



LUND UNIVERSITY

# Exploring the Effects of Entrepreneurial Extracurricular Activities on Student Entrepreneurs

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# Abstract

Academic entrepreneurship is becoming more accessible and comprehensive, and with it, so too are entrepreneurial extracurricular activities (EEAs). Because the expansion of entrepreneurship education accessibility is limited to the last two decades, little has been explored on the exact impacts EEAs have on students enrolled in entrepreneurship education. This thesis focuses on expanding the recent body of knowledge in what qualities EEA participants develop and how they plan to use them in their futures.

A comparative analysis between the ecosystems of two leading entrepreneurship academic institutions was conducted, with one being Lund University in Sweden and the other being Carleton University in Canada. The results obtained suggest that entrepreneurship students from a plethora of previous prior backgrounds can, as students, enlist in EEAs available to them and experience benefits typically at the cost of time, a commodity with a volatile price to student entrepreneurs. The findings continue by pointing out that the same diversity of possible EEA learning scopes may suitably match the variety of enlisting student entrepreneurs, in turn, allowing for qualities across all disciplines intersecting with entrepreneurship to be learned, though characteristics such as culture, nationality, and sex, may yield a negative impact on learning outcomes.

## **Index Terms**

Entrepreneurship, education, extracurricular activities, innovation, university, Lund, Carleton

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# Contents

Abstract .....	i
Acknowledgements .....	ii
1. Introduction .....	1
1.1 An Overview: Academic Entrepreneurship and Extracurricular Activities.....	1
1.2 Models of Teaching Entrepreneurship .....	2
1.3 Purpose of this Research .....	3
1.4 Thesis Structure.....	5
2. Literature Review.....	6
2.1 What makes a good entrepreneur? .....	6
2.2 The Importance of Academic Entrepreneurship Research .....	8
2.3 Current Academic Teaching Models .....	9
2.4 What are entrepreneurial extracurricular activities? .....	10
2.5 The Benefits, Drawbacks, and Motivations behind Joining Entrepreneurial Extracurricular Activities .....	12
2.5.1 The Benefits .....	12
2.5.2 The Drawbacks .....	13
2.5.3 The Motivations for Joining EEAs .....	14
2.6 What students can benefit from having more entrepreneurial qualities?.....	15
2.6.1 Students in Business-Related Fields .....	15
2.6.2 Students in STEM-Related Fields.....	15
2.7 A Situational Fermi Paradox: Where are the all the academic entrepreneurs?.....	16
2.8 Past Questions and Research Gaps .....	17
2.9 Research Question Subdivisions .....	18
3. Methodology .....	20
3.1 Research Baseline .....	20
3.2 Research Design.....	21
3.3 Data Collection .....	23
3.4 Data Analysis .....	29
3.6 Reliability and Validity .....	30

3.7 Ethical Considerations .....	30
3.8 Limitations in this Methodology .....	31
4. Results .....	32
4.1 Sequence Overview.....	32
4.2 Prior Backgrounds and Future Ambitions .....	32
4.3 What EEAs were taken, and how did each work? .....	34
4.5 How did EEAs benefit or inhibit student entrepreneurial learning? .....	36
4.6 How did EEAs affect opportunity recognition and skill transferability?.....	39
4.7 Reflecting upon EEA Experiences.....	41
5. Discussion .....	45
5.1 Analysis and Synthesis of Results .....	45
5.2 What makes a good entrepreneur? .....	45
5.3 The Importance of Academic Entrepreneurship Research .....	47
5.4 Current Academic Teaching Models .....	49
5.5 The Benefits, Drawbacks, and Motivations behind Joining Entrepreneurial Extracurricular Activities .....	50
6. Conclusion .....	51
6.1 Final Summary.....	51
6.2 Recommendations for Further Research.....	52
References .....	53
Appendix .....	58

## List of Tables

Table 1: Participant Academic Details and Selection Criteria.....	24
Table 2: Backgrounds and Future Ambitions of Selected Participants .....	26
Table 3: Most Frequently Attended EEAs in Lund and Carleton.....	28

## List of Figures

Figure 1: Gioia method visualized into its three domains and their relations to one another.....	29
Figure 2: Backgrounds scaled against future ambitions among Lund student entrepreneurs.....	33
Figure 3: Backgrounds scaled against future ambitions among Carleton student entrepreneurs .....	34
Figure 4: EEAs associated with Lund student entrepreneurs and specific benefits/drawbacks .....	35
Figure 5: EEAs associated with Carleton student entrepreneurs and specific benefits/drawbacks.....	36
Figure 6: Detailed benefits and drawbacks for Lund student entrepreneurs attending EEAs .....	38
Figure 7: Detailed benefits and drawbacks for Carleton student entrepreneurs attending EEAs .....	39
Figure 8: Lund student entrepreneur opinions on opportunity recognition changes and transferability of new skills.....	40
Figure 9: Carleton student entrepreneur opinions on opportunity recognition changes and transferability of new skills .....	41
Figure 10: Lund student entrepreneur reflections on quality of experiences.....	43
Figure 11: Carleton student entrepreneur reflections on quality of experience.....	44

# 1. Introduction

## 1.1 An Overview: Academic Entrepreneurship and Extracurricular Activities

Entrepreneurship as a field of study is fairly young, but it is rapidly growing. As social inequalities are now under the spotlight, combined with the ever-proliferation presence of technology, new entrepreneurs are finding more opportunities available than ever. Some say entrepreneurship is currently a trend many are trying out as a new lifestyle to compare it with an old one (Arranz et al., 2017; Lopes et al, 2020). But given how scholars have only recently begun analyzing the behaviors and financial mechanics behind entrepreneurship, it makes sense that only just as recently could higher education students begin to learn about the field at their age.

Entrepreneurship is a fickle subject to comprehend via literature and formal studies alone, as many claim that practical experience is necessary for a student in the domain to become a master (Pittaway et al, 2015; Van der Sijde & Ridder, 2008; Pocek, Politis & Gabrielsson, 2022; Almeida et al, 2021). Social and experiential learning for the students is key, and others argue that pedagogy backed by relevant experience is the professor's responsibility (Arranz et al, 2017). Where all researchers agree, regarding the students' future, is that involvement in extracurricular activities of an entrepreneurial nature is a game-changer. It seems that whether or not the students are studying in Spain (Arranz et al, 2017), the UK (Preedy et al, 2020), Vietnam (Nguyen et al, 2021), or the United States (Pittaway et al, 2011; Wang et al, 2021), pursuing an extracurricular activity (EA) yields positive impacts on the entrepreneurial processes students follow.

EAs include any activities functioning outside of their parent institution's defined curricula that develop students' skills in various domains. Entrepreneurial extracurricular activities (EEAs) can include any such activities that increase the total amount of entrepreneurial activity on campus (Rivero & Ubierna, 2021). The distinction between EAs and EEAs is important to emphasize, given the comparatively rare presence of EEAs when scaled against the abundance of sports, arts, and STEM activities available for students. In any of the latter category, students may learn skills that could

benefit them as entrepreneurs, but these EAs cannot be considered entrepreneurial given their purpose for existing is to typically prioritize the development of non-entrepreneurial skills in their participants.

As an example, a student enrolled in a football club may develop communication, teamwork, and networking skills, but the sport club is there to boost the student's mental and physical health, while publicizing the university's football players' talents. An entrepreneurship club on the other hand, can bolster the same qualities in the same participant, while its *raison d'être* aligns entirely with advancing entrepreneurial talent, and developing new business ventures on campus.

## 1.2 Models of Teaching Entrepreneurship

Entrepreneurship has been typically learned via curricular methods – primarily through organized teaching at an academic institution, yet the focus has more recently switched to identifying means of increasing the depth of student learning; enter EEAs. Increasingly now, entrepreneurship education is considered by many to consist of both teachings from academic staff as well as provisions from institution bodies hosting the programs. These begin with curricular studies, and are often compounded with the inclusion of extracurricular options (Vázquez et al, 2011).

Standard teaching methods are thought to only test students' memories and surface-level understanding of subject material (passive learning); extracurricular activities are forecast to challenge students' ability to analyze the information they are given, and create solutions for their situations based on what they learn (active learning) (Yang et al, 2021). As much as formal curricular learning can be of great benefit to entrepreneurial students, their entrepreneurial intention is more greatly affected by extracurricular activity involvement (Yang et al, 2021).



### 1.3 Purpose of this Research

Ward (2004) observes that relevant knowledge both advances and impairs one's ability to develop themselves in the field of entrepreneurship. Students are both receptive to and subject to high volumes of knowledge, so it is hypothesized their immediate practical use of said knowledge in their projects and activities may be used as a gauge to measure the quality of their learning, and pragmatic applications of the study material itself. Shane (2000), when describing Austrian economics theory states that anyone with adequate prior knowledge will be able to spot and act upon an entrepreneurial opportunity. In this dissertation's context, as trends are identified in the directions students take with their startups, this study aims to build more on why some students follow a current norm (i.e. foodtech) while others choose to explore less well-charted niches.

The topic of EEAs and their effects on entrepreneurial students pertains to many students' journeys through Lund's Entrepreneurship and Innovation master's program, as well as those of many others who wish to create start-ups in Lund's academic bubble (a localized system that is practical for study). The students in this program, hence, will be the primary subjects of this thesis' scope. For a more comprehensive look into geographic and cultural effects on students' motivation for joining EEAs, students soon to graduate from the Technology, Innovation, and Management program at Carleton University – in Ottawa, Canada – will also be examined.

Considering the research direction of this topic on entrepreneurial extracurricular activities (EEAs), little appears to be known about the natural distributions of essential soft skills and entrepreneurial hard skills learned from extracurricular activities. Skills such as empathy and self-efficacy are listed in some of the literature sources reviewed, but these implications are not universally found, so it seems that not all extracurricular entrepreneurial activities (and certainly not all institutions that offer them) may succeed in teaching students the exact balance of traits needed to stand apart from the masses. This may provide motivation for a research question (Huerta et al, 2022).

Limitations were found in several of the studies analyzed in the literature review featured in the next chapter. These limitations were often overtly indicated following concluding remarks in each report, and could frequently be attributed to the unique direction of the research scope, or due to insufficient resources available for the study. These finite and often heavily-limited resources included: research time, experiment funding, acquisition of willing participants, historically supportive environments, and many others.

Demographic disparity among the entrepreneur population researched may have skewed data in previous findings, leading to a research gap – a second type of limitation, where the scope question is answered following the study, but raises more in its wake. In the context this thesis will explore, some articles write at length in their data and discussion sections about an uneven balance of men and women being featured in their studies, while others may collect such data, yet draw no conclusions specific to it (Preedy et al, 2020) (Wang et al, 2021). While demographic data such as sex, age, nationality, and background education itself does not merit a thesis topic, these markers may be included when sampling data points to draw further conclusions, as well as make better use of representing the people who volunteer to be studied.

The question that can be drawn from the gaps in literature follows:

*How do extracurricular activities shape entrepreneurship students during their academic learning phase?*

One notable additional limitation to the scope of this thesis, following the aforementioned research question is the target participant being a student in entrepreneurship prior to being involved in EEAs. EEAs are by their definition aimed at entrepreneurship students, but can often accept students from any disciplines who are interested in developing their entrepreneurial skills. Non-entrepreneurship students, not being the primary focus group for EEAs, may develop differently during their participation when compared to their curriculum-invested peers.

## 1.4 Thesis Structure

Following this introduction, Chapter 2 will focus on the existing theoretical frameworks that have brought knowledge in this area to where it currently stands. Trends and research gaps will be subsequently identified, this study's scope will be outlined. This will lead into the third chapter, the methodology. Chapter 4 will describe the acquisition and processing of raw data while Chapter 5 will discuss analytical findings, whose key points and limitations by design will be summarized in the sixth concluding chapter. Suggested directions for future research will also be made in the concluding chapter of this thesis.

## 2. Literature Review

### 2.1 What makes a good entrepreneur?

Rivero and Urbierna (2021) highlight the most important effect that an entrepreneur can have as their effort contributing towards regional economic growth by making use of local resources. Because innovative entrepreneurship is to be considered highly valuable on a national level, priority should be given to encouraging it within academic environments (Rivero & Ubierna 2021). According to Bodolica, Spraggon, and Badi (2021), because the university environment is “sanction-free” (no penalty for failure), entrepreneurship-based practices flourish particularly if their instigators are involved in practical entrepreneurial activities whilst committed to their studies. Bodolica et al (2021) note that effective social entrepreneurial endeavours create positive ripple effects in the local economy such that others with greater resource wealth may be able to continue and resuscitate ideas that couldn’t fully be realized previously despite their potential for meaningful social impacts.

The concept of self-efficacy, as is often referenced today, was first defined by Bandura (1982, p.122); as he describes it, "Perceived self-efficacy is concerned with judgements of how well one can execute courses of action required to deal with prospective situations." Li et al (2018) find that high self-efficacy in a managerial context in entrepreneurs yields a higher chance of them exploiting opportunities innovatively. One key component of self-efficacy is the idea of a “locus of control”, which entails how “in-control” an entrepreneur perceives themselves to be of their development and surrounding environment (Rivero & Ubierna, 2021). As observed by Ajzen (1991), a high locus of control contributes to a high perceived self-efficacy.

Another aspect considered a defining marker of good entrepreneurs is their ability to spot opportunities on the market. Baron (2006) explains that prominent entrepreneurs recognize more opportunities via by noticing patterns in the market; they in turn identify more opportunities, and have more success in capitalizing on said opportunities in comparison to their competitors – though it should

be stressed also according to Baron (2006) that opportunity recognition itself does not expand into the act of capitalizing on spotted opportunities. The skills for achieving superior opportunity recognition are thought to stem from adequate prior knowledge of the market, heightened alertness, and/or active searching (Shane, 2000; Baron, 2006).

Politis (2005) observes four distinct career paths entrepreneurs can take as they develop themselves over their professional lives: linear, expert, spiral, and transitory. The author describes each path as follows: a linear path has a career progress in a hierarchical fashion with few changes in career field; an expert path focuses on increasing specialization in only one field, and is often lifelong; a spiral path involves periodically switching careers each time to fields related to previous ones; a transitory path features frequent changes to career fields with it focusing on developing skills rather than one defined career. Politis (2005) finds the first two paths correspond to an exploitative approach, since the same domains in its users are continuously refined to sharp proficiency, while the latter two paths correspond to an explorative approach, where the acquisition and application of more skills is instead preferred. No single career path is the right answer to making a good entrepreneur; as some choose to be more exploitative and others more explorative (and often switch career paths), but one further point noted by Politis (2005) is that exploitation is causation-based, while exploration is effectuation-based. Sarasvathy (2001) first distinguished the difference, showing that entrepreneurs following causation work using any means to reach a known goal, while those following effectuation logic work with their known means to reach an unknown goal. With each logic having its time and place in a startup's growth, a good entrepreneur can alternate between these two paradigms to maximize their development.

One final way to gauge an entrepreneur's value is to assess those standing beside them: their teammates. Wasserman (2012) observes that many entrepreneurs succeed in teams where they may fall flat going solo. Teams with aggregations of diverse human capital have a strong likelihood of performing well as new ventures (Wasserman, 2012; Jin et al, 2017). Jin et al (2017) further discusses how for new ventures, a larger team may even provide more benefits to the project(s) regarding solving complex problems, than would a smaller team. These findings point to the importance of an entrepreneur being able to build a talented and sizable team to help them build and launch their startup. Yet, for an entrepreneur to have a good team, they must earn it by being willing to invest in their teammates the way their teammates do to them, and strong interpersonal skills are required for this.

## 2.2 The Importance of Academic Entrepreneurship Research

Entrepreneurship has the power to usher in future economic development, and since the turn of the millennium, entrepreneurship ecosystems have increasingly become a topic of interest. Universities serve a major part in the functionality of entrepreneurship ecosystems, and are thought to even possess their own internal entrepreneurship ecosystems in turn. Previous literature research has led to hypotheses implying that several factors together constitute strong university entrepreneurship ecosystems including (but not limited to): university leadership, research capabilities, higher education council policies, collaboration with other institutions, and extracurricular activities (Wang et al, 2021).

Shane (2000) has shown how research from the last two decades has begun to challenge the long-standing idea that entrepreneurs are born into their skillsets. There is mounting evidence suggesting that while some may be better-suited to entrepreneurial careers based on their natural-born mindsets, adequate education and extracurricular opportunities in university can teach participants with no previous entrepreneurial knowledge how to enter the game – this is the basis behind Austrian economics (Nguyen et al, 2021; Arranz et al, 2017). Many entrepreneurs today are not just born, but are made through the academic and extracurricular activities that shape them. Universities therefore have a huge responsibility placed upon them in ensuring students acquire their entrepreneurial intention. But there remain several questions on the pedagogical approach professors often use to teach their students the topics of entrepreneurship: “What, how, and when to teach at universities in order to [form] entrepreneurial initiative (Arranz et al, 2017)?”

Arranz et al (2017) also urged that those teaching must themselves have entrepreneurial experience, to ensure a process as complex as innovation is taught well to students. The researchers suggested that there should exist programs within the curricular portions of academia to challenge students to take greater action in the entrepreneurial world.

## 2.3 Current Academic Teaching Models

The standard pedagogical method of learning within an academic institution, as described by Adisel et al (2022), boosts students' entrepreneurial attitude (their opinions on various tasks carried out by entrepreneurs to advance themselves). Entrepreneurship is understood typically in the academic context as a process and history, followed by the philosophy of "learning by doing". It can, and perhaps should be, more valued in how it is learned outside of the academic setting through experience for those seeking to become professional entrepreneurs (Claudia, 2014). The inclusion of EEAs in entrepreneurship education is known to improve students' social intelligence, sense of community connection, and time leadership. It was found that participants learned skills not typically taught in conventional classes such as quality control, financial reporting, and selling (Adisel et al, 2022).

The findings of Yang et al (2021) in academic entrepreneurship underscore that pedagogy of purely hypothetical examples yields only a surface-level understanding of its subject in the minds of students; the authors often refer to the results of this teaching style as "passive learning", because the students are minimally engaged when in the confines of lecture halls and core academic environments. The trio of authors find that by contrast, EEAs trigger a more intensive retention of information – a process they term "active learning" – in the students that partake in them. Yang et al continue in stating that active learning gives these students the ability to analyze the information they are given, and create solutions for their situations based on what they learn. Formal curricular learning is essential to entrepreneurship students to satiate their hunger for knowledge, while enlisting in EEAs provides them with the complete package of cognitive nutrients (Yang et al, 2021).

Vázquez et al (2011) outline how teaching at academic institutions has been the way entrepreneurship has traditionally been imparted onto inexperienced minds since the concept first rooted itself in academia. The authors describe this kind of method as curricular, and point out that the focus has more recently switched to EEAs upon identifying their means of increasing the depth of student learning. Because of this recent switch to include and develop EEAs alongside the main program of study, entrepreneurship education is noted and expected to involve teachings from academic staff as well as provisions from institution bodies hosting the programs (Vázquez et al, 2011). First, the main program – the curriculum – provides the tools for learning the theoretical aspects, and

the practical knowledge from involvement in the parallel EEAs follows to complete the students' learning (Vázquez et al, 2011). Compared to other fields related to business and economics, entrepreneurship programs are generally accepted to require a degree of practical exposure in order to optimize student learning. The approach to success in entrepreneurship, unlike with most academic programs and real-life counterparts encourages non-traditional thinking (creativity) and risk-favoring tactics (Claudia, 2014).

## 2.4 What are entrepreneurial extracurricular activities?

Many reasons from various findings across the globe have been given for why EEAs are needed to complete modern entrepreneurship pedagogy. Their persuasions necessitate the existence of EEAs, as well as call for making them well known to entrepreneurship students and students interested in entrepreneurship. But up until now, EEAs have mostly been described as distant abstract concepts that somehow can fill in the gaps in knowledge students in entrepreneurship may invariably experience in their curricular studies. So, how exactly *can* EEAs be defined?

Firstly, a distinction must be made between what makes activities curricular and what makes them extracurricular. Rivero and Ubierna (2021) define curricular entrepreneurial activities as those, where formal methodologies and a predictable flow of work are outlined – to form curriculum. According to the authors, activities that are extracurricular include entrepreneurial presentations, company shadowing, publication of magazines, and anything else that incites an increase in the amount of entrepreneurial activity on campus.

In greater detail, Wang et al (2021) find the activities outside of the classroom listed included entrepreneurial conferences, coaching seminars, entrepreneurship bootcamp, incubators and accelerators, and pitch competitions. Almeida et al (2021) add junior enterprises to the list and claim this EEA when combined with curricular entrepreneurship education increases entrepreneurial intention by an amount higher than that of many other kinds of activities. Vanevenhoven and Liguori (2013), in turn outline business planning competitions, student clubs, visits to companies, and lectures held by guest entrepreneurs all as EEAs.



Pocek, Politis, and Gabrielsson (2021) find that learning experiences come from enablers (program-specific features), learning from peers, and from active interaction. Activities are responsible for granting students competencies such as business modeling, plan writing, financing, team building, and being able to think outside the box. Pittaway, with his colleagues in two separate studies identified several more entrepreneurial activities that fit as extracurricular (Pittaway et al, 2011; Pittaway et al, 2015). They considered extracurricular activities in entrepreneurship to include: summer school, games, competitions, exchanges, mentoring, clubs/societies, workshop programs, financial support, pre-incubators, and business support programs (Pittaway et al, 2011) as well as lectures held by guest entrepreneurs (and other business people), competitions, training workshops, and networking events (Pittaway et al, 2015).

As there are many recurring instances of the same program, either by direct name, or by several interchangeable terms, every EEA thus named is categorized in the list below, with repetitions and subtle variations of the same types grouped in the same bullet points:

- Conferences and presentations
- Lectures held by guest entrepreneurs and other businesspeople
- Mentoring
- Seminars and workshops
- Competitions, games, and team building
- Clubs and societies
- Business model and financial plan writing
- Visits to companies and company shadowing
- Bootcamp and summer school
- Pre-incubators, incubators, and accelerators
- Business and financial support programs
- Networking events

Based on many of the above, Pocek, Politis, and Gabrielsson (2021) write that EEAs can be also hosted entirely by their parent universities, their participating students, or as joint collaborations

between the universities and third party organizations. The researchers find that formality of the EEAs increases as more control is given to the universities, while diversity increases as more control is given to students.

## 2.5 The Benefits, Drawbacks, and Motivations behind Joining Entrepreneurial Extracurricular Activities

### 2.5.1 The Benefits

A plethora of benefits have been found from involvement in extracurricular activities, with some having widespread application and others best suited for niche entrepreneurial territory. The most pertinent takeaway, outlined by Nguyen et al (2021) is that academic entrepreneurs more involved in extracurricular activities are proven to be more likely to succeed in their craft due to their inspirations and intentions being stronger as a result. They find, for example, that participating in EEAs raises student entrepreneurs' self-efficacy (Nguyen et al, 2021).

Preedy et al (2020) found that where students had opportunities for experiential learning outside of class, they benefited the most due to the practical nature of learning about building enterprises through experience. Students generally credited the formation of new contacts and friendships as means of reinforcing their motivation to work inside and outside of the classroom (Preedy et al, 2020). Experience directly in the practices of project management, equity negotiation, process automation, personal reflection, and taking risks in stride all contribute to students' development in the entrepreneurial realm (Vázquez et al, 2011).

Wang et al (2021) note that when they are available, EEAs typically offer a greater diversity of entrepreneurial practices when compared with their curricular counterparts (if taught), so students often favor them more than they do the formal academic material. The authors credit other factors to boosting EEA popularity; these include contributing to the university entrepreneurship ecosystem, the variety of networking potential between the surrounding city's general ecosystem and that of the

university, as well as the maintenance of an optimistic “entrepreneurial spirit” on the academic grounds, and acknowledgment of the university’s leadership in acquiring the funding and guests to maintain and develop the university’s ecosystem (Wang et al, 2021).

### 2.5.2 The Drawbacks

Not all EEAs are created equal, and the value of some may have depreciated with the realization of their limits. For instance, business planning today is no longer seen as a fool-proof metric for determining a startup’s success. Instead, it is to be viewed as one of many essential tools to building a business from the ground up. (Watson et al, 2014).

The same research that led Preedy et al (2020) to credit EEAs for their benefits to their sampled students found that the lack of a developed framework for self-reflection in general EAs in (more common in academic contexts) may limit the degree to which one benefits as an entrepreneurial student from participating in EEAs. Similar results from Pittaway et al (2015) support this general theme of there being insufficient opportunity for personal reflection in EEAs for optimal growth in their participants.

Time management, as a personal habit, has been cited by several research teams to have improved in students involved in EEAs (Huerta et al, 2022; Adisel et al, 2022; Pittaway et al, 2011). While it can be learned following EEAs and thus interpreted as a benefit, it also is a scale that can sway in the other direction, hence its inclusion in the category of drawbacks. Students that find themselves pressured time-wise may struggle or fail to manage their time any better than they already can when balancing their curriculum, personal, and professional lives. Pocek, Politis, and Gabrielsson (2021) observed that time management behaved like a cause, rather than an effect on the learning students in EEAs had, rather than time management itself being an effect of this, meaning that students with good time management learned more from their EEA experiences than those with poor management. This implies that the prospect of time management either worsening or not changing following EEA involvement cannot be discounted.

Every student adapts differently to one another to stressful situations, and so to do their motivations to accept more challenges during these periods. The workload in academic programs also tends to be non-linear over time; it can have calm periods with little taskwork and it can otherwise be punctuated by slews of assignments and deadlines.

### 2.5.3 The Motivations for Joining EEAs

Motivations in students to join EEAs are different to the benefits and/or drawbacks experienced following enlistment since they exist prior to said enlistment in EEAs. Yet, student motivations behind joining EEAs can be as diverse as the available EEAs themselves. There are many “whats”, “hows”, “whens”, and “wheres” behind extracurricular activities, but the findings of Pittaway et al (2015) also suggest the question of “why” is not often appreciated. They pinpointed how the greatest motivation behind students choosing to involve themselves in EEAs, by far, is to feature them on their curriculum vitae, with the second most common reason being genuine interest in starting a business.

While several of the studies covered make basic reference to common motivations for students to join EEAs, the study by Pittaway et al (2015) covered several less-common reasons students cited for joining entrepreneurial clubs. The motivations consisted of the following goals ranked from most to least common:

- To get employed
- To learn how to start a business
- To make a positive impact for others
- To learn how to own a business
- To learn by doing
- To work better in a salary-earning job
- To develop and enhance soft skills
- For personal enjoyment
- To test out their ideas
- To meet new people
- Financial gain

- To enhance their academic learning

Just as how each student comes from a different cultural and professional background, so to do they differ in their future ambitions following their conclusions in academic entrepreneurship, and EEAs. With more than half of the motivations above listed pointing toward entrepreneurship as a career path, intention in students clearly increases if they join an EEA and then benefit from it.

## 2.6 What students can benefit from having more entrepreneurial qualities?

### 2.6.1 Students in Business-Related Fields

Almeida et al, (2021) argue that management education has been documented to place too much emphasis on theoretical elements of teaching business mechanics, while not offering enough in the way of practical example situations. The researchers propose a better balance between the two modes of teaching, encompassing more aspects of management in general should be considered. They believe that future employees of companies will need to be creative, and able to recognize opportunities on the fly, among many other entrepreneurial qualities, such as being proactive. With enough combined entrepreneurial qualities, however, it makes sense for students graduating in the field increasingly to consider entrepreneurship itself as a viable career path.

### 2.6.2 Students in STEM-Related Fields

It was mentioned earlier in this report how interpersonal skills can be expected from successful entrepreneurs and their teams – and this comes into play crucially in the technology entrepreneurship scene, where STEM graduates typically find employment for their skillsets. Students in STEM fields (science, technology, engineering, and mathematics) have never faced a greater need to develop themselves in interpersonal domains such as entrepreneurship, decision-making, and social commitment (McGunagle & Zizka, 2020; Huerta et al, 2022). Soft skills such as empathy, communication, and leadership are today the keys for cooperation between technical-minded students

and their peers in multidisciplinary teams – though these observations, to a similar extent, ring true for all other members of such teams (Villán-Vallejo, 2022; Huerta et al, 2022).

Huerta et al (2022) claim that research, development and innovation allow STEM students to more physically interact with their technical environments, while improving communication between team members in group scenarios. The researchers' findings demonstrate that despite being at the disadvantage of interpersonal skills, that students in STEM-related fields more heavily involved in extracurricular entrepreneurial activities stood a better chance of applying themselves as professional entrepreneurs in the long run compared to their peers studying humanities and arts.

## 2.7 A Situational Fermi Paradox: Where are the all the academic entrepreneurs<sup>1</sup>?

Attention in recent decades has shifted to small, new businesses for their benefit to the economy following industrialization and restructuring of labour in many sectors. With this, so too has there been an increasing trend in academic environments encouraging entrepreneurial activity from students while still on their grounds (Vázquez et al, 2011). Despite this development, and despite the many benefits that a balanced curricular and extracurricular learning regimen in academia can provide, Arranz et al (2017) observe a major paucity of entrepreneurs practicing EEAs on university grounds. They find that often times, those invested in EEAs may still end up choosing paths immediately more favorable to them (i.e. employment) rather than carrying on to start new businesses. Limited self-efficacy is often to blame for this, as the participants believe they will be more qualified later in life (Arranz et al, 2017). Another reason, identified by Watson et al (2014), is the trend between ideas for startups “looking good on paper”, but turning up too flawed to be lucrative upon further scrutiny or investment.

Vanevenhoven and Liguori (2013) claim the more collaborations an academic environment had with partners, the *lower* the entrepreneurial motivation was in its students, possibly implying that an increased number of those examined favored different career paths over entrepreneurship. Given that

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<sup>1</sup> In its original context, the Fermi Paradox is an implication posited by physicist Enrico Fermi in 1950. In it, he suggested that given life could easily exist and evolve on other planets across the universe, it made little sense how no such life had ever by chance contacted Earth. It is often summarized as “Where are all the aliens?” (The Fermi Paradox, 2023).

other studies find motivation to rise with greater availability and variety of extracurricular opportunities, it may be due to a different specific reason that the students experience less interest in continuing in entrepreneurship (Vanevenhoven & Liguori, 2013).

According to Rivero and Ubierna (2021), the more an entrepreneur perceives themselves as personally prepared to start a business regarding their own skillset (e.g. training for the technical sector), the higher their motivation to create a startup. They believe having an adequate locus of control can improve such motivation as well, and training helps manifest this. The authors suggest that if expectations are imposed on academic entrepreneurs, they positively affect the entrepreneurs' motivation to create startups.

Lastly, an empirical study carried out by Hamilton (2000) demonstrated how within the first decade of starting a venture, entrepreneurs' pay averaged 35 percent lower compared to the salaries received by their corporate counterparts. While this applies to entrepreneurs in the professional world, as opposed to student entrepreneurs involved in EEAs, this knowledge – often brought to the students' attention in the curriculum – may deter them from staying on the entrepreneurship path after graduating, explaining the limited amount of post-graduate entrepreneurs remaining on university grounds to make use of their resources.

## 2.8 Past Questions and Research Gaps

The referenced literature lists relevant gaps in research for continued exploration. For instance, Preedy et al (2020) have found in recent years, that education in the entrepreneurial field has increased in many academic institutions across the world. The researchers have noted EAs have also increased in availability and diversity for university students, and they find entrepreneurial learning is important to the entrepreneurial process much as extracurricular activities complement higher educational learning. There is currently little research that has explored connections between the two. It *is*, however, understood that the learning processes between student and professional entrepreneurs differ (Preedy et al, 2020).

Other notable uncharted directions include the following:

- A knowledge gap exists between the studies covering the benefits of extracurricular activity involvement and the advancement of entrepreneurial intention in academia via practical knowledge (Nguyen et al, 2021).
- Competitions assessing business planning potential themselves have no equals as extracurricular activities focusing on business planning. Yet, they are not a commonly-researched topic. (Watson et al, 2014).
- There is a considerable gap in knowledge concerning social entrepreneurship in a context beyond courses in it being taught at university. There is therefore plenty of opportunity for research in extracurricular activities also relating to social entrepreneurial practices to be performed (Bodolica et al 2021).
- A gap exists on which educational components affect which personal qualities in an academic entrepreneur and what the resulting effects are (Vázquez et al, 2011).
- Further research on which skills can be developed the best in relation to select extracurricular activities should be considered. (Almeida et al, 2021).
- Exploring specific extracurricular activity type for their relevance can be a future subject of research (Vázquez et al, 2011).

## 2.9 Research Question Subdivisions

With the initial research question covering the thematically broad task of assessing how student entrepreneurs are shaped by EEAs during their studies, this question must be narrowed down to enable practical approaches to be established in the following methodology chapter. The literature consulted yields universally that no two students are alike in how they think, owing to each person coming from a different personal, cultural, academic, and professional upbringing prior to entering any given EEA. The sources similarly illuminate the differences in learning outcomes (and empirical outcomes) of each type of EEA, proving them to be just as diverse in knowledge as the students enrolling in them. It is also clear that with each entrepreneurship student and each EEA being different from the last, that what each student will take away from their EEA experiences will differ. It is therefore crucial as a final part of the study performed in this dissertation to understand what each student learns when attempting to reach a consensus on how entrepreneurial learning can be modelled across the proactive student body



in relation to EEAs. The research question can hence be divided into three sub-research questions (SRQs):

*SRQ1: What characterizes the students joining EEAs in the research setting?*

*SRQ2: What are classifications of the EEAs these students are joining?*

*SRQ3: What are these students learning upon completing their EEA involvement?*

## 3. Methodology

### 3.1 Research Baseline

Not all university students choose to involve themselves in EEAs. Not all university students may be involved even in EAs in general. And while it can be considered common sense for students in entrepreneurship, in particular, to participate in EEAs to gain experience, there is no guarantee that any student entrepreneur randomly selected would be involved in even a single EEA. Entrepreneurial students not involved in EEAs may have many reasons for excusing themselves, and may yet develop the stellar capacities necessary to achieve success in their professional careers. Even so, for this study, students not participating in EEAs must be excluded.

As a top priority, the scope of this study was designed around Lund students in Entrepreneurship and Innovation. Originating from a later brainstorming session that would be expanded for this scope, a second goal established was to reach out to students in a program equivalent to Lund's Entrepreneurship and Innovation. An existing prior connection to this thesis's author – a professor of Innovation – was contacted. Professor Stoyan Tanev teaches in the Technology, Innovation, and Management (TIM) program at Carleton University in Ottawa, Canada. From an introductory conversation, it was made known that his supervision students (studying Innovation-related subjects similar to those in Lund) were also nearing graduation and have been involved in EEAs, making them suitable participants for this thesis' study, just as were the Lund students. The purpose of this outreach to the students of a second university would be to provide a comparative study between the EEA effects on entrepreneurs in a second university on a different continent. For a third and final outcome, the idea behind including non-entrepreneurial students still involved in EEAs with an interest in future entrepreneurship would be kept in the scope as a low-priority direction of study. Any students at Lund not directly in the Entrepreneurship and Innovation program, but still involved in EEAs may be considered, should any be identified and willing to participate.

## 3.2 Research Design

What has remained consistent since the earliest drafting stages is the intention to further explore the exact benefits EEAs are providing to their participants. This motivation is derived from the fact that many existing articles verify the effectiveness of EEAs in general yes-or-no situations, while the few that do investigate their direct benefits often do so from the standpoint of complex statistical representations from quantitative sampling. Many such articles have also focused on parts of the world away from the environments of Lund and Ottawa, leaving the mentioned areas ideal for this scope's exploration. As this study is for a thesis at a master's level, written by one single entrepreneurial student, part of its aim in adding to its respective body of academic literature is to also describe the results of these EEA benefits on participants in language closer to plain English. As existing literature requires a deeper academic grasp on entrepreneurial theory that not every student globally has learned, the findings of this thesis may serve as a means of "bridging the gap" between the convoluted theories behind academic entrepreneurship, and the practical and intuitive concepts used by many professional entrepreneurs with or without student backgrounds in the subject.

Lund University is known to be the home of several EEA projects, including Spark, Venture Lab, Pitcher's Corner, as well as its frequent hosting of guest lecturers of both entrepreneurial and general business management backgrounds. The students interviewed from Lund campus would be confirmed to be involved in at least one of these activities. More possibilities include Changemaker and Climathon running parallel with the official Entrepreneurship and Innovation master's program. These EEAs, along with Carleton University's key EEAs, will be explained further on in this chapter.

A questionnaire consisting of several general realms of EEA-related entrepreneurial learning was developed; once their prior and current backgrounds were collected, students participating in this study would be asked about these topics. Justification for each question realm follows each point:

1. *What benefits did they experience from participating in EEAs?*

This is the positive half of the core theme around which this research is based. A greater insight into how each student finds their entrepreneurial journey to improve is key to validating this study's aim; it will highlight trends between students' ambitions and what they take away.

2. *What downsides did they experience from participating in EEAs?*

Similar to the previous question, this addresses the negative half of the same core theme. Feedback in this report can subsequently influence the students and/or universities hosting similar EEAs to improve them.

3. *How have their abilities to recognize opportunities been affected after being involved in EEAs?*

This is asked to tie into theory well-discussed in the circles of Lund's entrepreneurship scene, as it is known to characterize a good entrepreneur.

4. *Do they find their newfound skills assist them in starting new businesses, or are they more transferrable to alternate career paths?*

Like with opportunity recognition, this is asked to address a single point in the literature theory, this time to shed light on whether more or fewer entrepreneurs on academic grounds may be seen in the future.

5. *Which EEAs did they join, and which others were they considering prior to deciding?*

Each student has knowledge and/or skill gaps they must address to continue toward their short-term and long-term goals; this can highlight differences between what they wanted to learn and what they anecdotally learned.

6. *Do they see themselves continuing in entrepreneurship or pursuing alternate career paths?*

This question covers student motivations following EEA involvement to also predict whether more students will stay in entrepreneurship in the future, and if not, where they are most likely to continue their careers. A broader understanding of their curricular and extracurricular experiences may arise from answers to this question.

7. *If given a second chance, would they choose different EEAs and/or different skills to develop, and if so, which ones?*

This two-part question serves to trigger reflection in the students and have them rate their experiences with the EEAs they took in a holistic light.

8. *How did they find the curriculum and the EEAs they took interacted and meshed with their leaning outcomes?*

Adding to the previous question, this final point asks the students to comprehensively rate their overall experience between attending the official curricular elements and their elective EEAs to determine if more could have been done by them, by the EEA hosts, or by the university in linking curricular and extracurricular sides together.

These preceding questions were compiled into one finalized questionnaire that can be found in the Appendix of this document.

### 3.3 Data Collection

Because all participants in this thesis study would need to meet the criteria of having participated in at least one EEA during their enrollment, an appropriate system would need to be selected as the research tool, be it a survey questionnaire – in order to probe the students being questioned upon them confirming their EEA involvement. According to Bell, Bryman and Harley, (2019), the options for tools were: survey questionnaire, structured interviews, or participant observation. Straightaway, the lack of time available to the potential participants as well as to the author, combined with their frequent lack of proximity made it clear that observing over long periods would be impractical to the scope of this research.

A survey system for the questionnaire had been planned as the initial tool, but was rejected following the consideration of allowing for a greater range of response variation between each participating student. Giving the participants this increased freedom of expression would broaden the canvas of opinions and learnings they may have from their time spent in EEAs. Being confined to either paper or static pages on screens can give a survey questionnaire an impersonal impression when viewed from the participants' perspectives; it was understood early on that participants' willingness to serve as such was to help the creator with his assignment that had no benefit or consequence to themselves other than time invested. The lack of stimulation a static page without audio was predicted to yield little written material in the response fields. The survey tool was hence rejected after being deemed disrespectful to the target participants, many of whom were personally-formed connections to the author over the previous year's worth of academic and extracurricular experiences.

This left the interview tool, and it was created to follow a predominantly structured approach, being based off many of the same questions initially developed to fit a questionnaire. The difference in evolution would come from the included opportunities for said questions to be followed-up by probing questions, comments and prompts by the interviewer, as well as the ability to repeat and rephrase any

question on the interviewee’s whim (Bell et al, 2019). The advantages were obvious – especially regarding documentation of the time spent, which would be necessary to reach the university-recommended minimum limit of 10 hours of recording necessary for academically acceptable qualitative sampling. Bell et al (2019) also suggests between 20 and 30 participants to typically suit such similar needs for adequate qualitative sampling, where both preceding criteria were satisfied upon the acquisition of 22 participants total for this comparative study. Interviews would be planned via email, Whatsapp, or in-person conversations, and conducted via Zoom calls, with the assistance of an online audio transcription service.

With the first sub-research question (SRQ1) being about what constitutes the people participating in EEAs, preliminary information on their institution and selection criteria must be defined, and would be done both during the interview planning phase, as well as at the beginning of each interview. Table 1 covers basic identifying information on the participants volunteering for this study, as well as how they were selected. As an example, Spark Lund is a known EEA at Lund University, so students volunteering from Spark to be interviewed about their time spent there could be selected. These students could also be asked about other activities they attended, since their selection criteria indicate both their awareness of EEAs’ existences and their intention to develop themselves in entrepreneurial competencies.

**TABLE 1: PARTICIPANT ACADEMIC DETAILS AND SELECTION CRITERIA**

<b>Interviewee Number</b>	<b>Academic Institution</b>	<b>Year of Graduation</b>	<b>Selection Criteria</b>	<b>Confirmation Channel</b>
1	Carleton	2023	Responded to EEA involvement inquiry	Email
2	Carleton	2023	Responded to EEA involvement inquiry	Email
3	Carleton	2023	Responded to EEA involvement inquiry	Email
4	Carleton	2023	Responded to EEA involvement inquiry	Email
5	Carleton	2023	Responded to EEA involvement inquiry	Email
6	Lund	2023	Spark	First-person
7	Lund	2023	Spark, Venture Lab	Whatsapp
8	Lund	2023	Spark	Whatsapp
9	Lund	2023	Spark, Venture Lab	Whatsapp

<b>10</b>	Lund	2023	Spark	First-person
<b>11</b>	Lund	2023	Spark	Whatsapp
<b>12</b>	Carleton	2023	Responded to EEA involvement inquiry	Email
<b>13</b>	Lund	2023	Venture Lab	Recommended by interviewee
<b>14</b>	Lund	2023	Networking events	Whatsapp
<b>15</b>	Lund	2023	Lundaekonomerna	Whatsapp
<b>16</b>	Carleton	2023	Responded to EEA involvement inquiry	Email
<b>17</b>	Lund	2023	Climathon	Whatsapp
<b>18</b>	Lund	2023	Venture Lab	Whatsapp
<b>19</b>	Lund	2023	Spark	First-person
<b>20</b>	Lund	2023	Changemaker	First-person
<b>21</b>	Lund	2023	Venture Lab	Whatsapp
<b>22</b>	Lund	2023	Spark, Venture Lab	Whatsapp

Similarly, Table 2 deepens the introduction to each participant regarding their distinguishing characteristics. Table 2 also serves as preliminary information concerning their motivations for pursuing entrepreneurship in a curricular and extracurricular setting.

**TABLE 2: BACKGROUNDS AND FUTURE AMBITIONS OF SELECTED PARTICIPANTS**

<b>Number</b>	<b>Age</b>	<b>Sex</b>	<b>Country of Identity</b>	<b>Prior Background</b>	<b>Current Background</b>
1	35	M	Iran	Bachelor's in chemical engineering & worked as an entrepreneur in computer accessories in Iran	Entrepreneurship – runs his own business
2	31	M	Iran	Bachelor's in architecture & worked as an entrepreneur in delivering online services for design	Indecisive – biased toward architecture and technology
3	37	F	Nigeria	Education in biological science & worked in bank finance, operations, and control	Intrapreneurship (short term)
4	37	M	Singapore & Philippines	Career in project management for enterprise affairs & interaction with start-ups	Project management (short term)
5	29	M	Iran	Bachelor's in IT engineering & master's in e-commerce & worked in HR	Combination of competencies with people analytics (immediate future)
6	25	M	Czech Republic	Business academy in high school & bachelor's in international business management & worked in marketing	Photography (short-term) & later return to entrepreneurship
7	29	M	Germany	Banking apprenticeship & bachelor's in business administration & worked in corporate banking	Entrepreneur continuing project, but will do part-time employment (short-term)
8	40	M	Bangladesh	Bachelor's double major in computer science and business & MBA & worked as consultant & entrepreneurship lecturer & start-up experience	Entrepreneur continuing project or PhD in entrepreneurship
9	27	M	Germany	Banking apprenticeship & start-up experience & bachelor's in international management	Entrepreneur continuing project, but will do part-time employment (short-term)
10	28	M	Germany	Start-up experience in family venture & education in national business & worked in digital corporate builder	Either entrepreneur in general start-up field, or corporate builder
11	23	M	Germany & Iran	Bachelor's in real estate economics & worked in project management in real estate	Either entrepreneur or venture architect; has bias toward future entrepreneurship
12	42	M	Ghana	Bachelor's in geography and development & MBA in finance & worked in banking & worked in education and geography	Career similar to entrepreneur, but parallel work with start-ups – work in organizations



<b>13</b>	20	F	Ukraine	Bachelor's in business economics & start-up experience	Entrepreneur and will work on other types of businesses as well
<b>14</b>	24	M	Netherlands	Bachelor's and pre-master's in hospitality and (business) management & worked in the same	Corporate worker (short-term) and entrepreneur (long-term)
<b>15</b>	25	M	Turkey	Bachelor's in international trade & courses in entrepreneurship and innovation & worked in telecom	Corporate worker (short-term)
<b>16</b>	26	M	Sri Lanka	Bachelor's in software engineering & worked in data and business analytics	Managerial focus (short-term) & corporate worker and entrepreneur (long-term)
<b>17</b>	22	F	Hong Kong	Bachelor's in business administration – major in marketing & worked in marketing	Entrepreneur full-time
<b>18</b>	26	M	Sweden	Worked in army & bachelor's and master's in biochemistry, ecosystems and genetics	Entrepreneur always
<b>19</b>	30	F	United States & Philippines	Bachelor's in sociology & worked in community development, economic development, microfinancing, fundraising, marketing, comms & SME experience	Will continue being consultant, but will accept entrepreneurship opportunity for high growth
<b>20</b>	28	F	Pakistan	Bachelor's in management sciences – finances and marketing & worked in marketing, entrepreneurial landscape, healthcare, co-founded national demographic movement	Corporate worker (short-term) and will work on social enterprises
<b>21</b>	27	M	Netherlands	Bachelor's in hospitality management & worked in the same simultaneously & start-up experience in boating agency	Entrepreneur who will continue with his business
<b>22</b>	23	M	Netherlands	Bachelor's in industrial product design & master's in business management & internship experience	Entrepreneur continuing project, but will do part-time employment (short-term)

As participant descriptions of their attended EEAs may vary, this information must be initially collected from the sites for each activity or project in question to better answer sub-research question 2 (SRQ2). Table 3 lists each of the top EEAs at Lund University as well as several for Carleton University.

**TABLE 3: MOST FREQUENTLY ATTENDED EEAs IN LUND AND CARLETON**

<b>EEA Name</b>	<b>Home Institution</b>	<b>Description</b>	<b>Classification</b>
Spark	Lund	Student-to-student coaching service for non-entrepreneurship students interested in starting new businesses with no prior knowledge (What Is Spark?, 2023)	Student-hosted
Venture Lab	Lund	Academic entrepreneur-to-student coaching service and incubator for students interested in starting new businesses with basic prior knowledge (VentureLab by Lund University, 2023)	Institution-hosted
Venture Cup	Lund	Biannual competition for student and local entrepreneurs to submit new business proposals for evaluation and development workshops (Om Oss - Venture Cup, 2021)	Institution-hosted
Pitcher's Corner	Lund	Weekly competition for student and local entrepreneurs to listen to and participate in pitches to develop pitching skills (Ideon Innovation, 2023)	University-hosted
Changemaker Future Track	Lund	Course of lectures and workshops for selected applicant students to develop their skills in sustainable entrepreneurship to assist businesses in doing the same (Change Maker Future Track, 2023)	University-hosted
Climathon	Lund	Annual workshop sequence for student and local entrepreneurs to ideate innovative solutions for businesses seeking help in limiting their climate impact (Join as a Participant, 2023)	Institution-hosted
Innovation Hub	Carleton	Community of industry experts, mentors, and fellow entrepreneurs with a focus on stimulating entrepreneurship and innovation among students (Innovation Hub - Carleton University, 2023)	University-hosted
Hatch	Carleton	Student networking program aimed at expanding local entrepreneurial ecosystem (Hatch, n.d.)	Student-hosted
Invest Ottawa	Carleton	Accelerator program featuring business training and mentoring for local entrepreneurs (Invest Ottawa, 2023)	Institution-hosted

### 3.4 Data Analysis

Because the interviews would be broad in terms of subject matter, as is often the case with human dialogue, the transcripts of each interview must first be coded before any meaningful insights can be ascertained. According to Sekaran and Bougie (2016), coding is a means of filtering text that can select various degrees by which to filter. Single words can be considered the lowest unit of quantization possible for coding, while the higher practical end of coding can be marked by complete paragraphs or themes (Sekaran & Bougie, 2016).

To derive findings that tie back to the literature themes covered in this dissertation, the Gioia method would be used when analyzing the interview data. Because interviews tend to result in large volumes of data, this data must be filtered down to manageable amounts, then ascribed to meaningful labels that tie it to relevant literature (Gioia, Corley & Hamilton, 2013). Magnani and Gioia (2022) stress that the importance of Gioia Method in qualitative research stems from its relevance in linking information in the participants' terms with the findings of academic proponents. Figure 1 (adapted from Magnani and Gioia, 2022) illustrates the iterative process of refining raw interview data from participants (informants) to match theoretical concepts, and finally draw empirical conclusions that support or challenge existing theories.

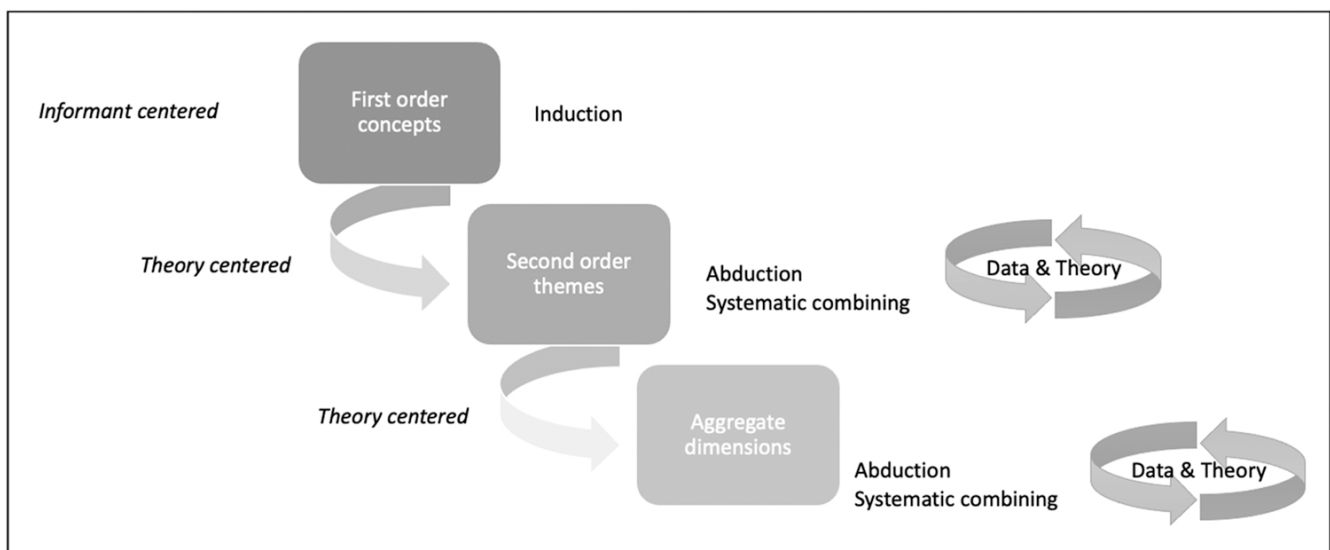


FIGURE 1: GIOIA METHOD VISUALIZED INTO ITS THREE DOMAINS AND THEIR RELATIONS TO ONE ANOTHER

With 22 interviews resulting in over 10 hours of transcribed and often semi-structured content, this study would be a suitable dataset to be subject to the Gioia method. With its approach to funneling each order of concept to the next, this method can create structure and/or enhance it in data that on its own may be lacking in said element, resulting in increased clarity to future readers and researchers (Gioia, Corley & Hamilton, 2013). Gioia, Corley and Hamilton find that this method not only can help in structuring data and linking the empirical and theoretical domains together, but that its explorative approach to qualitative data can often result in new findings emerging that do not connect with any yet-written literature.

### 3.6 Reliability and Validity

Results obtained from responses would concern experiences gained within the last two years, implying a high likelihood of most information of value being said within the span of each interview with each participant. If the same questions were asked by a different interviewer to the same participants, their phrasing may vary, but their ideas and opinions would largely remain the same. The questions are geared toward memories of how they felt and what they learned – which as items of the recent past, will not change much if recalled again and again.

### 3.7 Ethical Considerations

With SRQ1 concerning the backgrounds and motivations of each student surveyed in this study, most information obtained from the interviews that pertains to this question can be traced to individual students in either University's campus. For this reason, the participants, while completely forthcoming about their relevant personal details were retroactively notified that their names would be anonymized concerning data analysis. To quote Gioia, Corley and Hamilton (2012, p.19), "...we also do not promise 'confidentiality,' which literally would preclude most reporting; we instead promise 'anonymity'."

### 3.8 Limitations in this Methodology

As this thesis will undertake a qualitative approach in its methodology, only a comparatively small sample of entrepreneurs will be profiled, via interviews. The findings of this number of individuals will represent at most a handful of academic institutions across narrow parts of Sweden and Canada as countries, and as such can neither be considered indicative of trends across the entire countries' academic systems, nor their entrepreneurial ecosystems.

Observations by Preedy et al (2020) and Pittaway et al (2015) note a strong imbalance between the amount of male and female entrepreneurs in their study scene, leading to disproportionate amounts of assessments in each case being carried out on male representatives in lieu of a lack of females present in the same scenes. In this thesis study, the pool of participants available from Canada that responded with willingness to participate were predominantly male, which would render analyses on a sex-based perspective from the side of Carleton illegitimate. Instead, only assessments on characteristics pertaining to age, nationality, prior backgrounds, and motivations would prevail.

On the side of the comparative study concerning Lund University, a nearly 50-50 male-female split of student entrepreneurs existed at the time of this report's writing, realizing the possibility of even sampling between male and female students involved in EEAs. Unfortunately, where initially eight male to seven female were potential candidates for sampling, based on potential availability, time constraints and insufficient responses from three of the female candidates forced the Lund study to continue with three additional male candidates substituting them. This would result in a skewed sex representation on the side of Lund's student entrepreneurship body concerning EEAs, despite the remaining possibility that such a disparity in student entrepreneurs may be less severe.

## 4. Results

### 4.1 Sequence Overview

Ten figures in total, starting at value 2, were generated from the data collected from each interview transcript. Five focus on the Lund case findings and the other five on the Carlton case findings. The figures were designed and generated externally in the online software Lucid (Lucid, 2023); aside from their labelling, these figures are intended to function as tables associated with Gioia method-based research, and feature flow chart elements. Their arrangement in this chapter is as follows:

- Figures 2 and 3 delve deeper into responses detailing prior background and future ambitions.
- Figures 4 and 5 cover the anecdotal descriptions of each EEA attended, as well as benefits and drawbacks directly attributed to specific EEAs.
- Figures 6 and 7 look comprehensively into the benefits and drawbacks of EEAs encountered from the student-centered perspective, as opposed to the EEA-based perspective.
- Figures 8 and 9 assess general support or dispute toward participants being able to better recognize market opportunities, or transfer their learned skills to non-entrepreneurial domains.
- Figures 10 and 11 explore the reflections made by participants regarding what EEAs they would choose to follow or what skills they would have rather developed if given another chance.

### 4.2 Prior Backgrounds and Future Ambitions

The details from Table 2 in the previous chapter, concerning education, experience, and future career prospects of the participants from Lund, are expanded in Figure 2, below. Students came from a diverse range of fields, including STEM and business-related domains, and all who made the decision to enter entrepreneurship education were motivated to do so based on seeing potential opportunities on the market. Some plan to always continue in entrepreneurship, or a field closely tied with it, yet no matter the end goal, changes in career fields are imminent for most upon graduation – due to the need for financial and human capital (such as to pay off student debts). Some may continue their new startup projects from Lund, while others consider entering businesses previously familiar to them, such as one

who may inherit a family business. These predictable shifts in career fields can be ascribed career paths, that in turn can model the type of entrepreneurial logic used by each person. There is considerable motivation to return to or enter the corporate world owing to its greater financial stability (and availability), while being less taxing on one’s initiative. This said, interest in continuing entrepreneurship arises in the form of excitement at pursuing venture capital, or the potential to apply digital expansions to fields behind in market methodologies, such as the real estate industry.

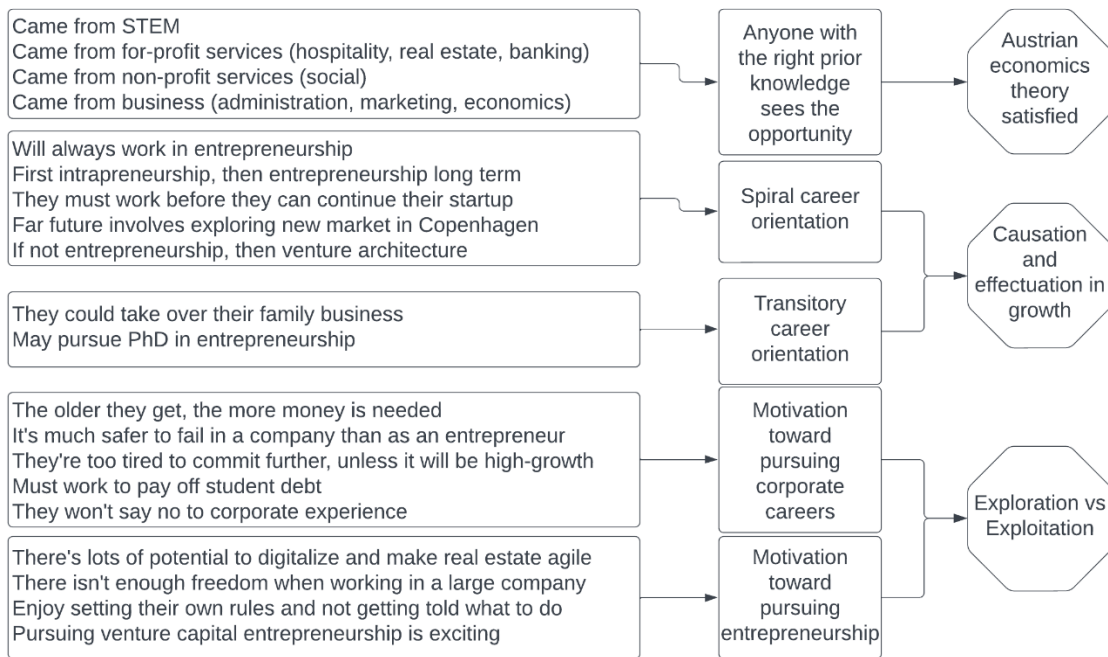


FIGURE 2: BACKGROUNDS SCALED AGAINST FUTURE AMBITIONS AMONG LUND STUDENT ENTREPRENEURS

Figure 3 draws connections between backgrounds and future prospects of the participants from Carleton. Here, students again came from a variety of previous disciplines and trades, and saw the value in entering or expanding their entrepreneurial knowledge. Some in Carleton also plan to continue in entrepreneurship, while others plan to return to their careers entirely. The reasons for entering the corporate world match those of Lund in that the participants found themselves in need of additional capital of one type or another, be it money, skills, or connections. Compared to Lund, the students in Carleton were less inclined to pursue spiral career paths by virtue of entering fields similar to their final goals for a defined period of time after graduating. Instead, with more choosing to return to their previous professions, their behavior could more closely be considered linear or expert-based since they would be advancing themselves deeper into their familiar domains. Like with Lund, there were also

those who found motivation to push further toward entrepreneurship, such as seeing the need to help others with solving existing innovation solutions (where they feel their talents are best-suited) – or consider integrating the new interactive algorithm ChatGPT into organizations.

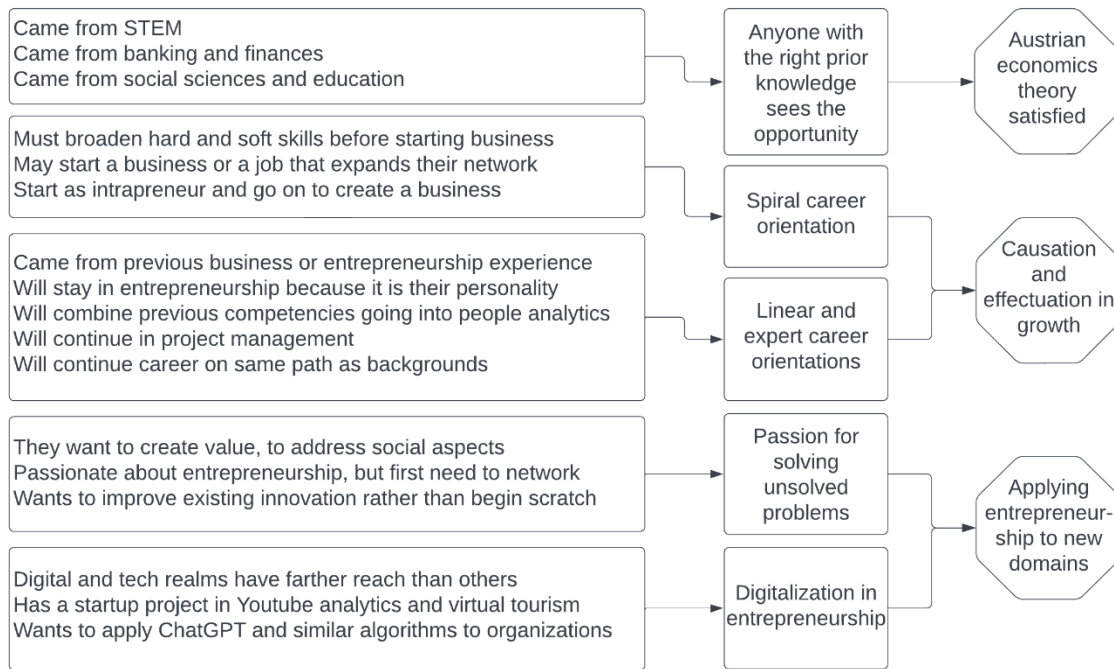


FIGURE 3: BACKGROUNDS SCALED AGAINST FUTURE AMBITIONS AMONG CARLETON STUDENT ENTREPRENEURS

### 4.3 What EEAs were taken, and how did each work?

Figure 4 lists the many EEAs encountered by students on Lund campus, some who also frequented the innovation sector in Malmö, a short train ride from Lund (regarding Minc and the activities at Skåne Startups). Spark, Minc, Lund University’s mentor program, as well as Lund’s Hazibuli events all provide opportunities for networking, though Spark is more intended for student coaching, with Lund’s mentor program serving a similar purpose – in more of a distant guidance role to promote initiative in students. Each of these activities encourage problem-solving via gatherings in the name of cooperation between parties, whereas the scenes of Venture Lab, Venture Cup, and Pitcher’s Corner aim to achieve related results by pitting the gathered parties against one another with prizes as



motivation. The prizes and competition organizations are made possible by virtue of the latter category of EEAs being institution or university-hosted. With the exceptions of Climathon and Changemaker Future Track, each attended by only one respective participant (with these EEA experiences serving as their selection criteria), all EEAs were attended by and/or involved many participants in this study. This was especially true for Skåne Startups, who hosted activities focused on increasing the entrepreneurial ecosystem of Skåne, while improving its sustainability economically and environmentally. Spark and the Hazibuli events were notably flawed by relying on student availability and the ability to appreciate conversations over loud music, respectively. Venture Lab was a more welcoming scene for female entrepreneurs, whom are a minority in the Skåne entrepreneurial ecosystem, according to accounts from two female participants.

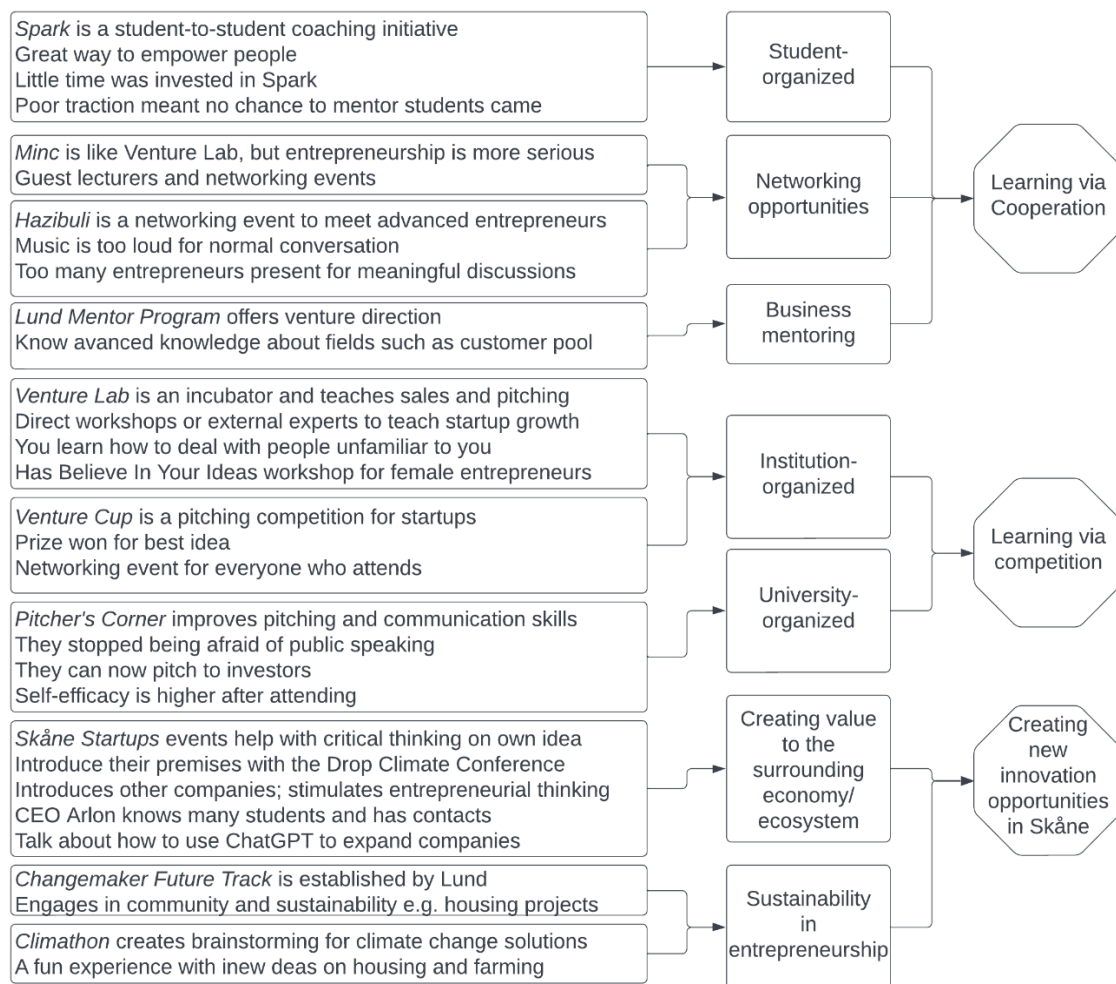


FIGURE 4: EEAS ASSOCIATED WITH LUND STUDENT ENTREPRENEURS AND SPECIFIC BENEFITS/DRAWBACKS

The EEAs attended by students on Carleton campus are depicted in Figure 5. Named events include Invest Ottawa, Kanata Hackathon, and Innovation Hub’s Hatch Program. Notably, the Hatch Program, as well as an unnamed pitch competition, also listed, serve as the counterpart(s) to Pitcher’s Corner in Lund. Carleton is also home to several networking and workshop sessions for expanding skills and knowledge, significant due to their provision of technical experience. These events, combined with Invest Ottawa and the unnamed conventions and seminars featured combine to underscore a more relaxed pace of learning with no time pressure or need for self-structuring. Carleton also has its competitive EEAs, where time and rivalry stimulate knowledge augmentation via innovative ideation.

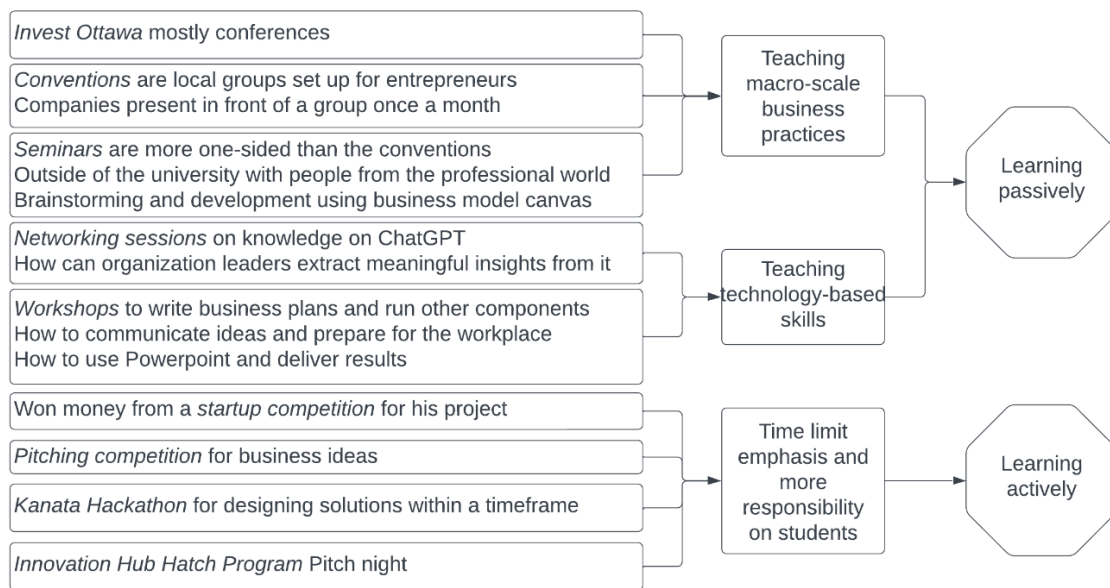
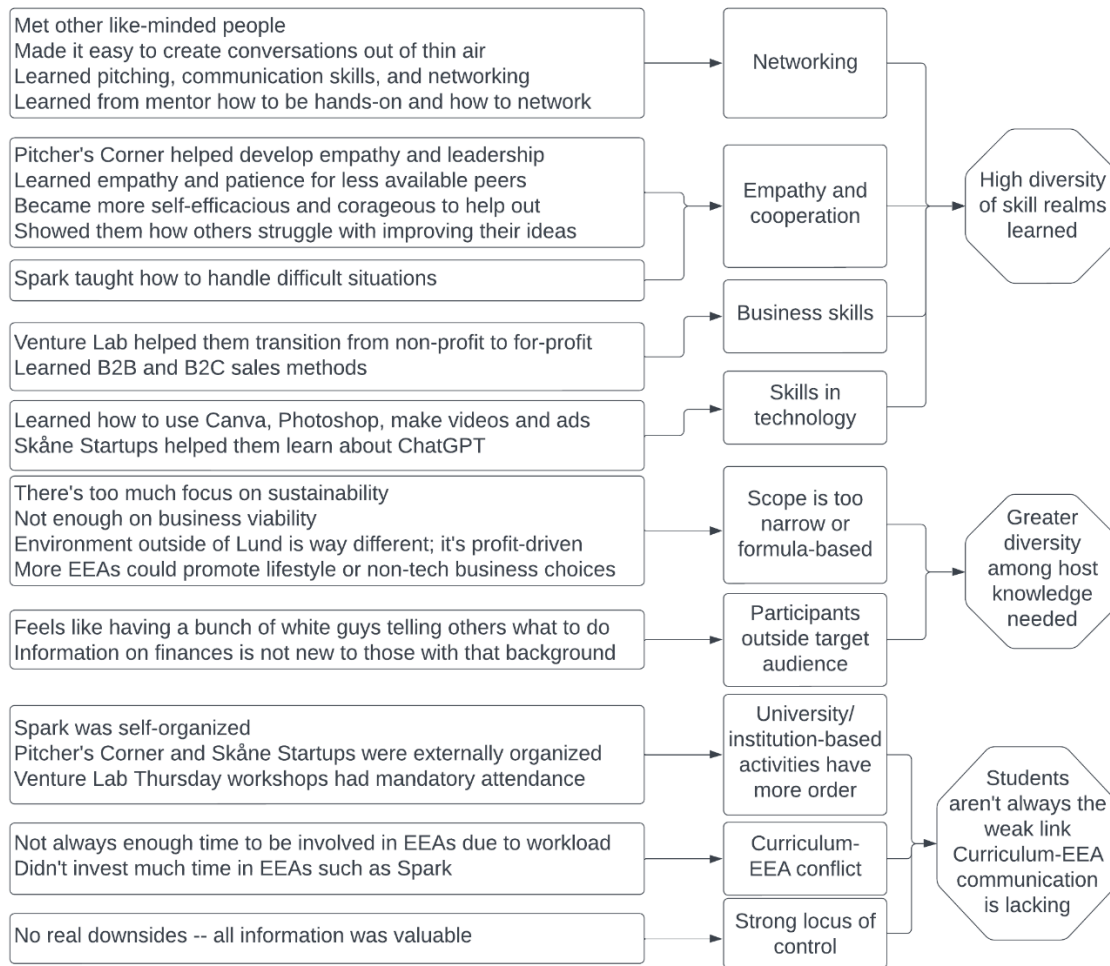


FIGURE 5: EEAs ASSOCIATED WITH CARLTON STUDENT ENTREPRENEURS AND SPECIFIC BENEFITS/DRAWBACKS

#### 4.5 How did EEAs benefit or inhibit student entrepreneurial learning?

The benefits and drawbacks of Lund’s EEAs are displayed in Figure 6. Soft skills such as empathy, leadership, and communication improved, allowing networking and cooperation to flourish. As business and technology skills were also noted to improve, it could be said that the Lund EEAs yield a high diversity of skill domain gains for those that enroll. These EEAs were not without their

downsides, however. The phrase “academic bubble” may suitably apply in the case of Lund entrepreneurship in the sense that, according to one participant, there is too great a focus on ensuring sustainability when compared to evaluating financial viability of startups. To that participant, a startup could be given praise in Lund only to fail quickly in Skåne’s more general business ecosystem when investors and partners determine there to be no profitability in said startup. A second participant expressed concern at the focus on technology-based startups overshadowing interest in startups with an alternative brand or medium. There appears to be too great a homogeneity in the entrepreneurship mentoring and tutoring community in the eyes of two female participants, given that they observe a majority of entrepreneurs in Lund’s ecosystem to be male. The most commonly-cited downside to EEAs in Lund was by far the lack of time the participants often found themselves facing while involved. Combining this recurring theme with the multiple testimonials suggesting the time spent in the EEAs was typically fruitful suggests that the information taught, while it could be expanded for a more diverse audience, is satisfactory to many as-is, and that having enough time between the curriculum and the extracurricular side is the issue – meaning that there is cause for the academic structure to better accommodate these EEAs to enhance student learning.



**FIGURE 6: DETAILED BENEFITS AND DRAWBACKS FOR LUND STUDENT ENTREPRENEURS ATTENDING EEAS**

Carleton’s EEAs’ benefits and drawbacks are illustrated in Figure 7. Several accounts describe finding improvements in the participants’ skills in technology, problem solving, and management – all of which fit the core topics studied in Carleton’s counterpart to Lund’s Entrepreneurship and Innovation program: Technology, Innovation (problem-solving), and Management (communication). While generalized to three departments, the ability to navigate any of these three domains requires, in turn, a great diversity of skills on the participant’s side, and more so the more they interface between all three domains. Many cite inspiration to push further in their craft and develop more as successful startup founders, with at least two successfully acquiring funding, and most insist that there were no downsides to the EEAs they attended because there was always something to learn (even if occasionally different to what they expected to learn, according to one participant). These strings of successes and optimism on the Carleton side point to strong loci of control and augmented self-efficacy

in the interviewed students. This said, a few suggested that more could be done to individualize the EEAs to allow student entrepreneurs with different needs to find themselves their place, such as being allowed to “wander around more” when familiarizing themselves with an EEA environment. It appears to be that while there is always something to learn at the EEAs in Carleton, that to do so may require considerable effort on the part of the enrolled students, which may limit what the students *want* to learn.

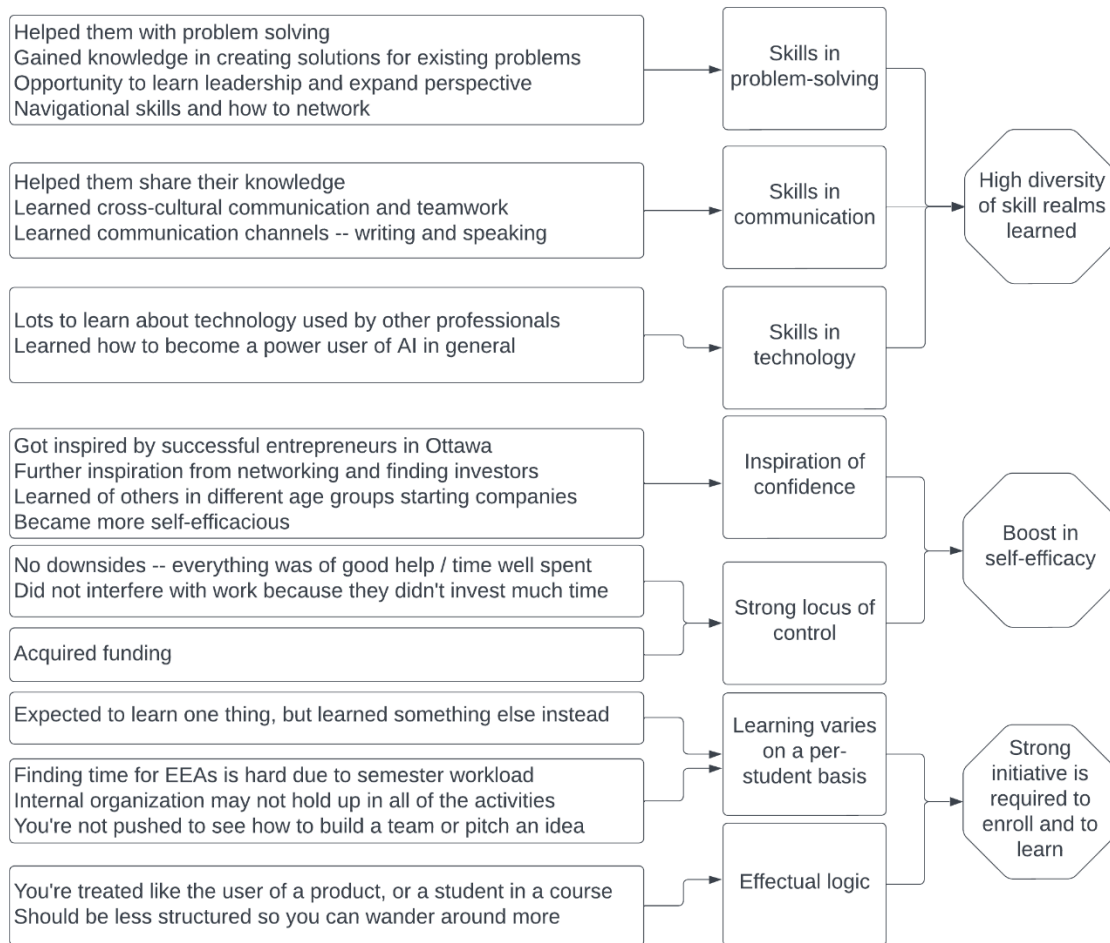
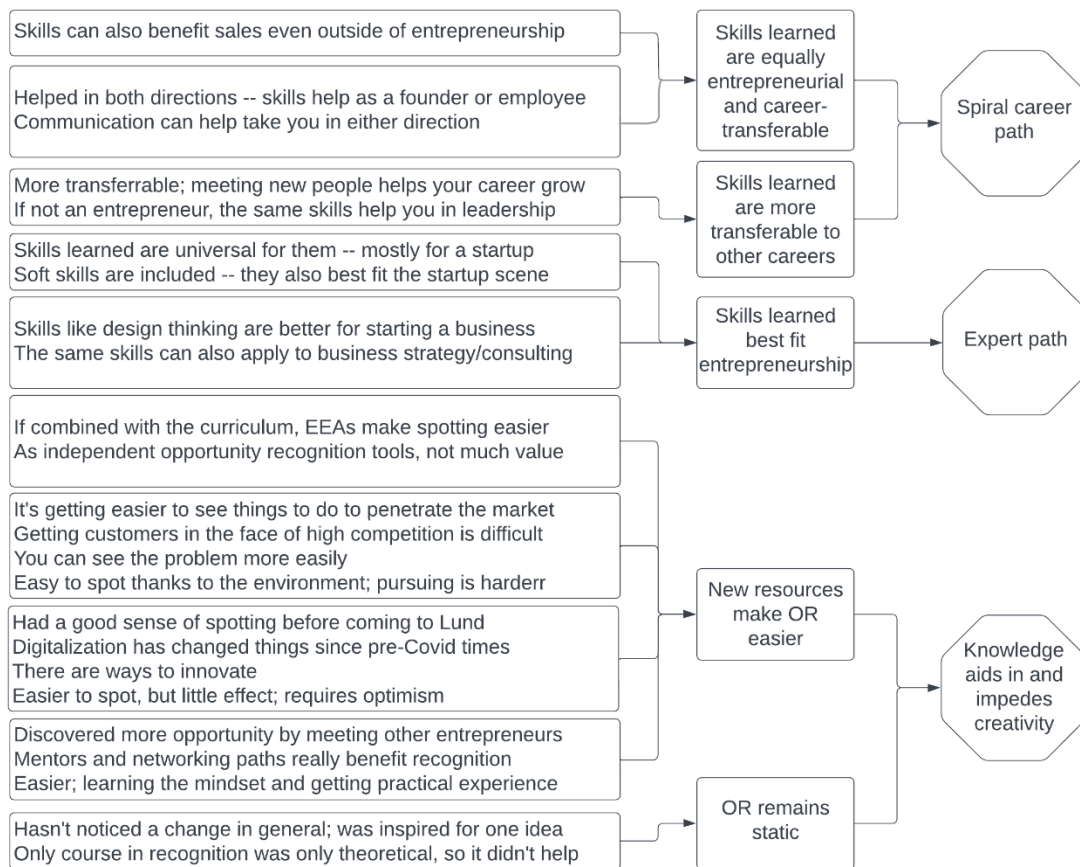


FIGURE 7: DETAILED BENEFITS AND DRAWBACKS FOR CARLETON STUDENT ENTREPRENEURS ATTENDING EEAS

#### 4.6 How did EEAs affect opportunity recognition and skill transferability?

Figure 8 summarizes Lund’s participants’ opinions on how well their skills from EEA involvement help them in alternate career paths, should they consider them – as well as how well they

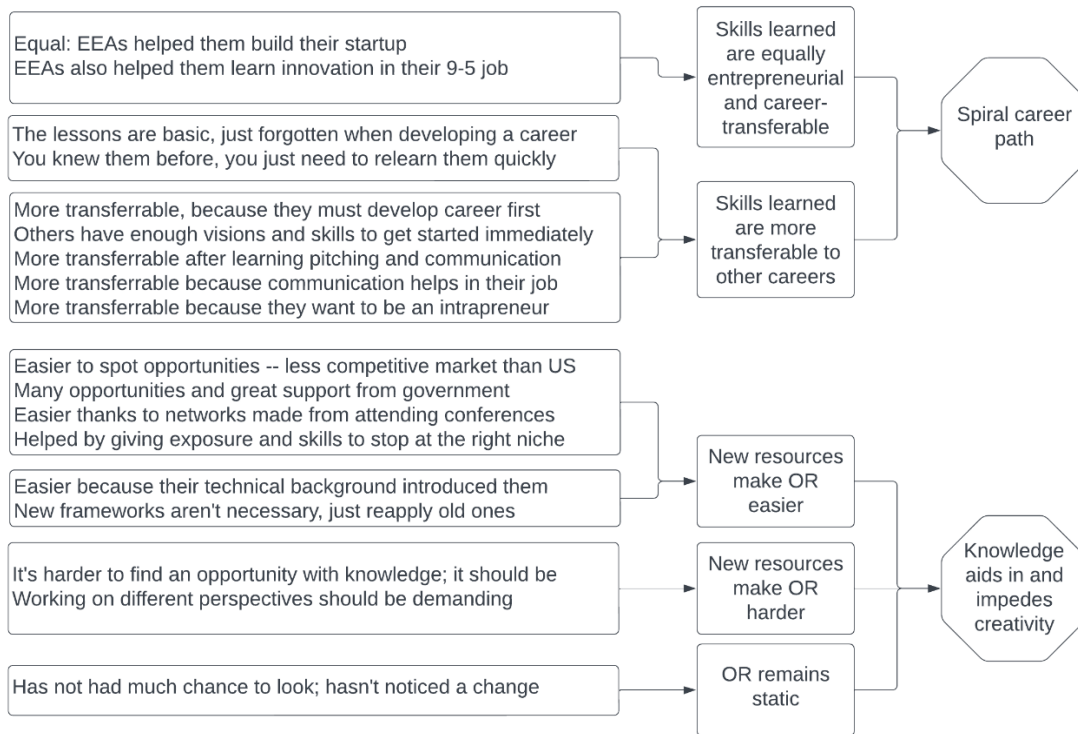
are since then able to spot opportunities in the market. Responses held mixed views on both subjects, with mild majorities suggesting that their EEA-derived/enhanced skills are better-suited to non-entrepreneurial career paths, as well as saying that their opportunity recognition skills have sharpened since joining EEAs. Depending on the opinion on skill transferability, the participant will likely be adjusting their career field, resulting in a spiral path since their new careers will likely share qualities also attributed to entrepreneurship. Those believing their skills to primarily enhance entrepreneurship, will most likely be developing themselves as expert entrepreneurs.



**FIGURE 8: LUND STUDENT ENTREPRENEUR OPINIONS ON OPPORTUNITY RECOGNITION CHANGES AND TRANSFERABILITY OF NEW SKILLS**

Figure 9 reflects the opinions of Carleton’s EEA participants, concerning their EEA-based skills’ transferability and how opportunity-savvy they have found themselves. Unlike the case with Lund, no participants believed their skills to be more biased toward entrepreneurship compared to alternate career paths. Responses mostly pointed toward the EEA-based skills being more transferable than not,

with a few believing there to be a balance between entrepreneurship and alternate career-favoring qualities. All, thus, pointed toward a spiral career path. Opinions yielded less correlation on their opportunity recognition status with respect to Lund’s participants, suggesting that the knowledge and/or skills obtained conflicted with existing cognitive frameworks the participants may have previously used to identify entrepreneurial opportunities. The participants’ new mindsets may have hurt them as much as they helped them.



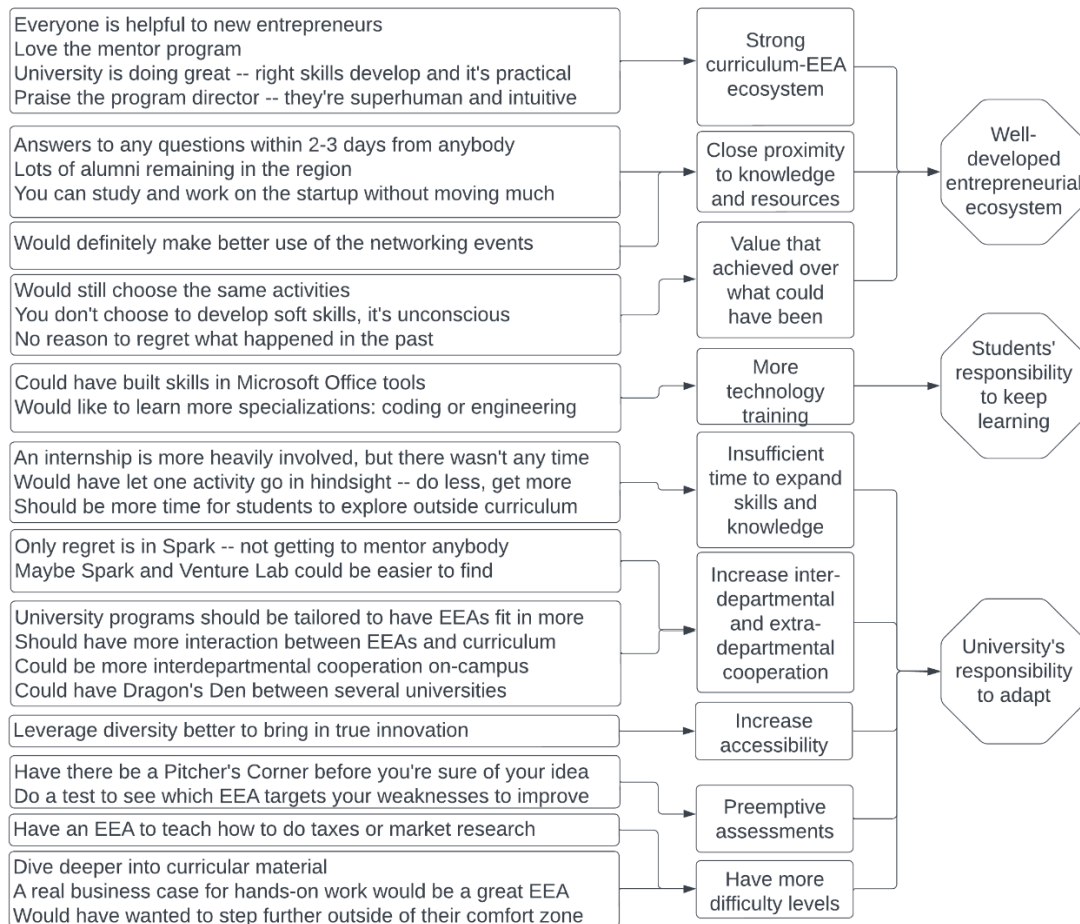
**FIGURE 9: CARLETON STUDENT ENTREPRENEUR OPINIONS ON OPPORTUNITY RECOGNITION CHANGES AND TRANSFERABILITY OF NEW SKILLS**

#### 4.7 Reflecting upon EEA Experiences

The compiled findings of all reflections from the participants from Lund campus are outlined below in Figure 10. These reflections concern what each student would have done differently, if anything concerning their learning experience after completing their EEAs. As with the findings on

EEA benefits, the first point to note is how Lund's entrepreneurial ecosystem is highly developed and active as a network. The university, according to many students, is putting in a substantial amount of effort to connect mentors and external entrepreneurs to the entrepreneurship student body, and communication between any two parties has little wait time. Many resources are physically packed into the campus buildings such that little relocation is needed for any student to switch from practicing one entrepreneurial quality to learning another. Many students felt satisfied enough with the outcomes they received to not risk trading them for anything different if given the chance. Still, as pointed out by the drawbacks earlier, the most prevalent inhibition felt by the participants was the lack of time to further explore what their EEAs had to offer. Some wanted to develop more technical hard skills (though they mention the mistake was with them), while others would have wanted to feel more included as foreign minorities. Suggestions included featuring extending the depth of curricular material practiced, as well as having an EEA to teach market research and how to file taxes, or a means of determining a student's compatibility with the learning outcomes of a given EEA based on their own cognitive framework's shortcomings. This responsibility would fall on the university or collaborating institutions given most of the EEAs are run by the university or by collaborating institutions and the students are fulfilling their obligations of learning where they can.





**FIGURE 10: LUND STUDENT ENTREPRENEUR REFLECTIONS ON QUALITY OF EXPERIENCES**

The combined reflections on the EEA experiences of all participants from Carleton are found in Figure 11. These reflections too, concern what each student would have done differently, if anything. Mirroring the first takeaway from Figure 10 for the case of Lund, Carleton's TIM program has put a lot of effort and makes sure the students are aware of it – from anecdotes made by the participants themselves. The university reportedly connects well with many of the EEAs available, especially those run by its own entrepreneurial hub Innovation Hub. Many TIM students, out of the ones interviewed, were sufficiently satisfied with their learning outcomes to not want to risk anything having gone differently. As with Lund, the participants of Carleton suggested there be a way to determine the most appropriate EEA type(s) for each student to take based on pre-emptive assessments of their entrepreneurial strengths and weaknesses. This, along with the suggestion to establish a comprehensive mentor program in Carleton similar to what exists in Lund would fall under the university's responsibility, as well as the willingness of alumni who operate locally. Many suggest, as with the

request toward Lund EEAs increasing the range of challenge difficulty, that more Carleton EEAs offer more extensive technological and/or business training – this responsibility would most likely depend on the institutions that already provide the current expertise being granted more resources and freedom to reach out to the student entrepreneurs in need.



**FIGURE 11: CARLTON STUDENT ENTREPRENEUR REFLECTIONS ON QUALITY OF EXPERIENCE**

## 5. Discussion

### 5.1 Analysis and Synthesis of Results

Where in the previous chapter, the first-order codes and second-order themes were the primary focus, marginally leading into the aggregate dimensions deemed most descriptive of all elements leading toward them, the final aggregate dimensions will receive the spotlight in this chapter. All aggregate dimensions from each of the ten tables not previously described will be hereby explained. Their order of procession will follow the thematic subheadings of Chapter 2, as opposed to their numerical classification based on their parent figures.

### 5.2 What makes a good entrepreneur?

According to the literature review findings, one of the first assets of a good entrepreneur, found by Bodolica et al (2021) is to create a meaningful social and economic impact such that other entrepreneurs and innovators can pick up where the entrepreneur in question finishes. Of the EEA participants interviewed, four are to varying degrees on the right path to becoming such examples, from the outcomes of Figures 4 and 5. Participant 1, from Carleton, wants to apply their digital skills from Iran into the Canadian market. They said, "For sure, especially when you work in a digital area, your social impact is much wider in comparison with other fields. And it makes me feel better about myself when I see the impact. It's very valuable; it means a lot to me." Participant 4, also from Carleton builds upon this with their interests in project management and assisting existing innovation: "So I think it's easier for me to proceed or to go in a place where innovation is, or where they're trying to improve innovation or develop innovation rather than to start from scratch."

Participant 17, from Lund, on Climathon said, "And they asked the participants to come up with ideas to build ... a more sustainable [type of] student housing." Participant 20 (Lund), on Changemaker Future Track shared, "I was part of the Changemaker Future track, which was offered by [Lund University School of Economics and Management] and I worked for six months on a community

integration project." Skåne Startups, in turn, creates positive sustainability-focused effects in the surrounding regional economy. In a similar manner, several of the student entrepreneurs want to take their craft into less-charted territory to create ripples in the market where it has otherwise gone stagnant. Participant 11 (Lund) shared their thoughts on the real estate market. "I feel like the real estate industry is relatively conservative and still has a lot of potential to digitalize just to become more agile. So, being an [entrepreneur] in that field would be great."

Evaluating student backgrounds against their future ambitions, as well as their opinions on skill transferability and opportunity recognition reveal all four types of career paths outlined by Politis (2005), as previously seen in Figures 2, 3, 8, and 9. The wide range of prior backgrounds and future ambitions seen between all students in each campus study reveal what career paths many of them have followed thus far, as well as what paths they will be following now, as of graduating.

Particularly, many of Lund's students came from non-entrepreneurship-related careers when they joined academic entrepreneurship. Many of them are now returning to said careers, taking only the aspects of entrepreneurship relevant to them as they depart toward familiar realms. This type of oscillating career path exhibits explorative behavior, as described by Politis (2005), and indeed has its user's end goal as achieving a heightened marketability in their target sector. Participant 11's real estate concern fits as a classic case of explorative behavior. An exploitative approach is the need to enter the corporate world, owing to its pacing being more manageable, allowing the exhausted to handle the liabilities of newness associated with career progression (Politis, 2005). Participant 19 (Lund) voiced their opinion on continuing entrepreneurship. "I think if there was a really amazing opportunity to be a part of I would really love to be an entrepreneur that like in a in a more high-growth and more full time role, but I don't know I think as the program I'm just kind of, I'm kind of tired of the commitment of being an entrepreneur."

Causation and effectuation logic are identified in backgrounds and future ambitions in Figures 2 and 3. Participant 14's (Lund) case of potentially taking over their family's business in the future may not be their desired career path, so their training and experience thus far may lead to a large transitory jump to enter their particular potential role in the company (Politis, 2005). They write, "And I think I

have some opportunities laid out for me like I'm, I'm lucky so to say like I could take over my father's business in like 10 years." Linear and expert paths follow causation logic, where the same skills are continuously developed further (Politis, 2005; Sarasvathy, 2001). An example is Participant 5 (Carleton) combining their skills from previous education and experience to take themselves in a related direction of their choosing. "For example, as a people analytics specialist, and so on, because I have work experience, about five years in the field of HR, and I'm [going to] sync these two competencies to get a job in the field of people analytics." What Participant 4 said about staying in project management, where he does well, could serve as an additional example. "Yeah, so definitely, I will stick first with what I already have, like in terms of experience. As I mentioned, I'm doing project management. So I will focus on that for now, for the meantime."

Cooperation is what makes teamwork possible, and it often takes good entrepreneurs to know when teamwork is necessary to ensure success (Wasserman, 2012). Trends on learning in cooperative environments and trends on learning in competitive environments were both previously observed in Figure 4. Participant 15 (Lund) had on teamwork and cooperation: "Empathy is definitely one of them ... Other than that ... interpersonal skills definitely. Because ... we had so many ... group exercises and group activities ... That's why ... it's really improved my interpersonal skills. Working, like let's say teamwork, and let's say being contributory, when working in a group, and so on." Participant 10 deepens the learning outcomes of Lund's EEAs from having talked about a famous competitive EEA: Pitcher's Corner. "Okay, so I think what I forgot is first of all Pitcher's Corner, which is also like a pitching competition as part of like, I think not really the program but of the university." Participant 21 (Lund), from competing also boasted about their outcome at the EEA Venture Cup, "But I did attend the Venture Cup. So I won a prize for overall best startup idea."

### 5.3 The Importance of Academic Entrepreneurship Research

Reiterating from Chapter 2, it is now known that strong university entrepreneurship ecosystems include university leadership, research capabilities, higher education policies, collaborations with other institutions, and extracurricular activities (Wang et al, 2021). These attributes allow for University-organized EEAs to be better structured than student-hosted EEAs, maintaining more order in the process (Pocek, Politis & Gabrielsson, 2021). In this manner, complex EEAs can be hosted, providing

quality teaching and training to student entrepreneurs – yet one well-put complaint from Participant 21 underscored the issue of the EEA Venture Lab and their mandatory meetings implying poor communication between the EEA and the university's parent entrepreneurship curriculum. They stated the following: "Well, the only thing is that at the Venture Lab, they always had a mandatory meeting around three o'clock on a Thursday. If you were working on a deadline, you have to participate in [a] short meeting for 30 minutes. ... if you're ... working on something, and your focus is in a specific area -- and if you now have to get out of your focus in, then ... [why] do a meeting that you don't actually want to do? So that is a little bit of a downside. If you're too busy, but still working at ... Venture Lab, you still have to participate in the weekly meetings." The universities should improve the EEAs that fall under their responsibility, as it is clear the students are doing the best they can to follow the curriculum, while attending EEAs, as shown in Figure 6.

Austrian economics theory, paraphrased by Shane (2000), is satisfied from the resulting connections between the prior backgrounds and future ambitions of each student entrepreneur sampled over both campuses (Figures 2 and 3) – up to a point. Still, many participants claim they aren't better after EEAs at spotting opportunities, so the only major opportunity they have all seen is joining their respective curricular programs to learn entrepreneurship formally.

Figure 7 stressed that a greater diversity among the knowledge of the hosts of EEAs is needed to foster greater inclusivity of foreign minorities. This finding correlates to one made by Arranz et al (2017), wherein those teaching entrepreneurship must themselves have experienced its lessons directly in order to convey the complex information accurately. A current deficiency in this on the part of the entrepreneurial ecosystem of Lund caused some participants to feel like they sit outside of the target audience. Information may be relevant to them, but is not personalized enough for their differences. Participant 19 said, "It feels like a lot of actors in the industry are doing things that are really symbolic and that they give you the impression of innovation, but ... it doesn't really leverage people or accept people from a really diverse range of backgrounds, nationalities, professions. ... you have to look like one type of entrepreneur and it's like this high tech, high growth entrepreneur. It's male, it's white. It's tall."

Figures 8 and 9 illustrated how some student entrepreneurs in both campuses claimed their new skills transfer better to corporate careers, meaning entrepreneurial intention they may hold may be squandered by receiving de facto signs pointing them toward alternative career fields. "When you go there to pitch your idea, you are just considering different points of view. So, how pitching with people of different backgrounds, with different work experience can relate to your idea. So it helps me to be a good entrepreneur, which pitching is one of the most important thing, but also it helps me to be able to be a better communicator; to communicate my idea to people is essential at a workplace and at any stage of life. I think the answer is yes, in both cases and the skills are helpful.", explained Participant 2 (Carleton). Because several of these same experiences resulted in the students not noticing any improvements in their opportunity recognition abilities, the new knowledge they have gained could be inhibiting their cognitive development as much as it is boosting it, which is consistent with the findings of Ward (2004).

#### 5.4 Current Academic Teaching Models

With curriculum-exclusive entrepreneurship education, Yang et al (2021) characterized the learning mechanisms of students as surface-level, proving that student entrepreneurs require practical experience to learn at their full potential. The researchers distinguished these two learning mechanisms by labelling the former "passive learning", and the latter "active learning". While these findings are supported by the characteristic differences between curricular courses and EEAs, they may be applicable to the diverse ecosystem of EEAs at Carleton due to its EEAs having varying levels of learning intensity. For example, when asked about particular skills learned from attending conferences, Participant 1 said "... there were not any particular skills I could learn. Because a conference is just between five hours' to seven hours' duration. You can't learn any particular skills during a conference or during a seminar. I can say I just benefitted from them by growing my network by growing my network and getting inspired, something like that. I didn't learn any particular skills to them." In contrast, Participant 16 described a different story when it came to competitions. "So [a] hackathon is [where] they will give you the topic or [some] problem in that particular time. And you need to solve it in that particular [amount of] time, because [a] hackathon is a really competitive one. I love ... [hackathons]. So if I can organize a hackathon based on business entrepreneurship, I think this will help the people to compete and show their skills ..."

## 5.5 The Benefits, Drawbacks, and Motivations behind Joining Entrepreneurial Extracurricular Activities

Lastly, as seen in Figures 7 and 8, improvements in self-efficacy are noted to have transpired at Carleton and Lund, respectively among their EEA participants. The benefits contributing to this growth in self-efficacy at Carleton are primarily attributed to the plentiful inspiration encountered in the Ottawa area, and the successes at finding investors and/or funding. Participant 1 shared their experiences: "First of all, I could find an investor, so he helped me not by investing, but by guiding me in some particular areas – that was very helpful. He helped me to figure out some problems. Also, some speeches were very inspiring. They inspired me to do something if it may seem very difficult, but they were very encouraging." On the Lund side, Participant 10 spoke about their own comparable growth: "I think when it comes when it comes to ... Pitcher's Corner, I really developed myself more [in] the way that I now know better how to ... communicate a very, very challenging problem in a few words to an audience ... And I think [I] also developed in the way that I kind of am not scared about ... speaking publicly anymore."



## 6. Conclusion

### 6.1 Final Summary

The following refined findings were drawn from recurring evidence in the empirical data corresponding to theoretical predictions made by the literature consulted for this dissertation. As the research of this paper followed a qualitative approach, the number of participants sampled is insufficient to validate any of these findings as theories anymore grounded than those prompting this direction of investigation. Instead, these findings will simply serve as spotlights to general themes one can expect to hear referenced when asking entrepreneurship students about their experiences in EEAs.

Answering SRQ1, the characteristics of students taking EEAs are that they may hail from many possible cultural, national, and professional backgrounds, but to enroll in academic entrepreneurship, or just in EEAs as standalone activities, they must all possess some fundamental degree of opportunity recognition to see the value in advancing themselves in entrepreneurship. These students may similarly, have an equally diverse range of directions planned for their careers once they graduate, although more often than not, they do not intend to be away from entrepreneurship forever, should they depart from the field. The intention remains.

SRQ2 can be answered the following way: EEAs of all types of management, from student-level to university-level to third party institution-level are available on both Lund and Carleton campuses, and their total ranges of learning outcomes, while large and well-developed, have room to grow and attract even more attention. EEAs can follow lecture-pacing and result in limited student takeaways, seen with conferences, or can be highly energy-intensive and cognitively stimulating, such as with competitions.

To answer SRQ3, student entrepreneurs' learning following EEA involvement encompasses many qualities. Some develop elevated self-efficacy perception, others become enterprise or technologically savvy, and some even outgrow the overall challenge criteria in given EEAs, requiring

the university or parent institution to instead keep pace with them. Nonetheless, if their learning objectives are clear, there will be interested students. However, on the basis of culture, nationality, and sex, learning outcomes are found to not be evenly distributed.

## 6.2 Recommendations for Further Research

For future studies conducted, it is a great idea to leave time for the interviewee to ask questions at the end of the conversation, as is often the case with a job interview. The same reasons apply – it provides valuable insight to their personalities, and where their curiosities lie. This additional information can add further depth to the interviewees' achievements, and future ambitions.

While students often shared their motivations for joining their EEAs of choice, this was not a universal response, as there was no official question asking them why they did so. This is considered a missed opportunity in painting a fuller picture about motivations prior to developing skills.

EEAs such as entrepreneurial clubs and workshops can be recurring – happening several times per month or per year in predictable intervals – while others such as competitions and conferences may be transient – happening only once or very infrequently. The effects of EEAs of each type of duration should be more closely scrutinized in future studies owing to the non-negligible difference in time commitments required for each type. If students choose the activity requiring more of their time over the one requiring less, what are they gaining out of that?

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# Appendix

Word count excluding pre-processed results figures: 15,449

Word count including pre-processed results figures: 17,701

Questionnaire for \_\_\_\_\_:

Prior background:

Current background:

Age:

Nationality:

Are you a student?

Have you done at least one entrepreneurial extracurricular activity (EEA) in the course of the last year?

What activity or activities did you do?



In your opinion, did any these EEAs benefit your development as an entrepreneur/innovator? If yes, which ones?

In what way did the activities you highlighted benefit your growth? Would you say you developed or improved in any particular qualities, such as empathy?

Do you find your new skills from these EEAs align more with you being able to found and run a business, or are they more transferable to other career paths you are pursuing or are open to pursuing? Why is this the case?

Do you plan on entering or continuing in entrepreneurship and innovation as a career field? Why or why not?

How did you discover the EEA(s) you now attend? Does your curriculum directly interact with this/these EEA(s)? Are there other EEAs you would have joined if you couldn't join the ones you did?

Now that you've been in an EEA, how do you feel about spotting niches and opportunities in the market for creating new ventures? Do you think it's gotten easier or harder? How do you feel about this?

Did you experience any downsides to being involved in EEAs? (i.e. not having enough time to study, or did you learn outdated practices in your EEAs)

Is there anything from your time spent in these entrepreneurial extracurricular activities that you would have liked to do differently should you have the chance? Choosing different activities, or targeting different skills to develop? Why?

What about this supportive academic environment would you credit? Or what do you think could be improved?