills and entrepreneurial spirit which Schumpeter's theory of innovation and entrepreneurship highlights (Dahlstedt & Hertzberg, 2012). EE is a combination of theory and practice (A, C, D, E, I, J). Although learning about concepts and models first is crucial (I, J, K), eventually EE is a lot about "doing" (A).

5.2.2 Development of Entrepreneurial Competencies

Some participants indicated which characteristics students of entrepreneurship should have (C, E, F, G, H, I, J). They should, for example, be curious (E, I) and creative (E). Moreover, they should have strong ambition (I), take action (E, J), and

have a desire to do something (E, F, H, J). These characteristics align with Schumpeter's theory that entrepreneurs must be curious, creative, courageous and take risks to identify opportunities and drive them in the market (Dahlstedt & Hertzberg, 2012). However, these characteristics do not preclude CES, as it depends on how they are used. According to Schumpeter, entrepreneurs with these characteristics use them to drive innovations and economic growth in the market (Løwe Nielsen et al., 2021). They further engage critically with capitalist society and use their traits for social and cultural factors (Berglund & Verduijn, 2018). How the professors perceive that these traits and the learned knowledge are used during and after the study varies. After their studies, students collaborate with external idea providers or develop their business ideas (A), learnt skills are applied in areas such as intrapreneurship, corporate entrepreneurship, science, and policy, with 90% of students applying their skills in an organisation (H). Furthermore, there is a focus on learning entrepreneurial skills so that students can move into leadership positions in medium-sized companies and help them grow (J). In addition, there is a strong emphasis on extracurricular activities (G, J). These statements are mainly in line with Schumpeter. Developing business ideas, working in organisations, and providing growth can be interpreted as striving for innovation (Løwe Nielsen et al., 2021). Schumpeter says that through innovative activities, such as developing one's business ideas, an imbalance can be created in the market, leading to the economy's development (Løwe Nielsen et al., 2021). When different areas are included in the learning, the teaching goes beyond the traditional view and includes CES aspects (Berglund & Verduijn, 2018). However, if 90% of the students apply their learning in traditional organisations, it raises the question of how critical and multi-faceted the teaching on entrepreneurship has been and whether students have been encouraged to consider the impact of entrepreneurial activities. Nevertheless, the programme aims to develop sustainable entrepreneurial careers to serve society (A) and works with (social) enterprises to find solutions to societal problems (D, E). These aspects align with CES, as here, teaching is used to challenge traditional knowledge about entrepreneurship and promote societal outcomes, and not just financial wealth (Berglund & Verduijn, 2018). It also teaches different aspects and considers the impact of entrepreneurial activities through cooperation with (social) enterprises.

A particular focus in the interviews was on how critical and creative thinking is taught and encouraged. Aspects and teaching methods of critical thinking were reflected in all interviews (A, B, C, D, E, F, G, H, I, J, K). For example, students should be encouraged to lead discussions through teaching material (A), critically analyse literature (D), and question social implications (C). Being critical about the material and exercises is reflected in CES. Social outcomes can be promoted through the critical use of knowledge, and students can be encouraged to include the impacts of entrepreneurial actions (Berglund & Verduijn, 2018). The T (through) in the IFTA model of CES further emphasises this aspect by stating that students are encouraged to reflect critically while acquiring entrepreneurial skills and business knowledge. Aspects of creative thinking were only reflected in some interviews (C, E, F, G, H, J). Confrontations with real problems should encourage students to find creative solutions (C, E), but other methods, such as field trips (G) or design thinking (J), should also promote creative thinking. Prototyping in the design thinking process or finding different solutions to real problems can be related to Schumpeter, arguing that this pursuit is innovation or to identify new opportunities (Løwe Nielsen et al., 2021). Furthermore, entrepreneurs are portrayed as curious and creative (Dahlstedt & Hertzberg, 2012). However, aspects of CES can also be mentioned here. Again, the question arises of what precisely creative solutions mean. If students critically engage with problems and try to reflect on societal, economic, and political issues to come up with a creative idea with a background of critical reflection, this can be attributed to CES (Berglund & Verduijn, 2018). However, it is difficult to assess this accurately and it depends on how entrepreneurship is taught and subsequently applied.

5.2.3 Images of the Future

Some participants argue that EE has become more scientific with a stronger research focus over the years (A), whereas others highlight the increased practical focus and collaborations within the programmes (D). Generally, collaborations are considered crucial (J). Therefore, in addition to courses for new business creation (B), ideation and business models to create value (H), universities offer opportunities to be entrepreneurial through guest lectures from previous students, workshops (G) and projects with organisations (H). The emphasis on creating something new aligns with

Schumpeter's innovation and entrepreneurship theory (Dalton & Logan, 2020). Furthermore, students start projects such as community kitchens themselves (G). Taking decisions themselves is vital in EE (I). In fact, they are encouraged to try out different things rather than defining one right path (I). Commonly, students are interested in becoming entrepreneurs (G), and while some start their own businesses (G, H, K), others might work in existing businesses with entrepreneurial intentions (I). This practical aspect of EE through, for instance, workshops and projects is in line with Schumpeter's argument for taking action and entrepreneurs being active agents of change rather than passive recipients of opportunities (Løwe Nielsen et al., 2021). Additionally, the theoretical focus shows the "about" aspect of the IFTA model of CES. Moreover, the projects reflect the "in", whereas the education for better decision-makers can be found in the "for" of the IFTA model (Berglund & Verduijn, 2018).

Moreover, nowadays there is a greater interconnectedness between entrepreneurship and sustainability, with sustainable development topics commonly being integrated into EE (A, B, C, D, F). Even if the programme does not intentionally address sustainability issues, students are encouraged to gain insights into the field through extracurricular activities (J). Generally, it is important to not just teach economic but also societal aspects through projects (C). This corresponds with Schumpeter's belief that innovation and entrepreneurship have important economic and social consequences (Aaboen et al., 2022). Even though the integration of sustainable development topics into EE is consistent with the CES theory, the participants have not explicitly discussed the power dynamics or role of social inequalities in entrepreneurship which is a core aspect of CES (Berglund & Verduijn, 2018).

5.3 Pedagogies

All educators use a variety of teaching styles. When analysing the styles of teaching, many similarities between constructivism and reflective theory can be found, and often it is a mix of both theories that are used in the classroom. However, when educating students on creative and critical thinking, mainly constructivist traits (A, B, E, H, G, I, J) can be identified, yet less reflective ones (C, D).

5.3.1 Exploring Resources, Tools, and Pedagogies

Based on the empirical material from the eleven interviews, it is possible to identify how entrepreneurship and sustainability are taught at the nine different universities and which materials, methods, tools, pedagogies, and teaching philosophies are applied and worked with. In general, all universities use different methods. While there is an overlap in methods and teaching philosophies, all universities teach differently in some way. This can already be seen in the information given by the participants when asked what sources and methods are used in the lectures. The answers varied from generally practical things (A, C, H, K), traditional lectures (A, K), flip classrooms (A, I), interactive workshops (A, G), group work (H, J, K), presentations (H, K), case studies (B, G, J) to design thinking (I). Most participants also indicated that combining theoretical knowledge and practical skills is necessary to teach entrepreneurship and sustainability (A, C, D, E, I, J). Furthermore, three participants stated that it is essential to first familiarise students with the basics of theories, models, and concepts and afterwards, focus on practical aspects (I, J, K). In general, no participant mentioned that the programme, whether focusing on entrepreneurship, business, or sustainability, had a stronger practical orientation. Nevertheless, when asked about the methods and materials applied, mainly practical teaching methods were mentioned. Here, the question arises whether the participants mention mainly practical teaching methods because it sounds more interesting or exciting than traditional lectures or whether the participants see traditional lectures in which theories, models and concepts are taught as given. The reason could depend on the participants' definition of practical experience. Often, they associated practical experience with the practice outside the university, like, cooperation with companies or entrepreneurs. Nonetheless, only a few participants indicated these cooperations (E, J). Therefore, it may also be that practical learning methods such as group work and presentations within the university are not perceived as having as much practical relevance as, for example, cooperations that take place outside the university.

The empirical material showed that no matter if the programme focuses on entrepreneurship, business, or sustainability there are hardly any variations in the way each focus is taught. The methods mentioned above, and the tools used in the lectures do not result in differences between the individual specialisations. For

example, practical learning methods (A, C, H, K) such as interactive workshops (A, G), group work (H, J, K), and presentations (H, K) are taught by all three specialisations. Further, case studies such as written reports (B, G, J), which are more theoretical, are utilised by all specialisations. Although methods and resources are represented in all focuses, it is noticeable that the participants who indicated that a combination of theoretical knowledge and practical skills are necessary to teach entrepreneurship and sustainability all come from the entrepreneurship and business focuses (A, C, D, E, I, J). Whereas participants who stated that it is essential to first familiarise students with the basic theories, models and concepts and only later focus on practical aspects, came from all three areas (I, J, K). Thus, there are no apparent differences in the way of teaching between the three focuses of the participants, and the methods vary from university to university and do not provide any insight into the interviewees' backgrounds.

5.3.2 Balancing Pedagogical Theories

When analysing the interviewees' responses, many similarities to the theories of constructivism with experiential learning and reflective theory with continuous learning can be identified.

Most participants have integrated practical methods and tools into their learning style, as highlighted in the text above. Almost half of the participants explicitly highlight collaboration and social interaction in learning in their interview statements (C, E, H, J, K). This collaboration and social interaction of students is a crucial aspect of constructivism, as it is not merely about absorbing but about active processes (Kirschner et al., 2006). It is about applying previously accumulated experiences and understandings in social interactions. Participant C's learning style aims directly at learning through experience, so-called experiential learning. Incorporating experience is intended to help students better understand new information and gain new knowledge (Jonassen & Rohrer-Murphy, 1999). This is to help in solving real-life problems that Participant E focuses on in class. The aim is to strengthen the students' communication skills by working together on solution-oriented projects. Jonassen and Rohrer-Murphy (1999) describe this as a dynamic learning process, problem-solving, and inquiry learning. Three other participants further emphasise cooperation and social interaction (H, J, K). For

example, there should be no exams instead, students should learn together as much as possible (H). Furthermore, this should promote interaction between the international and Swedish students to benefit from different experiences and prior knowledge of each other in group work (J, K). In Participant J's programme, this social interaction goes one step further, and students must take courses at another university. Communication can be strengthened by working together, whether through group work, presentations or, as in the case of Participant J, learning at another university. Students can also benefit from other students' prior knowledge and different experiences (Jonassen & Rohrer-Murphy, 1999). However, it can be challenging when students come from different countries and work with each other in groups, as they come from different prior knowledge and have had different experiences in the academic environment (K). These different approaches can make it difficult to learn from each other.

Several participants stated that students should first familiarise themselves with theories, models and concepts and focus only on the practical aspects later (I, J, K). This suggests that it is essential for these participants to first teach the students about experience and prior knowledge in a theoretical way so that they can then apply it to practical and social interactions. Theories, models, and concepts are seen as something theoretical. It can be argued that this is a kind of reflection on action, in that students learn something and then reflect on it to apply it critically in practice (Tan, 2020). This is a very subjective process, and there is no way of knowing how a particular student takes in what they have learned, reflects on it, and then applies it in practice. Moreover, it is impossible to say whether learning theoretically leads to reflection for each student. However, six participants (A, B, C, D, G, J) explicitly mentioned how vital critical reflection is to them. They emphasise that it is essential to reflect on what they have learned, that is a reflection on action, and to take time to think about assignments, projects, presentations, and group work and not only to carry them out critically and creatively but also to question what they have learned after completion and to give themselves feedback. Two other participants (F, I) mention that it is important to create a space for students where they can make mistakes, try out things, and fail. As it is important to learn from failure and better deal with it in practice. From this, one can also analyse that it is a constant learning process required by professors to improve students' self-assessments (Tan, 2020).

Besides the importance of students reflecting, the theory also presents that professors can use reflection to improve their teaching style and self-assessment. Participant D said that they strive to adapt their teaching style to trends continuously, adapt their pedagogy, and experiment with what works and what does not. Here it is not easy to see whether this process of Participant D is a reflection on or in action. Adapting the teaching style to current trends can be interpreted as a reflection on action, where after each course or before the course starts, the professor reflects on whether the teaching style still fits the trends or needs to be adapted. Experimenting and seeing what works could be interpreted as a reflection in action, in which the professor can reflect within the lecture whether their way of teaching is working and, if necessary, adjust in real-time if something is not going according to plan.

Participants A and B emphasised in the interviews that using a mix and variety of teaching methods is essential. After analysing both pedagogical theories, it turns out that only Participants C, J and K use both theories. Interviewees E and H have mainly constructivist approaches, whereas Interviewees A, B, D, F, I, and G have mainly reflective approaches. Again, there is no difference between the focuses on entrepreneurship, business, and sustainability, in other words, no theory can be clearly assigned to one focus.

5.3.3 Fostering Creativity and Critical Thinking

Besides the general way of teaching and which methodologies and resources are used, there is a focus on teaching creativity and critical thinking. In both, aspects of constructivism and reflection can be found.

From the empirical material, it appears that many methods of teaching creative thinking are practical. For example, confronting the students with real problems and finding creative solutions to them (C), lateral thinking and problem-solving techniques (E), working with different materials (F), field trips (G), and design thinking (J). All these approaches can be interpreted as social interactions as well as sharing of experiences and reflect constructivist traits. Thus, creativity is taught via collaboration, problem-solving, and inquiry learning. Both pedagogical approaches (constructivism and reflective theory) can be found when teaching critical thinking. However, some participants stated that through critical assignments, lectures, and seminars, discussions between students are encouraged to have different opinions

that can be critically discussed (A, B, E, H, G, I, J). Working with projects or design thinking is also mentioned in this context (I, J). These are all constructivist aspects in which social interaction is desired by the professors, with students exchanging ideas among themselves in discussions or group work. Nevertheless, there are participants who want students to critically question texts and lectures, for example, not only relying on theoretical arguments but making assumptions (C, D). These are, again, aspects of reflection and rather an internal process among the students.

Generally, teaching entrepreneurship and sustainability is very diverse. Various methods are used, and both constructivist and reflective aspects can be found in all focuses. Beyond that, there are few differences between the individual specialisations, only in the teaching of creative and critical thinking does it become apparent that the teaching of creative thinking has predominantly constructivist traits.

6. Conclusions

In our qualitative master's thesis: "Bridging Entrepreneurship and Sustainability Education - Perspectives and Approaches from Swedish University Educators", we investigated how entrepreneurship and sustainability are taught in Sweden by eleven educators at nine different universities. In conducting interviews, we found that sustainability and entrepreneurship are strongly intertwined, and addressed and taught in EE and SE. Therefore, in addition to investigating how entrepreneurship and sustainability are taught, we decided to focus on and explore the interconnectedness between EE and SE in Sweden.

Regarding our first research question, "How do university educators in Sweden work with and talk about entrepreneurship and sustainability?" we found different perspectives related to the way educators talk about sustainability and entrepreneurship. In general, education is crucial in both aspects and an extensive topic that includes different perspectives from teachers and students. The interviews have shown that various methods and a mix of theoretical and practical approaches are essential. This involves working with, for example, extracurricular activities and collaborations, trying to incorporate ideas and current trends into the curriculum and considering students when designing the curriculum. This aligns with the constructivist theory that values social interaction, collaboration, and sharing experiences. Due to the qualitative approach, it was possible to show how individual educators talk about entrepreneurship and sustainability. Actively doing something, trying, failing, making decisions, and taking responsibility are essential aspects of entrepreneurship. This view is shared by Schumpeter's theory of innovation and entrepreneurship which states that entrepreneurs are curious, creative, courageous and take risks. Students must be open to various opportunities to become entrepreneurs or otherwise engage in entrepreneurial activities, either by themselves or within companies. Sustainability has become more critical for many educators in recent years and is seen as a complex topic requiring system and complex thinking. There is pressure from many to act sustainably, be it from students, universities, the government, or the EU. Therefore, it is essential and should always be considered in everything students do. The concepts of PB and Doughnut Economics reflect the

assumption that issues cannot be dealt with in isolation and that sustainability challenges need interdisciplinary work.

Regarding our second research question: "How are entrepreneurship and sustainability taught and intertwined in higher education in Sweden?" we found that they are taught in many ways and that no single method fits all. The methods and means used to teach vary greatly at the nine universities. In addition, all have their respective teaching styles and approaches to transferring knowledge. Nevertheless, all educators consider critical and creative thinking relevant and incorporate the topics differently into the lessons. It was found that a mix of constructivism and reflective learning is used to teach these aspects. Furthermore, the specialisations in entrepreneurship, sustainability and business do not favour any method, and appear everywhere. Moreover, entrepreneurship and sustainability are very much intertwined at different universities. It has been shown that the desire for sustainable topics in EE comes mainly from the students, who actively demand incorporation. In addition, it has been shown that entrepreneurial topics in SE are mainly introduced by educators to promote sustainable entrepreneurial careers. This aligns with the suggestion of CES to strictly consider the impact of entrepreneurial activities, especially concerning society and politics.

Our qualitative work makes a theoretical and empirical contribution to the fields of EE and SE with a focus on Sweden. We have limited ourselves to Swedish universities that teach EE or SE in English at master's level. In the empirical material collected, we observed several voices arguing for a business logic in which sustainability and entrepreneurship drive economic development, with a focus on start-ups and technology. Other voices choose to emphasise entrepreneurship and social change, highlighting that the primary task of EE is to educate conscious decision-makers. Exploring this ideological range would be interesting in further studies. Moreover, continued research could survey a higher sample size and thus obtain a broader mass of statements. This could include educators teaching in Swedish or at the bachelor level. This could follow our qualitative study approach or a quantitative one. In addition, future research could focus more on curriculum analysis of individual courses. Also, more emphasis could be put on students' opinions and wishes, for example, how they interpret EE and SE, how it is taught,

and their aspirations. This could be analysed through an interventionist approach and recommendations for action for educators.

In an ever faster-changing world with multiple pressing problems such as climate change, the issue of sustainability will become increasingly relevant and will have to be considered in all areas. This also requires well-trained change makers who can revolutionise the way we work with new ideas, innovations, and businesses. Universities can lay the foundation for a sustainable, just future with their programmes.

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Appendix

Questionnaire

1. Can you tell me about your background and experience teaching entrepreneurship/sustainability at the university?

2. What inspired you to teach entrepreneurship/sustainability, and how did you first get involved in this field?

3. What is the course/programme objective? Why did you create this course/programme?

4. What is your intention with the course/programme? Is there a focus on theories and gaining theoretical knowledge or practical skills (with projects/collaborations etc)?

5. What kind of aspects are talked about in your course/programme in regard to entrepreneurship/sustainability?

6. How do you balance teaching traditional business skills with the values and principles of sustainability in your programme/course, and how do you ensure that students understand the importance of both?

7. Can you describe any partnerships or collaborations that your programme/course has established with local businesses, organisations, or communities to promote sustainable entrepreneurship practices? Do you have any collaborations with local businesses?

8. What does entrepreneurship mean to you?

9. In your opinion, what are some key skills or competencies that students should develop through entrepreneurship, and how do you facilitate this development in your teaching?

10. Do you think it's even possible to teach entrepreneurship, or is it something you must have been born with?

11. Why is it important to teach sustainability? How does entrepreneurship interact with sustainability?

12. What does sustainability mean to you?

13. Can you give an example of how your study programme/course incorporates sustainability into its curriculum or teaching approach?

14. How do you integrate sustainability into your programme/course, and what are some specific examples of sustainable practices that students learn about or implement? Which (sustainability) concepts do you incorporate into your programme/course?

15. Can you describe your current study programme/course and how it teaches entrepreneurship/sustainability?

16. How has your study programme/course evolved over time, and what changes have you made to stay relevant to current trends and developments in entrepreneurship and sustainability? Can you name a few examples of changes (e.g. new theories, trends you discuss)?

17. How do you stay up-to-date with new developments and trends in entrepreneurship and sustainability, and what resources or networks do you rely on for professional development?

18. In your opinion, what is the relationship between entrepreneurship and sustainability, and why is this important for students to learn?

19. How do you teach students to think critically and creatively about entrepreneurship (in the context of sustainability), and what methods or tools do you use to facilitate this type of learning?

20. How do you encourage students to apply their entrepreneurship skills to create positive social or environmental impact, and what resources or support do you provide to help them achieve these goals?

21. What kind of teaching/pedagogies philosophies/philosophers/schools of thought do you apply at the university?

22. How many students are in your programme?

23. Do you primarily have exams or written assignments in the programme? What are the advantages of this?