Learning from Venture Creation in Higher Education

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Introduction

This paper aims to enrich and further the understanding of learning through venture creation in higher education by using a novel qualitative method that provides rich empirical data to explore how the existence—or, more accurately, lack of existence—of a student-led venture may influence students' learning process in an entrepreneurship-education programme.

Scholars and practitioners have shifted toward more experiential and action-based entrepreneurship education, offering students the opportunity to experience entrepreneurship by being entrepreneurs, rather than just learning about the topic (Kassean et al., 2015; Neck and Corbett, 2018; Neck and Greene, 2011; Pittaway and Cope, 2007; Rasmussen and Sørheim, 2006). Prior research has identified numerous ways to design such entrepreneurship education (Aadland and Aaboen, 2018; Mwasalwiba, 2010), introducing real venture-creation activities as an approach to facilitate students' learning (Brentnall et al., 2018; Neck and Corbett, 2018; Rasmussen and Sørheim, 2006). In such cases, commonly referred to as 'action-based' entrepreneurship education, student ventures' existence throughout the education programme might be essential for students' learning.

However, while faculty may plan and execute an education programme, the entrepreneurial venture-creation process involves challenges, uncertainty and potential failure for reasons beyond faculty and students' control (Chang and Rieple, 2013; Corbett, 2007; McMullen and Shepherd, 2006; Reymen et al., 2015). Therefore, the process that a realistic venture-creation process follows likely lies beyond what a traditional programme's curriculum and educational design can otherwise predict or control (cf. Lockett et al., 2017; Matricano and Formica, 2017). As a result, using real ventures as an educational approach may lead to different learning experiences between students in the same cohort, as students are part of different venture-creation processes. To illustrate this challenge and this paper's research agenda, a feasible short story about two students is presented below:

Linda and Ted enrol in an entrepreneurship-education programme. The two-year programme has followed recent developments and employs an action-based approach in which students start their own ventures during the programme (cf. Lackéus and Williams Middleton, 2015; Rasmussen and Sørheim, 2006). Linda and Ted each form a new-venture team to commercialise a business idea they believe in, a process supported by the programme's curriculum, which includes learning about different tools and methods. In addition, their curricular work is supported by their venturing activities as class discussions and course exams encourage students to use their own experience. Linda and Ted's stories are quite similar thus far. However, the two teams encounter different situations as they approach graduation. Linda's venture has reached the market through financial support from a local angel investor. Linda has learned many things in the programme that she will use in her career as an entrepreneur. Meanwhile, Ted and his team experienced serious financial issues. Although they designed equipment that pilot users praised, they have not been able to finance the production of their first batch of ski bags. With only seven months left in the programme, Ted does not see any opportunities to be able to work on his company full-time, and the team stops its venture-creation efforts. Therefore, he applies for and accepts a job as a business developer in a regional bank.

In prior research on entrepreneurship education, Linda represents the common notion that students following an action-based approach learn through their own experience from venture creation, providing them with the mindset, skillset and practice that enable future venturing (Klapper et al., 2015; Neck and Corbett, 2018; Pittaway and Cope, 2007). Ted represents another path: Although he went through the exact same programme, he exited his venture, effectively removing the 'learning vehicle' from his education process (Lackéus and Williams Middleton, 2015). The venture is expected to provide additional value to the learning process (Pittaway et al., 2017), powerfully transforming students into entrepreneurs (Lackéus and Williams Middleton, 2015). However, little is known about how students who choose to abandon venture creation during an action-based entrepreneurship-education programme perceive their learning process. Therefore, this paper's purpose is to investigate differences in students' learning process in an action-

based entrepreneurship-education programme with a holistic view, thereby distinguishing students who pursue venturing throughout their education – like Linda – and those who do not – like Ted.

The research design applied to address this purpose started with an inductive investigation providing a holistic view of students' perceptions of their entrepreneurship education. The empirical approach – introduced in the methods section – provides extraordinarily rich data. Since the research focus is students' *learning* process in *entrepreneurship* education, a theoretical frame of reference is developed on which to focus the analysis and interpretation of the empirical data. The theoretical frame of reference is introduced in the next section and builds on previous research on entrepreneurial learning.

Students' Learning in Action-Based Entrepreneurship Education

Learning through entrepreneurial action is at the core of action-based entrepreneurship education, and previous research on action-based entrepreneurship education largely has built on Kolb's (1984) model of experiential learning to conceptualise students' learning from action (Hägg and Kurczewska, 2016; Pittaway et al., 2017). Moreover, scholars have adopted Kolb's model to understand what is referred to as *entrepreneurial learning* and how it occurs through new-venture creation in entrepreneurship education (Cooper et al., 2004; Rae, 2013; Williams Middleton and Donnellon, 2014).

Entrepreneurial Learning Through New-Venture Creation

Entrepreneurial learning assumes that learning entrepreneurship occurs through action, experience and reflection in new ventures (Cope and Watts, 2000; Deakins and Freel, 1998; Pittaway et al., 2017; Wang and Chugh, 2014). Pittaway and Cope (2007: 212) define *entrepreneurial learning* as 'learning that occurs during the new-venture creation process', which often is conceptualised as a series of *events* that each facilitate experiential learning (Cope, 2003; Heinrichs, 2016; Johannisson et al., 1998). Combined, all events in the new-venture creation process – and, thus, the entrepreneurial learning process – develop the entrepreneur's 'stock of knowledge' (Politis, 2005; Reuber and Fischer, 1999). In addition to suggesting how students in action-based entrepreneurship education learn experientially through new-venture creation events, extant literature on

entrepreneurial learning also informs on what is actually learned, such as how to identify and act on *opportunities* (Corbett, 2005), as well as how to handle the inherent *uncertainty* in the new-venture creation process (Politis, 2005). Also, entrepreneurial learning is about *identity* development (Fletcher and Watson, 2007), as well as continuously developing one's 'stock of knowledge' to be applied in further situations (Politis, 2005). Along these lines, Cope (2005) emphasises that entrepreneurial learning is also about learning to adapt to all kinds of situations, including how to learn from different events. Therefore, in this view, the way that an individual learns is not static, but develops based on prior experiences.

In other words, extant literature on entrepreneurial learning suggests that a lack of a venture in action-based entrepreneurship education may impede students' learning and that the impeded learning may be – among other things – about opportunities, uncertainty and identity development. For example, if a student – such as Ted in the introductory story – no longer has a new venture, there will be no more events to facilitate learning from the venture. A consequence of this is a significant difference in how learning occurs and what learning entails between individuals involved in new-venture creation and those who are not. However, it also should be noted that while extant literature on entrepreneurial learning suggests that students who cease working on their new ventures may lose some learning aspects, the events that caused their exit or the failure of a new venture may lead to learning processes that continuing student entrepreneurs will not (yet) experience (Cope, 2011; Pittaway et al., 2017).

Situated and Social Entrepreneurial Learning

Although research on entrepreneurial learning often mainly considers the individual learner (Pittaway et al., 2017), entrepreneurial learning through new-venture creation is not a purely individual process, and researchers have emphasised its social and collective aspects (Lockett et al., 2017; Pittaway and Cope, 2007; Pittaway and Thorpe, 2012; Wang and Chugh, 2014). Taylor and Thorpe (2004) complement Kolb's (1984) model of experiential learning by suggesting that relations between individuals also are important to entrepreneurial learning. Karataş-Özkan (2011) further argues that while entrepreneurial learning may be considered at the micro-level (individuals), it also may

be considered at the meso-level, which involves what is referred to as 'venturing communities', comprising teams or networks of individuals participating in new-venture creation. This means, for example, that learning about opportunities is a social effort involving several interacting individuals (Corbett, 2005). Also, Harrison and Leitch (2005) emphasise that learning should not be separated from its context since entrepreneurial learning depends on the given situation in addition to specific actions that entrepreneur(s) take.

The concept of *communities of practice* (Lave and Wenger, 1991) is a perspective on how interactive and contextual factors play a role in learning, encompassing both situated and social aspects of learning (Mercieca, 2017) and providing a perspective to complement the commonly action-oriented individual-centred perspective on entrepreneurial learning (Pittaway and Cope, 2007). Essentially, learning in a community of practice means that individuals approaching such a community begin on the 'periphery', where they observe the action and get acquainted with the practice at the 'centre' of the community before gradually becoming part of the activity at the centre themselves (Handley et al., 2006). Thus, the concept of communities of practice means, in the context of entrepreneurial learning, that not only individuals' cognition, but also relations and interactions between individuals, shape learning and are dependent on the context within which learning occurs.

Extant literature on entrepreneurial learning has – at least conceptually (Pittaway et al., 2017) – recognised the situated and social nature of learning from new-venture creation. The inclusion of situated-learning theory and the concept of communities of practice inform about the importance of relations and interactions between individuals, e.g., within a venturing community, as well as the socio-cultural milieu around this community (Karataş-Özkan, 2011). For the present paper's purposes, this implies that students in action-based entrepreneurship education also interact with each other and learn from and with each other when they are part of a venturing community involved in new-venture creation. In addition, the emphasis on context fits well with previous contributions regarding action-based entrepreneurship education that have stressed that it is highly context-dependent (Blenker et al., 2012; Lackéus and Williams Middleton, 2015;

Rasmussen and Sørheim, 2006). However, extant literature on entrepreneurial learning does not provide sufficient insight into how context may play a role in students' learning regarding the present paper's purpose. Thus, what remains to be known is what happens to individuals who, at some point, are no longer involved in venturing activities – a central activity in a 'venturing community'. To sum up, previous research suggests that students' learning in action-based entrepreneurship education depends not only on students' own involvement in new-venture creation, but also on their peers' activities in new-venture creation, as well as other possible factors in social relations, interactions and contexts within which they operate.

Frame of Reference

Based on the insight from extant research on entrepreneurial learning, as well as related concepts – such as experiential learning, situated learning and communities of practice – some points to guide the empirical investigation can be summarised as follows:

- New-venture creation provides an arena for action, experience and reflection through learning events. While absence of a venture is expected to impede learning, other learning events may also emerge from exiting new-venture creation.
- Students' learning through new-venture creation may include learning to identify and act on opportunities, handle uncertainty and develop an entrepreneurial identity.
- Entrepreneurial learning occurs at the individual level, as well as in relations, interactions and networks involving several individuals.
- Individuals involved in new-venture creation may be part of a 'venturing community', and participation in such a community of (entrepreneurial) practice is expected to influence students' learning.

Method

Given the lack of prior research addressing the present paper's objective, the authors found it appropriate to apply an exploratory, inductive and metaphor-based research design. This enables an inclusive and holistic understanding of a new venture's influence on the entire learning process, which may involve many different aspects of the student's life. Furthermore, the theoretical frame of reference is applied to understand and discuss the inductive investigation's results.

To explore and understand students' interest, perceived learning process and possible outcomes from their entrepreneurship education, the Zaltman metaphor elicitation technique (ZMET) was applied (Zaltman and Coulter, 1995). At its core, ZMET is about eliciting and characterising individuals' mental models, with an emphasis on using metaphors to explain interviewees' unconscious processes (Christensen and Olson, 2002). Zaltman and Coulter (1995: 40) describe ZMET as being useful for 'understanding consumers' images of brands, products and companies, brand equity, product concepts and designs, product usage and purchase, experiences, life experiences, consumption context and attitude towards business'. In previous research, ZMET has been adopted in research on services (Lee et al., 2003), tourism (Khoo-Lattimore and Prideaux, 2013) and products (Van Kleef et al., 2005), in which interviewees are asked about their experiences or views about a product, service or brand. The method itself is said to be especially powerful when investigating issues that have not been examined thoroughly (Catchings-Castello, 2000), and as such, investigating a venture's effect in an entrepreneurship-education context could boost the method's reputation. Other methods, such as structured interviews, also could be applied, albeit with the possibility of a reduction in the 'richness of the responses' (Calder and Aitken, 2008). ZMET also has been applied to university students in other contexts to gain an in-depth understanding of students' views on their education (e.g., Voss et al., 2007), as well as in research exploring doctoral students' views on their research training and research culture (Piercy et al., 2005). Thus, as our research is an explorative study on students' experiences with their education, this method is fitting as a study design.

The Zaltman Metaphor Elicitation Technique

Zaltman and Coulter (1995) present a detailed description of the ZMET method, which comprises seven distinct and consecutive parts that end in an overview of the interviewees' mental models or mental maps. The method uses individuals' mental maps to create a consensus map from several participants, and in the following paragraphs, the different methical steps to reach these maps are explained. However, in the present study, parts six and seven of the ZMET method were excluded. The sixth part explores how many individual participants are needed to reach the same constructs in the map, thereby investigating the consensus among participants. This part was excluded because

Zaltman and Coulter (1995) illustrate, through their work, the number of interviews needed to reach consensus across the relationships of different mental maps and included constructs. The final step visualises the findings with participants to illustrate the different connections and the most important relations and end values. This part of the method is optional and is conducted to illustrate a relationship between different images to be utilised in advertising.

Selection of Research Context

The specific action-based entrepreneurship-education programme selected for this paper is a venture-creation programme (VCP), a type of action-based entrepreneurship-education programme that aims to bridge university student entrepreneurship education and the commercialisation of technology (Lackéus et al., 2016; Lackeus and Williams Middleton, 2015). In particular, Lackéus and Williams Middleton (2015) define VCPs as programmes that use a new venture as a vessel for learning, thereby arming students with the tools and skills needed for the new-venture creation process, such as resources and networks. It can be argued that student ventures are particularly integrated and instrumental to such programmes' course curricula. Thus, with VCPs, entrepreneurship is used as a method for learning (Neck and Greene, 2011; Rasmussen and Sørheim, 2006), and students have the opportunity, and are encouraged, to continue working on their new ventures after graduation (Lackeus and Williams Middleton, 2015).

Definition of Interviewee Groups and Selection of Interviewees

Students in their final semester of a two-year VCP in Scandinavia were recruited for the study. The programme is a full master's degree, and about half the students continue working with their new ventures after graduation. Each class comprises approximately thirty-five students, and both years of the programme share the same new-venture incubation space, which is exclusively for VCP students. At the time of the interviews for this study, students had five months left in the programme.

Previous research has shown that many graduates—and in some studies, most graduates—of entrepreneurship education pursue career paths other than new-venture creation, involving, for example, corporate entrepreneurship and intrapreneurship

(Åstebro et al., 2012; Dahlstrand and Berggren, 2010). To separate students who pursue venturing throughout the programme from those who do not, the authors differentiate between the groups by clarifying that those pursuing venturing plan to continue to do so post-graduation and that the other group has chosen to pursue other options. This avoids possible limitations regarding students who may exit one venture, but later start another during the programme or at the time of graduation. In this paper, the authors ask what an action-based entrepreneurship-education programme means, in terms of thoughts and feelings, for two groups of students as defined below:

Established-company group:

- Students who have terminated their ventures midway through the programme, i.e., about one year before graduation.
- They have also accepted a job offer to work at an established company after graduation.
- They have also not had any engagement in a new venture since terminating theirs, nor have they started a second venture after their first try.

New-venture group:

- Students who are working on their new ventures.
- They are also planning to continue with their ventures after graduation.

To ensure further that no differences existed between students in the two groups regarding their motivations to enter the programme, the students' admissions applications were read. The authors used faculty and peers to identify students who fulfilled the criteria for the two groups, and the selected participants did not know why they were included other than for 'investigating students' view on the programme'. Therefore, the communicated research topic was the programme itself, rather than this paper's objective. Among the students in the cohort, six fulfilled the criteria for the established-company group and six fulfilled the criteria for the new-venture group. Although this sample of twelve students is somewhat smaller than presented by Zaltman and Coulter (1995), they also illustrate that the method can reach a consensus with an average of six participants. In addition, previous researchers using the method also have limited their samples to more appropriate numbers given their selection criteria (e.g., Lee et al., 2003). Among the students in the

new-venture group, four were working on their first venture, while two had started a second venture. All the students' ventures comprised more than one individual, and two or more of the individuals working in each venture were students at the time of the interviews. Three of the students with new ventures worked in the same venture. All participants were between 24 and 27 years old at the time of the interviews, and of the twelve, five were female and seven were male.

Data Collection Process

Seven days before the interviews, the selected students were asked to choose five pictures that represented their thoughts and feelings about their entrepreneurship-education programme. The use of images is a tool to explore important metaphors about study participants' education and, through them, help interviewees reach deep and rich insights in the interview context (Zaltman and Coulter, 1995). The students could use the pictures to explain one or more important constructs, revealing their mental models (Christensen and Olson, 2002).

The interviews were performed one-on-one with one of the authors and a student, lasted from one- to two-and-a-half hours each and were audio-recorded. The interviewees first were asked to share their thoughts and feelings about their entrepreneurship education and, thus, had the opportunity to speak openly about their education, which is the first step in the ZMET interview process (Zaltman and Coulter, 1995). The students then were asked to present the different pictures that they had brought. Under these two steps, the interviewers noted the constructs that the interviewees presented and, during the next step, the interviewers elicited the different constructs by digging deeper into means-end relationships with the interviewees. This 'laddering technique' has a 'goal of determining sets of linkages between the key perceptual elements across the range of attributes (A), consequences (C) and values (V)' (Reynolds and Gutman, 1988: 12). The technique uses questions such as, 'Is that important to you?' and 'Why is that important to you?' to understand and explore new constructs that are important to the interviewees. At the end of the interviews, the interviewees were asked to position the images in groups to identify whether any overarching metaphors existed in the images about the VCP. Some of the

students also talked about what their education was not, or were asked to reflect on what their education was not.

Data Analysis Process

The audio files for the twelve interviews resulted in 228 pages of transcribed data. The transcribed interviews were imported into NVivo 11 software, in which the data were coded using a grounded-theory approach (Corbin and Strauss, 1990). Both authors performed the coding together, thereby agreeing on the different terms and definitions. The coding process consisted of first identifying subcategories in the transcripts through open coding, then the different subcategories were combined into overarching categories through axial coding. The latter procedure focussed on the relationships in the initial categories, combining categories based on similarities in conditions, context, strategies and consequences (Corbin and Strauss, 1990). For example, the category 'Teamwork' emerged from combining the subcategories 'Ambition in the Team', 'Demanding Team Situation', 'Team as Safety Net', 'Teamwork' and 'Team Composition in the Education'. The open coding resulted in 294 individual subcategories, and the axial coding resulted in seventy-three categories representing the key constructs among the 294 subcategories.

After identifying the key constructs, the interview transcripts were reread, and the authors then identified relations between the different constructs or 'paired-construct relationships'. Here, a *paired-construct relationship* is defined as 'the casual relationship between two constructs' (Zaltman and Coulter, 1995: 44). This process focussed on identifying which constructs led to or influenced other constructs in what is referred to as the 'means-end technique'. The means-end theory describes how means are used to reach end-values, or terminal values, among a group of people, and these values are assumed to be created by a person's environment and through one's personal beliefs (Gutman, 1982). Thus, the values – or constructs, as Zaltman and Coulter (1995) label them – are organised in a hierarchical order, in which originator constructs influence and lead to connector constructs, *means* and, ultimately, destination constructs, or *ends*. Originator constructs do not lead from other constructs, and destination constructs do not lead to any other constructs. An example of how the coding was conducted is presented in Figure 1 below, in which a student talks about his or her learning outcomes, experiences and

personal motivations. The figure illustrates the student presenting how different 'learning outcomes' lead to 'positive experiences' (both connector constructs), which again influence his or her 'personal motivation' (a destination construct). The far-right column in the figure shows how these paired-construct relationships are represented in the results, and the arrows indicate the 'paired-construct relationship', i.e., how two connection constructs lead to the destination construct.
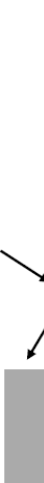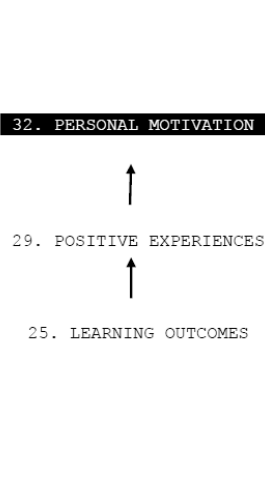

Figure 1: Coding example and paired-construct relationship.

When all the means-end relationships were identified, consensus maps for each of the two groups of students were constructed. Zaltman and Coulter (1995) stress that two criteria are used to include different constructs in consensus maps: 1) a certain number of participants must talk about the different constructs, and 2) a certain number of participants connect two constructs together. When building the map, a cut-off level for the constructs to be included was set. This cut-off level needs to be set carefully: If it is too high, the consensus map is reduced to an uninterestingly low number of constructs and connections, while not setting a cut-off level will include all constructs, which might make the consensus map too complex and confusing. Christensen and Olson (2002) recommend that between one-third to a quarter of the number of participants be used as a cut-off level. Thus, in the present study, one-third of the participants was set as the cut-off level, resulting in the requirement that two or more students must have talked about

constructs and paired the same constructs before these were included in the map. A customised computer-based model then was used to calculate which constructs should be included in the model, and from this, consensus maps were created. Through this process, the number of constructs was reduced from seventy-three to twenty-five for the established-company students and to thirty-two for the new-venture students. Tables 1 and 2 illustrate the different frequency of connections between the constructs, in which row elements lead toward column elements. For example, the construct 'PERSONAL DEVELOPMENT' (construct 18) leads to the constructs 'CREATING OPPORTUNITIES', 'FUTURE VISIONS' and 'PERSONAL MOTIVATION' (constructs 17, 21 and 25, respectively) in Table 1. The numbers in the tables represent how many individuals mentioned that specific connection. The tables also identify originator constructs and destination constructs or end-values.

The consensus maps for the two student groups were built based on Tables 1 and 2. When creating the maps, the originator constructs were organised at the bottom of the map, and the destination constructs were placed at the top. The different constructs also were organised hierarchically in the map. In this way, the consensus maps were created so that the constructs lead to the top, and the relationships mostly influence or lead to the constructs above (illustrated with arrows on the maps). In addition, redundant relations were removed; these are direct relationships between two constructs that also are connected through a third construct (for indirect and direct connections, see Reynolds and Gutman, 1988). Finally, the map was organised so that different 'ladders' were placed in lines vertically. In addition, in some cases, some of the constructs are closely interconnected and, in turn, lead to each other. These are labelled 'dyads', and a construct dyad is illustrated in the maps when direct connections exist between two constructs going in both directions. Moreover, when examining the consensus map, an interesting feature is that not all connectors follow the ladders up (solid arrows) toward the destination constructs. Some connectors (dashed arrows) lead back to connector constructs lower in the map, and these connectors often create 'loops' in the consensus maps. A dyad could be regarded as a loop between only two constructs, so the loops elaborated here comprise at least three connector constructs.

Table 1: Connection frequency between the constructs for the established-company group.

Construct	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1 THE STUDENTS	2				1	3			1	1													
2 UNCERTAINTY														2									
3 EXPECTATIONS AMONG STUDENTS		2	1		1	1	2				1			1	1				1		1		
4 CULTURE																1							
5 CULTURE FOR SHARING				1		1		1									1						
6 CARING AND SUPPORTING MILIEU	1		2									1			1	2	1				1		
7 CHALLENGES													2	2		4	2		1	1	2	2	
8 SOCIAL MILIEU	1						1	1	1		1			1			2	1				1	
9 EXPECTATIONS TO WORK IN A NEW VENTURE											1		1		1				1				
10 SHARED MENTALITY												1	1				2	2					
11 TEAMWORK												1	3			1		1					
12 NETWORK														2				1					
13 IMMERSIVE EXPERIENCE															1	1			2				
14 MAKING CHOICES														2		1		1					
15 LEARNING APPROACH														5		3		1	1			1	
16 LEARNING OUTCOMES															2	3		1	2		2		
17 CREATING OPPORTUNITIES					1								1			1	1		1				
18 PERSONAL DEVELOPMENT															1			2				2	
19 COMMUNITY																		1					
20 POSITIVE EXPERIENCES																			1				
21 FUTURE VISIONS																							
22 DEMANDING PROGRAMME																							
23 CULTURE FOR PRIORITISATION																							
24 DARING TO ACT																							
25 PERSONAL MOTIVATION																							

Table 2: Connection frequency between the constructs for the new-venture group.

Construct	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
1 THE STUDENTS		4		1						1	1	1	1	1			1	3	5	1					2	1	
2 IMMERSIVE EXPERIENCE	1	1	2																					1			
3 PHYSICAL SPACE		2	1														1							1			
4 NETWORK					1						2								1		1	1					
5 DESIRE TO CONTRIBUTE											3																
6 PERSONAL NEEDS		1		1										1			1			1	2						
7 SOCIAL MILIEU	1				1	1											3	1		1				1		1	
8 WORK-LIFE BALANCE																	2					1					
9 EXPECTATIONS AMONG STUDENTS						1											2										
10 CARING AND SUPPORTING MILIEU									2	1							1	3		1						2	
11 EXPECTATIONS TO WORK IN A NEW VENTURE							2							1			1			1		1		1			
12 NEW VENTURE CREATION								1							2					1		1					
13 UNCERTAINTY									2	1					1			1	1	1							
14 CHALLENGES												1							2				1	1			1
15 TEAM SPIRIT										1		1					1										1
16 CULTURE FOR SHARING		1								1				2			2	1						1	1		
17 CREATING OPPORTUNITIES							1	1						1	1	3	1		1	2	1	2	1	2	1		
18 TEAMWORK																				2							
19 SHARED MENTALITY																		1							1	1	
20 LEARNING APPROACH																			2	2				1		1	
21 CULTURE FOR PRIORITISATION																			1	2			1				
22 CHOOSING AND PURSUING OPPORTUNITIES		1																	2	1	2	1	1				
23 SPLIT COMMUNITY		1																				1					
24 COMMUNITY																								1			
25 LEARNING OUTCOMES											1													1			
26 PERSONAL DEVELOPMENT																						1	1	1	1		
27 FUTURE CAREER																								1			
28 FUTURE VISIONS																								1		1	2
29 POSITIVE EXPERIENCES																											2
30 INSPIRATION																											1
31 INCENTIVE TO BE PRESENT																											
32 PERSONAL MOTIVATION																											

Findings

The method led to a consensus map (Figures 2 and 4 below) for each group. As mentioned, the maps represent 'ladders', in which the originator constructs lead toward

the destination constructs. In the following section, each of the consensus maps for the two student groups is explored in detail to provide insight into the learning processes.

Findings for the Established-Company Group

The consensus map for the established-company group reveals twenty-five constructs, including two originator constructs and two destination constructs. Originator constructs are 'THE STUDENTS', which include students' characteristics and skills, and 'UNCERTAINTY', which includes working under uncertainty and finding solutions under uncertainty. The destination constructs are 'DARING TO ACT', including the courage to pursue opportunities and make untraditional choices, and 'PERSONAL MOTIVATION'. In addition, some 'incomplete destination constructs' are at the top of the consensus map. These constructs are connected to other constructs that have been removed due to the cut-off set in the method, but are, as such, not destination constructs. The connecting constructs are referred to by their numbering, which is presented in Figures 2 and 4.
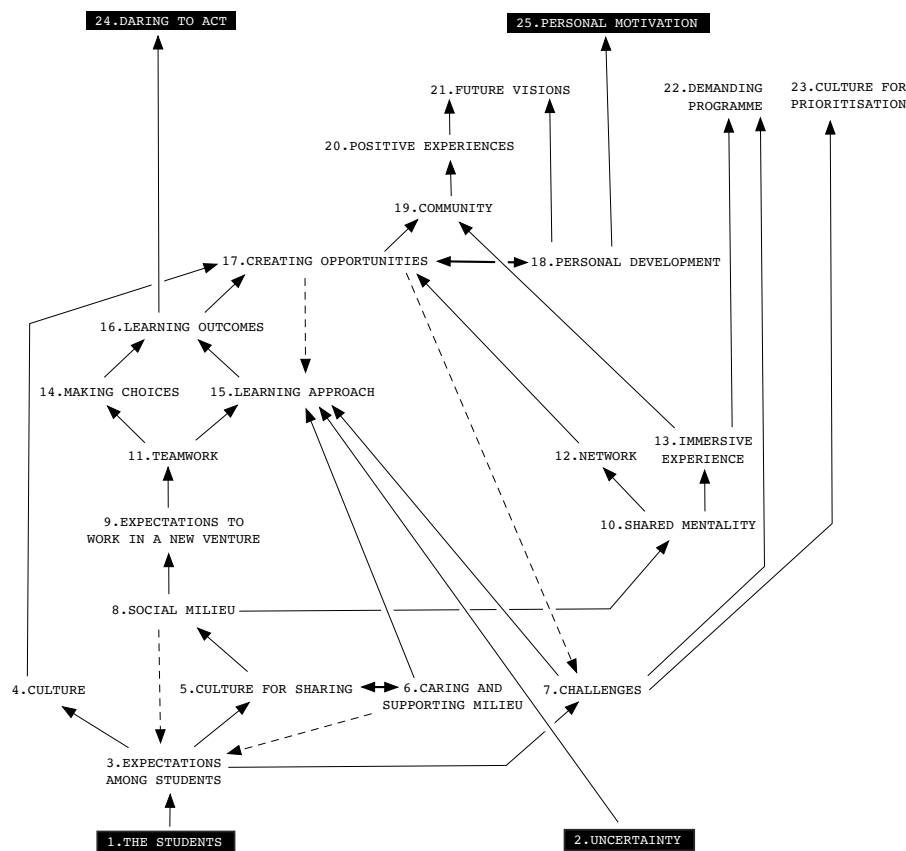

Figure 2: Consensus map for the established-company group.

<u>Dyads</u>

The consensus map in Figure 2 reveals two construct dyads. The first dyad comprises 'CULTURE FOR SHARING' and 'CARING AND SUPPORTING MILIEU'. The sharing culture includes coopetition at pitch competitions and helping others with their challenging tasks, such as sharing templates for financial reporting. The caring and supporting milieu includes cheering on others' success and having empathy for others in challenging situations. A second dyad comprises 'CREATING OPPORTUNITIES' and 'PERSONAL DEVELOPMENT'. Creating opportunities is about the opportunities that the programme provides for starting ventures, travelling and engaging in activities. Personal development is about students becoming more comfortable, socially proactive and self-conscious.

<u>Ladders</u>

The twenty-one connector constructs' structure reveals four ladders leading from the originator constructs to the destination constructs. The first, and possibly most pronounced, ladder leads from 'THE STUDENTS' to 'DARING TO ACT', including constructs 3, 5, 8, 9, 11, 14, 15 and 16. Generally, this ladder illustrates how students build expectations for each other that drive learning through a social milieu and a sharing culture. In turn, the outcomes from this learning lead to increased courage. A second ladder leads from both 'THE STUDENTS' and 'UNCERTAINTY' to 'LEARNING APPROACH' and includes constructs 3, 5, 6 and 7. This ladder illustrates how students' expectations, on one hand, and uncertainty, on the other, underpin the learning approach. In this ladder, student expectations lead to caretaking, sharing and support, but they also introduce challenges. A third ladder leads from 'SOCIAL MILIEU' to 'COMMUNITY' and includes constructs 10, 12, 13 and 17. This third ladder illustrates how the VCP students' social milieu, by leading to a shared mentality, provides opportunities for new-venture creation, travelling and engaging in activities. Finally, the fourth ladder starts with 'LEARNING OUTCOMES' and leads to 'PERSONAL MOTIVATION' and 'FUTURE VISIONS', including constructs 17, 18, 19 and 20. This fourth ladder illustrates how students' learning outcomes lead to opportunities and personal development, which, in turn, provide personal motivation for the students. In addition, 'CREATING

OPPORTUNITIES' and 'PERSONAL DEVELOPMENT' branch out, eventually leading to students contemplating their future careers and lives.

Loops

For the established-company group, two loops were identified (Figure 3). The first loop is about culture and milieu. This loop connects the expectations among students and culture for sharing through two sub-loops that include the social milieu and the caring and supporting milieu. Generally, this loop describes how students' expectations of each other lead to their culture, which again leads to both their social milieu and supportive milieu. 'SOCIAL MILIEU' concerns the students' social engagement with each other and their social way of working, while the 'CARING AND SUPPORTING MILIEU' is more about how the students cheer each other's successes and have empathy when dealing with challenging situations. Both lead back to the students' expectations for each other. The second loop is about learning, and it connects 'LEARNING APPROACH', 'LEARNING OUTCOMES' and 'CREATING OPPORTUNITIES'. The learning approach in the programme leads to learning outcomes, further creating opportunities for the students. In turn, these opportunities contribute to the learning approach in the VCP.
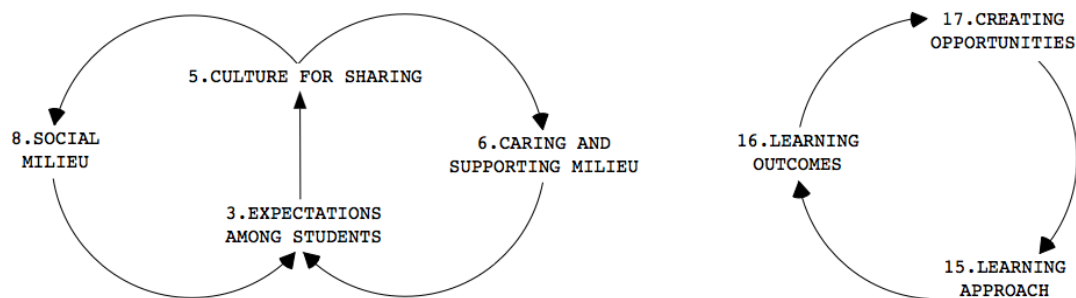

Figure 3: The two construct loops identified for the established-company group.

Findings for the New-Venture Group

The consensus map for the new-venture group (Figure 4) reveals thirty-two constructs, including five originator constructs and two destination constructs. Only one originator construct and one destination construct coincide with the established-company group. Originator constructs for the new-venture group are 'IMMERSIVE EXPERIENCE', which focuses on how the programme influences all aspects of students' lives;

'PHYSICAL SPACE', i.e., the programme's physical premises; 'NETWORK', which is about the network's relevance and value (e.g., alumni) that the programme offers; 'DESIRE TO CONTRIBUTE', which is about how students wish to contribute to others in the programme; and 'THE STUDENTS'. Destination constructs are 'INCENTIVE TO BE PRESENT', which is about how the students feel at home in the programme and get motivation from this, and 'PERSONAL MOTIVATION'.
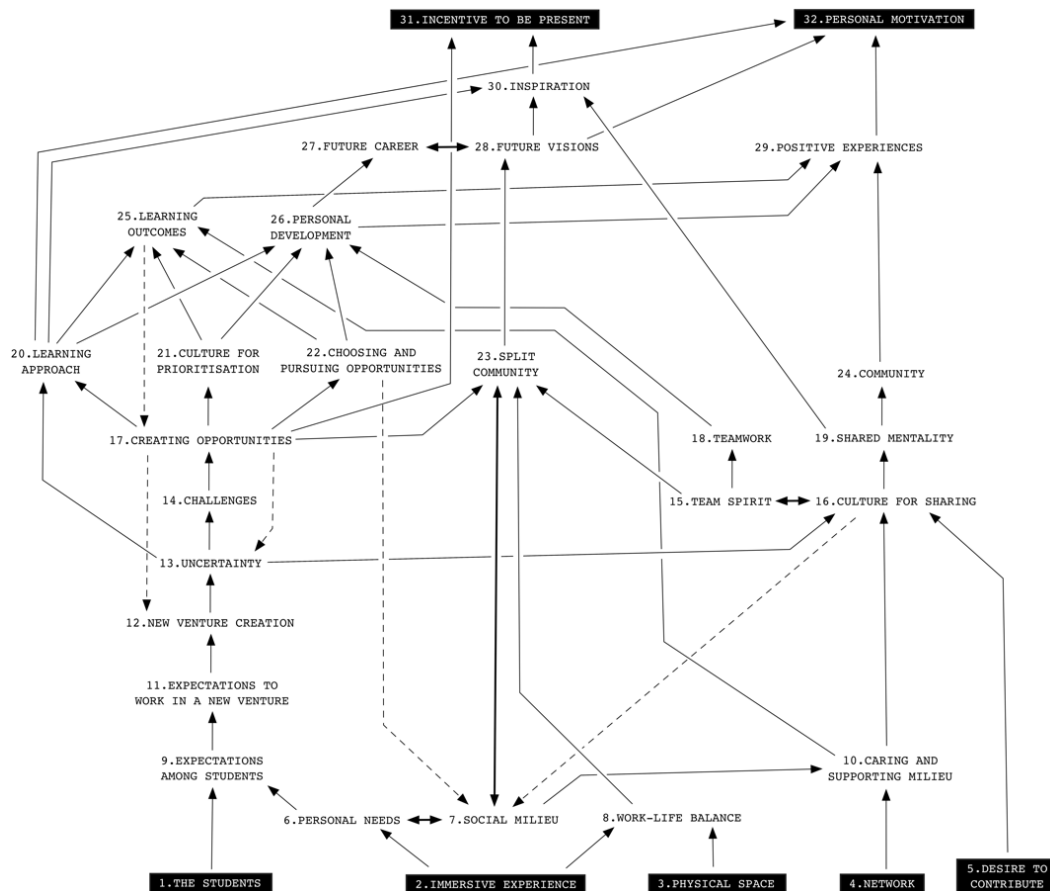
Figure 4: Consensus map for the new-venture group.

Dyads

The consensus map in the new-venture group reveals four construct dyads. The first comprises 'PERSONAL NEEDS' and 'SOCIAL MILIEU'. The students' personal needs, such as social needs and preferred working habits, are highly interconnected with the social milieu that the students are part of, including social engagement with each other and their social way of working. A second dyad pairs 'SOCIAL MILIEU' with 'SPLIT

COMMUNITY'. Therefore, the social milieu is also highly interconnected because the community in which it exists is split between different groups of students. The third dyad includes 'TEAM SPIRIT' and 'CULTURE FOR SHARING'. Students' collective goals and responsibilities in their communities are highly interconnected with the sharing culture. The fourth dyad comprises the constructs 'FUTURE CAREER' and 'FUTURE VISION'. Although the two constructs are similar and may be connected naturally, they differ in that the future vision regards students' thoughts for their future lives beyond their professional careers.

Ladders

The structure of the twenty-five connector constructs in Figure 4 reveals three ladders going from the originator constructs to the destination constructs. The first ladder leads from 'THE STUDENTS' to 'LEARNING OUTCOMES' and 'PERSONAL DEVELOPMENT', including constructs 9, 11, 12, 13, 14, 17, 20, 21 and 22. This ladder leads from the students, including their expectations of each other, toward working in a new venture and in new-venture creation, then further to challenges and uncertainty, which are part of the new-venture creation process. Furthermore, experiencing this process leads to learning approach, opportunities and the need for the students to prioritise. At the end of the ladder, the three constructs result in learning outcomes and personal development for the students. A second ladder leads from 'NETWORK' and 'DESIRE TO CONTRIBUTE' to 'PERSONAL MOTIVATION', including constructs 10, 16, 19, 24 and 29. Starting with the two originator constructs, this ladder leads through the caring and supporting milieu within the VCP, moving toward a sharing culture, and the community toward positive experiences and personal motivation. The third ladder does not resemble a straight ladder, but rather a tripod, starting with the constructs 'SHARED MENTALITY', 'LEARNING APPROACH' and 'SPLIT COMMUNITY'; this goes through students' thoughts about the future and their inspiration, leading to 'INCENTIVE TO BE PRESENT'. In other words, a broad range of constructs leads to one of the two originator constructs.

Loops

For the new-venture group, two construct loops were identified by examining the consensus map (Figure 5). The first loop is about the culture and milieu and includes constructs 7, 10 and 16. This loop connects the students' social milieu with a caring and supporting milieu, which again supports a sharing culture in the VCP. In turn, this sharing culture further contributes to the social milieu. The second loop is built of three interconnected loops related to new-venture creation, opportunities and learning, and includes constructs 12, 13, 14, 17, 20, 21, 22 and 25. The lower sub-loop connects students' new-venture creation with uncertainty and challenges, leading to opportunities for the students. These opportunities, in turn, contribute to the students' new-venture creation efforts. The left sub-loop connects students' learning with the creation of opportunities. The right sub-loop connects students' prioritisation, choosing and pursuit of opportunities to learning outcomes. Overall, the three sub-loops together describe how new-venture creation, creation and selection of opportunities, and learning are interconnected for the new-venture group.
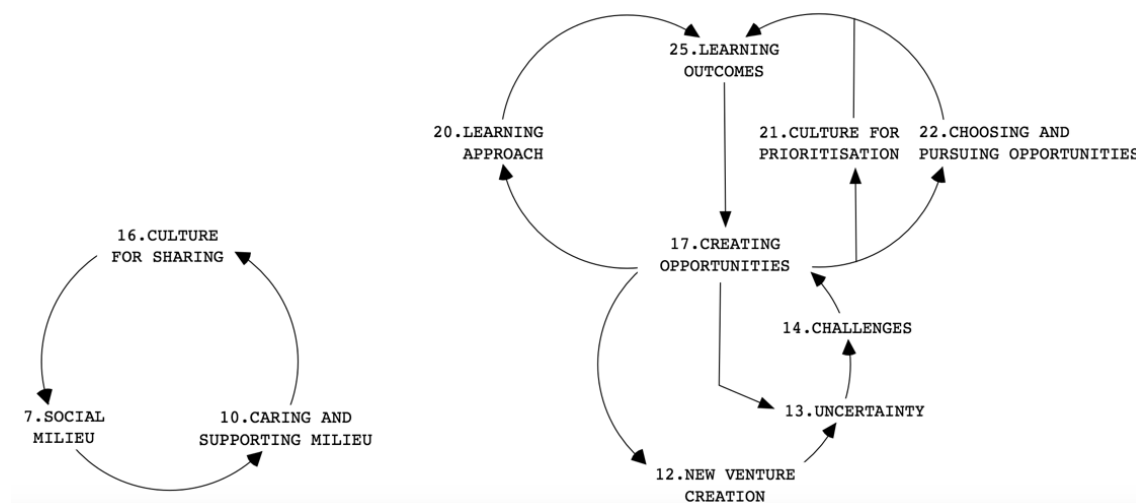

Figure 5: The two construct loops identified for the new-venture group.

Comparing the Two Groups' Consensus Maps

Similarities and differences can be found in the two consensus maps, with some overlapping constructs and others exclusive to one group. The consensus map for the established-company group includes four exclusive constructs, of which one is a

destination construct, and three are about students being in challenging situations. 'DEMANDING PROGRAMME' shows that the VCP is time-consuming and requires sacrificing other aspects of life, 'MAKING CHOICES' is about students needing to make choices for their personal lives and for their new-venture project in the VCP and 'DARING TO ACT' concerns the courage to pursue opportunities and make 138on-traditional choices. The latter implies that the students do not feel comfortable pursuing opportunities and making 138on-traditional choices in the first place. For the new-venture group, exclusive constructs involve those specifically relevant to the new-venture creation process in the VCP, such as 'NEW-VENTURE CREATION', 'PHYSICAL SPACE' and 'TEAM SPIRIT'. In addition, other constructs exclusive to this group relate to personal preferences, such as 'PERSONAL NEEDS' and 'WORK-LIFE BALANCE', as well as constructs relating to the students' presence in the community, such as 'SPLIT COMMUNITY' and 'INCENTIVE TO BE PRESENT'.

Discussion

As expected, the ZMET method provided very rich results. Consequently, the data offer insights on a broad spectrum of constructs and connections relevant to action-based entrepreneurship education. However, to be able to process the results, this section discusses them with guidance from the theoretical frame of reference to focus on the present paper's objective.

For both groups interviewed, students' learning and social milieu and culture are the most central aspects of the action-based entrepreneurship-education programme. These two themes generally are prominent in several dyads, ladders and loops found in the consensus maps, as well as through comparisons of the two groups. Referring to the frame of reference, this finding is in line with previous conceptions of the central position of learning from new-venture creation in action-based entrepreneurship education (Cooper et al., 2004; Rae, 2013; Williams Middleton and Donnellon, 2014), and this type of learning also is situated and social (Lockett et al., 2017; Pittaway and Cope, 2007). Common to both groups is also that learning outcomes and personal development are sources of personal motivation, making personal motivation via personal development

and learning stand out as a common value for students in the programme, regardless of whether they are working in a new venture. Thus, the results here support the idea that outcomes from entrepreneurship are broader than merely producing new ventures (Neck and Corbett, 2018) and also entail personal development. Moreover, for the group of students who accepted a job offer to work at an established company, the findings underpin this point, as these students focus on their future careers and lives, rather than immediate challenges and situations, which, in general, likely would be related to new-venture creation efforts. This is illustrated by the destination constructs (including the 'incomplete' destination constructs) from the two consensus maps, in which the established-company group focuses on more future-oriented constructs, while the new-venture group focuses on constructs that are of a more contemporary relevance. This further supports the methodological assumptions and selection criteria of the two groups of participants and, as such, the study's objective.

Comparing the two loops regarding learning (right sides of Figures 3 and 5), the new-venture group emphasises new-venture creation, as well as opportunities and uncertainty in how they perceive their learning process. This is very much in line with previous research on entrepreneurial learning (e.g., Cope, 2003; Corbett, 2005; Politis, 2005). Interestingly, the learning loop for the established-company group is far less sophisticated. New-venture creation and uncertainty are no longer present, hinting that the learning process is different for students who choose not to pursue venturing during their education. It is not surprising that the students in the established-company group focus less on new-venture creation when it comes to their learning process, and up to this point, the results are aligned with what research on entrepreneurial learning suggests regarding learning from new-venture creation events. However, while uncertainty is not present as a construct on the established-company group's learning loop, it is still not out of the equation altogether. In the consensus map in Figure 2, uncertainty is shown to lead to the programme's learning approach. Considering that a notion of opportunity creation is part of both groups' learning loops, central elements of entrepreneurial learning are, thus, present for both groups, however differently they are configured.

One example of the configuration difference is how the network that the programme offers (construct 12 in Figure 2) led to creation of opportunities for the established-company group, while the creation of opportunities for the new-venture group more expectedly build on new-venture creation and uncertainty. Thus, the available networks may provide opportunities in the absence of what a new venture can offer. As the network builds on social milieu and culture in the programme, the findings emphasise the relevance of relations, (social) interactions and networks for entrepreneurial learning in the case of the established-company group (Karataş-Özkan, 2011; Lockett et al., 2017; Taylor and Thorpe, 2004). The finding of opportunities for learning in the established-company group is also interesting, as the students obviously are attentive to opportunities, but not in the view of pursuing them in terms of new ventures. It is also interesting that these opportunities *are* necessary for personal development and further motivation. This could be a result of students' prior activity with opportunities in terms of new ventures, and that their 'stock of knowledge' and personal identity development have made them more observant, watching for opportunities to further their personal development. For example, this can be travelling abroad as part of a research-collaboration project to gather data for that research, while simultaneously experiencing the culture and being part of and working with a research team.

However, even clearer distinctions between the two groups are evident when comparing the construct of *ladders*, leading to the constructs that are part of the learning loops. Where the students' learning in the new-venture group again builds on new-venture creation, opportunities and uncertainty, students' learning in the established-company group is not only related to – but actually builds from – the social milieu and culture (e.g., constructs 5, 6 and 8 in Figure 2). While this supports the existing notion of situated and social entrepreneurial learning (Corbett, 2005; Pittaway et al., 2017), the findings extend common conceptions by showing that learning also *originates from* the social milieu and culture that define the environment – or rather context – in the action-based entrepreneurship-education programme. On one side, the established-company group learns from the context, which is facilitated by the new ventures, while the new-venture group learns from its venturing activities, which the context facilitates. These differences between the learning ladders are illustrated conceptually in Figure 6 below.
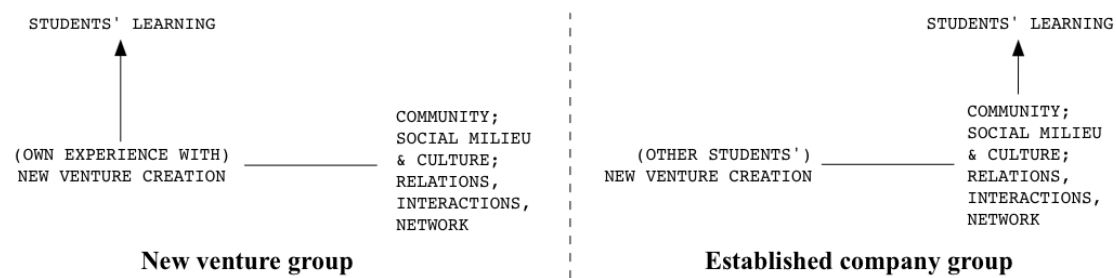
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STUDENTS' LEARNING                                                   STUDENTS' LEARNING

                           ↑                              ¦                                    ↑
                           │                              ¦                                    │
                           │                              ¦                                    │
                           │           COMMUNITY;         ¦                                    │    COMMUNITY;
                           │           SOCIAL MILIEU      ¦                                    │    SOCIAL MILIEU
(OWN EXPERIENCE WITH) _____   & CULTURE;         ¦   (OTHER STUDENTS') _____  & CULTURE;
NEW VENTURE CREATION                   RELATIONS,         ¦   NEW VENTURE CREATION              RELATIONS,
                                       INTERACTIONS,      ¦                                     INTERACTIONS,
                                       NETWORK            ¦                                     NETWORK
                                                          ¦
        New venture group                                 ¦         Established company group
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Figure 6: Conceptual illustration of differences in learning ladders between the new-venture group (left), which aligns with the frame of reference, and the established-company group.

Thus, the findings suggest that the social milieu and culture are not only relevant for – and contribute to – students' learning, but also are a rather fundamental factor in students' learning in the established-company group. For students who pursue venturing throughout the programme, social milieu and culture may be considered to be running alongside their learning process, while for the established-company group, social milieu and culture play an integrated role in students' learning (illustrated by the first ladder in Figure 2). This suggests that the absence of a venture may either amplify the role of the social milieu and culture, or make the social milieu and culture more pronounced and perhaps important in the absence of a new venture. Constructs regarding social milieu and culture in the consensus maps broadly correspond to relationships, interactions and networks from the frame of reference. The frame of reference suggests the existence of a 'venturing community' (cf. Karataş-Özkan, 2011), in which students participate due to their new-venture creation, and findings support this assumption by showing that students' expectations of each other are fundamental to their learning in both groups. Specifically, it is construct 3 in Figure 2 and construct 9 in Figure 4 that connect the characteristics of the students in the programme with students' learning.

From the perspective of communities of practice (Lave and Wenger, 1991), the findings indicate that students in the established-company group are more peripheral than students in the new-venture group when discussing new-venture activities. Since Lave and Wenger (1991) suggest that individuals move closer to the centre of the community as they learn, it is perhaps more likely that the new-venture group has moved even further

toward the 'centre', leaving the established-company group behind, rather than students in the established-company group moving back to the periphery while lacking a new venture. Building on Pittaway and Cope's (2007) suggestion of using 'communities of practice' to understand the social aspects of action-based entrepreneurship education, this paper elaborates that learning in a community of (entrepreneurial) practice may be particularly impactful for students who are within a 'venturing community', but are not involved directly in entrepreneurial action themselves.

As illustrated in the established-company group's consensus map, and through the aforementioned ladder leading to personal motivation and future vison, the social milieu and network examples show how these could influence students through being peripheral in the 'venturing community'. In other words, findings from the present paper illustrate how the 'venturing community' in the programme may develop a larger role for students' learning when they exit their ventures during the programme. It is important to keep in mind that students in both groups have venture-creation experience from their programme, but the extent of their experience differs between the two groups, as indicated by the interviewee-selection criteria. Therefore, the findings generally suggest that the learning and venture-creation processes of others in the programme directly impact the learning process. This means that students' activities as a whole play an important role in the learning that the programme can offer. For action-based entrepreneurship-education programmes, this implies that in addition to experiential learning from new-venture creation, relations and interactions among students are very important for learning. Therefore, programme curricula and overall organisation should ensure that students interact on a regular basis, e.g., by being co-located and not distributed around the university.

Conclusions, Implications and Further Research

The present paper is the first to pinpoint, specifically, the learning impact from venture creation in action-based entrepreneurship education in higher education by empirically studying students who did and did not pursue venturing throughout their education. While the learning by students who pursue venturing is in line with previous research, the present paper reveals how students who choose to exit their new ventures learn based on

their community of practice and how the social milieu and culture in that community impact their learning.

Students' learning and social milieu and culture are interlinked and configured differently for those who have terminated their ventures during the programme, compared with those still working on their ventures. This indicates that students without ventures shift their learning toward a model that builds on the community of practice within the entrepreneurship-education programme. Students without ventures in particular utilise the context to explore opportunities (not necessarily in terms of venturing ideas), which is a facilitator for their personal development and motivation in the programme. This might be a result of their prior work with opportunities in general and in new ventures, and as such, is imparted in their identity, building from their 'stock of knowledge'. Therefore, the existence of such a community enables a learning process with elements similar to those found in entrepreneurial learning for students without ventures. However, this learning is dependent on at least some students continuing to pursue venture creation in the programme, in addition to being in a strong community.

This means that students' learning in action-based entrepreneurship education should be understood as being influenced not only by students' own venturing, but also by other students' venturing activities. The present paper demonstrates empirically what previous conceptual contributions (Karataş-Özkan, 2011; Pittaway et al., 2017; Pittaway and Cope, 2007; Politis, 2005) have suggested: that researchers should view situated and social learning as an integral element in how students learn from venture creation. For practice, the present paper's findings imply that entrepreneurship-education programmes, in which students learn through venture creation, should be organised in a way that makes students establish relationships and interact with each other on a regular basis.

The research design applied in the present paper involved an inductive investigation that elicited students' thoughts and feelings about their entrepreneurship-education programme. Therefore, the results offered an understanding of students' learning process, as well as a broad spectrum of topics related to the programme. The analysis, guided by the frame of reference, showed that much of the insights gained could be understood

through common conceptions of entrepreneurial learning. However, interesting results emerged as the open and inductive approach in the research design enabled insight into the programme's social milieu and culture. This insight could have been impeded if a 'narrower' research focus had been applied in the empirical part of the study. Although the present paper examines only one specific education programme, it offers new understanding in terms of the learning impact from venture creation in higher education. The authors encourage similar studies of other programmes in other contexts.

Based on the importance of social milieu and culture in the learning process, the authors also suggest that future studies on action-based entrepreneurship education focus on these aspects to better understand the factors that influence students' learning beyond entrepreneurial action, experience and reflection. Furthermore, although the current paper provides insights into how the learning process may differ depending on the existence of a student venture, the question could be reversed, asking how the students and their choices may influence the programme itself.

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