

**LEARNING FOR ENTREPRENEURSHIP IN HETEROGENEOUS
GROUPS: EXPERIENCES FROM AN INTERNATIONAL,
INTERDISCIPLINARY HIGHER EDUCATION STUDENT
PROGRAMME**

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Abstract. Although entrepreneurship education (EE) has gained popularity internationally, empirical work is scarce on the factors which influence the underlying learning process. This article presents the experiences of a European summer school where factors which contribute to entrepreneurial learning in interdisciplinary, intercultural student groups were elicited and analysed via student reflection. A total of 35 professional and scientific bachelor students from the Netherlands, Latvia and Estonia worked together in groups of five to develop initial business plans at a 10-day summer school. Heterogeneity – including disciplinary and cultural differences – contributed to learning within the groups but also caused confusion and misunderstandings in the entrepreneurship education context. Particularly the factors embracing members' knowledge, experiences and skills, problem solving and decision making and leadership showed dynamics which appeared to be specific to the context of EE. The results contribute to a better understanding of student learning in EE settings.

Keywords: interdisciplinary learning, entrepreneurial learning, reflective learning, entrepreneurship education, intercultural learning, reflection

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1. Introduction

Entrepreneurship education (EE) has gained popularity internationally (Katz 2003). Non-business higher education scholars are also increasingly acknowledging the added value of fostering entrepreneurial competence among students in light of new career paradigms and the need for lifelong learning (Nab et al. 2009). As a result, the number of courses, programmes, summer schools and positions in EE in Europe has grown rapidly (European Commission 2008). Nonetheless,

European research shows that 1) European graduates have a poor opinion of higher education as a contributor to their entrepreneurial competence (Allen and Van der Velden 2009); 2) the traditional teaching methods used by teachers such as lectures, literature reviews and examinations only contribute to a limited extent to student learning for entrepreneurship (Gibb 2002); 3) teachers find it difficult to effectively introduce the elements of EE (McCoshan et al. 2010); and 4) EE is seldom a priority in teacher education programmes (European Commission 2011).

From a scholarly point of view, most of the scientific work on EE has drawn upon Ajzen's theory (1991) of planned behaviour with an EE focus on the stimulation of entrepreneurial intentions (Krueger et al. 2000). EE should stimulate the development of intentions to start a business, which can be further predicted by antecedents as perceived behavioural control, social norms and attitudes (Krueger et al. 2000). However, work carried out from this perspective reveals little information about the underlying learning processes which either foster or hinder entrepreneurial learning. Greater insight into such factors is necessary from not only a theoretical point of view, as research on EE is a relatively young endeavour (starting in the 1990s), but also from a practical point of view as the aforementioned European challenges with regard to EE need to be addressed.

In order to help narrow this gap, we summarize the experiences of a European Summer School (ESS), which had the aim of developing entrepreneurial competence on the part of international students from a variety of non-management and non-business backgrounds.

The ESS challenged students to articulate personal entrepreneurial goals and ambitions, translate these into entrepreneurial projects and share these with other students via a wide range of learning activities. In order to disentangle the specific factors associated with the learning processes elicited by this ESS, the following research question was posed: *What factors are perceived by students to contribute to entrepreneurial learning within interdisciplinary, intercultural student groups?* To answer the question, the daily reflections of 35 students on the ESS activities were analysed.

2. Theoretical perspective

One of the first challenges in EE is defining the focus (Fayolle and Gailly 2008). EE can be mainly *about* entrepreneurship, just like chemistry or psychology are mainly about chemistry and psychology, respectively. Learning about entrepreneurship may thus include economic theory, social capital theory and trait or personality theory. However, EE can also be about independent venturing and thus learning enterprising behaviour and learning *for* entrepreneurship (Honig 2004). EE can help or stimulate nascent entrepreneurs to further develop their intentions and work out their ideas into a full blown business concept, model or plan (Ardichvili et al. 2003). Finally, EE can also be seen in the light of so-called intrapreneurship (Antoncic and Hisrich 2003), i.e. being

entrepreneurial *within* an existing organisation. This means having an eye for opportunities, being proactive, taking risks, being creative but also having sufficient self-regulation.

These perspectives have different learning foci and none of them provide an overarching learning theory or model which can be used to describe and understand learning within an EE context. Over the last decade this has resulted in the emergence of the concept of entrepreneurial learning (Cope 2003). As argued by many EE researchers, the most effective way to promote student entrepreneurship is to 'push' students into entrepreneurship by structuring the learning process as an entrepreneurial process (Hannon 2006, Hjorth and Johannisson 2007, Hynes 1996, Kearney 1999). Within a higher education entrepreneurial learning context, Rae (2003) speaks of opportunity-centred learning. Opportunity refers to the heart of entrepreneurship, namely the recognition, evaluation and pursuit of business opportunities resulting in new products, services or processes for the market or industry (Shane and Venkataraman 2000). In its rudimentary form, a business opportunity is often an ill-defined market need, product, service, technological advancement or invention for which a market has yet to be defined (Ardichvili et al 2003). Opportunity-centred learning then encompasses four interconnected processes: 1) exploring the opportunity, 2) relating the opportunity to personal goals, 3) planning to realize the opportunity and 4) acting to make the opportunity happen (Rae 2003: 545). Via investigation and discovery, students identify, select, explore and refine opportunities. They thus move from the development of ideas regarding an opportunity to a project which addresses the selected opportunity. The writing of a business plan is one possible outcome of this process. Having passed through the planning stage, students can then act upon their plan and realize the opportunity. Their learning during these stages has often an emergent, opportunistic, discovery-based and a highly social character. Furthermore, reflection on what is working and what is not working, how and just why but also what has been learnt and what will be learnt are important elements of opportunity-centred learning (Rae 2003).

Although Rae's definition provides a clear starting point for researching entrepreneurial learning, it does not completely capture the complicated nature of the phenomenon. A helpful model to cluster potentially important learning-related elements in a meaningful manner is the Biggs (1993) 3P or *presage, process* and *product* learning model. The model is an input-process-output learning model, which draws upon three bins of learning-related factors – *presage, process* and *product* factors – for understanding student learning. The model has been found to provide a good starting point in the context of school-based learning (Spelt et al 2006) but also in the context of learning in and for the professions (Tynjälä 2013).

In our research framework, *presage* factors are student factors and factors in the learning environment which can contribute to opportunity-centred learning. In our particular ESS context, the first prominent *presage* factor is the fact that the students are from different countries and have very different disciplinary backgrounds, which means that they bring a wide variety of knowledge, skills,

experiences and goals to the learning context. Studies of EE have found that students can indeed have a wide variety of entrepreneurial goals including learning to be more proactive or creative, preparing to inherit the family firm or building a high growth company (Lans et al. 2010, Täks et al. submitted). A second prominent presage factor is that students have to actually work from the start in interdisciplinary, intercultural groups. This is because teams are considered a major vehicle for new venture creation and known to be responsible for many successful start-ups today (Harper 2005). Building interdisciplinary and intercultural, collaborative learning environments, projects and programmes thus provides critical presage factors (Wilson 2008). As such in our research framework, we understand “interdisciplinary and culturally diverse groups” to be the following:

Two or more individuals who are from different disciplinary as well as national/cultural backgrounds, who have been assigned interdependent, entrepreneurial tasks and are jointly responsible for the final results, who see themselves and are also seen by others as forming a collective unit embedded in the entrepreneurial summer school and who manage their relationships within this context (after Marquardt and Horvath 2001, Popov et al. 2012:303).

Process factors – or the central part of the 3P learning model – entail various learning-related activities (Tynjälä 2013). To go smoothly through the interconnected phases of opportunity-centred learning, the student must be the active participant in learning and not the teacher (Fiet 2000, Heinonen 2007, Jones 2006, McGill and Beaty 1992). Like entrepreneurship in reality, student learning during EE is also mostly socially-mediated learning and thus depends on collaboration and interaction with others. In our particular ESS context, this means working together with others who have very different disciplinary and cultural backgrounds. Based on a literature review Popov et al. (2012) have identified five main factors which play a role in working in heterogeneous student groups, namely 1) embracing members’ knowledge, experiences and skills; 2) communication; 3) problem solving and decision making; 4) conflict management; and 5) leadership.

Firstly, embracing members’ knowledge, experiences and skills refers to the management of differences within the group. The knowledge, experiences and skills which students bring to the group allows them to create something new by interacting across traditional disciplinary boundaries. Differences can benefit entrepreneurial outcomes by providing a wide range of prior knowledge and a rich source of entrepreneurial opportunities. In addition, students with no entrepreneurial experience or nascent entrepreneurial intentions can learn from those who already have an entrepreneurial background. If differences arise and are not managed adequately, however, they can lead to group problems, a lack of mutual understanding, decentralized thinking and divergence in the collaborative learning process and activities.

Secondly, the group communication factor refers to the reaching of “full comprehension among all group members, as well as to collect and disseminate necessary information related to the product of group work” (Popov et al. 2012:305). Communication challenges arise from mainly uneven levels of English

proficiency but also culturally conflicting communication styles (e.g. more direct versus indirect manners of communicating).

Thirdly, entrepreneurial projects are essentially about problem solving and decision making (Nickerson et al. 2004) in largely open-ended tasks of a substantial size and with considerable complexity (Nab et al. 2009). Within the collaborative learning group, individual problem-solving and decision-making styles can vary considerably across students and depend on their backgrounds, empathy and priority given to individual versus group goals (Popov et al. 2012). Students from different cultures can differ markedly in their perspectives on group work and their procedural knowledge, i.e. assumptions about how to collaborate and learn together (Cox et al. 1991).

Fourthly, conflict management is mentioned as an important factor for working in heterogeneous groups. Entrepreneurship is about taking risks, experimenting and pushing boundaries but at the same time working towards mutual goals and resilience – all of which can create tension and conflict. Further, from a diversity perspective, what is seen and felt as conflict can differ considerably among the members of a group. For some students, moreover, conflict may be a natural source for learning while for others conflict is an impediment and therefore something to be avoided at all times (Popov et al. 2012).

Finally, the last group of process factors which Popov and colleagues derived from the research literature concerns leadership. In group work, leadership refers to dealing with free riders, dominant group members and a lack of motivation among group members (Popov et al. 2012). What is expected of a leader and just how leaders deal with problems can also differ considerably from member to member of a group – particularly when the members have different backgrounds.

All of the aforementioned processes should finally lead to concrete *products*. From an individual learner perspective, the following EE outcomes have been identified as critical: knowledge of entrepreneurship (e.g. business economics), entrepreneurial behaviour and skills (e.g. proactive behaviour, entrepreneurial self-efficacy) and increased entrepreneurial intentions. More recently a multi-layer course of growth from interaction with the environment to the development of competencies and formation of beliefs to a final awareness of one's entrepreneurial identity and mission has been shown to be a typical EE outcome (Korthagen 2004, Mulder 2012, Oganisjana and Matlay 2012). The products of opportunity-centred learning at the level of the group can be a long list of local entrepreneurial ideas, selection of the most promising ideas with argumentation and the development of a preliminary business plan.

To summarize, the current literature on EE has drawn largely on the Theory of Planned Behaviour (Krueger et al. 2000). However, work carried out from this perspective reveals little about the learning processes underlying EE and how to reach the objectives of EE (e.g. opportunity-centred learning). The focus in the present study is therefore on those factors which stimulate learning in interdisciplinary, culturally diverse groups, namely: 1) embracing members' knowledge,

experiences and skills; 2) communication; 3) problem solving and decision making; 4) conflict management; and 5) leadership (Popov et al. 2012).

3. Method

3.1. Study context (*European summer school*)

The summer school consisted of a 10-day intensive program in 2012, in which 35 professional and scientific bachelor students from the Netherlands, Latvia and Estonia participated. The students were studying in a variety of disciplines: behavioural sciences, engineering and life sciences. The ESS and its implementation in actual practice were both designed to meet the requirements of opportunity-centred learning (Rae 2003).

Firstly, the students had to pass through all the stages of activity which characterize a real enterprise. Starting with group formation and idea generation and finalising the ideas they selected as products or services with a market demand together with the resources expected to be necessary in a business plan.

Secondly, traditional academic lecturing, which has been found to not activate students' entrepreneurship (Gibb 2002, Hannon et al. 2005, Heinonen and Poikkijoki 2006, Sogunro 2004), was avoided during the ESS. An interactive pedagogy was adopted instead, with the inclusion of active business people, creative workshops, case studies, company visits and group projects. Such an approach can be expected to enhance deep learning. It has also been argued that the best EE results are achieved when companies act as hosts for both students and teachers (Rae 2007) and when practising entrepreneurs and managers are integrated into university-level EE (Heinonen 2007, Wilson 2008). The participants in the summer school thus visited business incubators and companies to learn more about the challenges which entrepreneurs face and the ways in which they solve or attempt to solve these problems.

Thirdly, for the ESS, the students were divided into seven interdisciplinary, intercultural groups. Each group was facilitated by a teacher, and many of these teachers had their own businesses. This meant that the teachers were able to draw upon their own conceptual and theoretical knowledge but also upon their entrepreneurial experience when working with the students. These facilitators were always available to share their expertise when asked by members of the groups, but they did not impose their opinions on the groups. At the end of each day in the ESS, the groups shared their findings with the facilitators and were given feedback and guidance with regard to the next steps to be taken.

Fourthly, the overall atmosphere created during the ESS was open, friendly and flexible with professional facilitators providing support the students needed. The range of activities offered by the ESS, including the aforementioned company visits but also exploration of the city, field research and participation in cultural and social programmes outside the ESS provided plenty of space for collaboration. A crucial role was played by the hosting institution, which provided fully

equipped, modern education premises and a warm, welcoming atmosphere. The generally flexible and open atmosphere created for the ESS left plenty of room for unplanned activities which emerged from the learning situations and could thus be very relevant. For example, one of the students already had her own business and the other students wanted to learn from her experiences. This opportunity was thus provided.

Fifthly, all students were given opportunities to assess and analyse each group's achievements during the different stages of the project: 1) the initial screening of ideas 2) the selection of the final product or service for development; 3) drafting of the business plan; and 4) presentation of the final business plan. This created a combined spirit of group competition and group collaboration. The students were explicitly encouraged to share ideas, offer recommendations and be constructively critical of each other's intermediate results.

3.2. Design of the research and data analysis

Based on the theoretical perspectives and the stage of the project development, reflection questions were constructed for completion at the levels of the individual and the group. They were distributed on a daily basis via e-mail. For instance, the students might be asked the following:

- What did you manage/ not manage to do well?
- What did you like/dislike?
- What was/wasn't interesting?
- What do you consider especially valuable?
- What challenges did you face in the group work?
- How did you overcome the challenges you faced?

The responses to the reflection questions were then analysed and served two purposes. They helped us gain insight into the students' learning processes, their awareness of their progress and their awareness of the group's progress. They also provided essential daily feedback for the facilitating ESS teachers such that a new focus could be adopted or the focus of the group could be shifted as necessary.

The daily responses of the students to the reflection questions gave us more than 60 pages of student experiences to analyse. Qualitative content analyses (Mayring 2000) of the responses were conducted between January 2013 and May 2013. To identify those factors which played a role in the EE outcomes, a generic model of intercultural/interdisciplinary student group work (Popov et al. 2012) was called upon during the analyses. To reach mutual agreement on the categories which emerged from the data and guarantee the validity of the results, three researchers analysed the data independently to start with. Subsequently, all results were compared, discussed and integrated to develop an informative set of categories and identify what appear to be critical factors (Mayring 2000).

4. Results

In general, the results confirm the power of working in interdisciplinary, intercultural groups for entrepreneurial learning.

... the team is more important than the idea. When you don't have a good idea, you can think a new one up. Without a good team, you will not be flexible enough to think up a new idea. And without a good team, it will not work at all. I will use this when I perhaps start a company. (st.7-2)

Cultures can be very different and awareness about that is important Our discussions are fun. We have different opinions. We also shared information about our countries: multicultural diversity. (group 2)

More in detail, the students' reflections showed the importance of the factors identified by Popov et al. (2012) for working in groups.

4.1. Embracing knowledge, experiences and skills

With regard to embracing students' experiences, knowledge and skills, remarkable differences were observed within the groups. Some students already had considerable entrepreneurial experience while others had no such experience, and this could be seen to create tensions within the groups at times, particularly as the ESS was intended for students without a business background. When grouped with students with a business background, the education students – for instance – reported feeling low and intimidated by the entrepreneurially experienced members of the group who wanted, in turn, to move fast, became impatient and did not always try to understand the others in the group or show some understanding. As one student clearly phrased:

As I do not have a business background, I sometimes feel insecure about my role in the group, as other team members have advanced knowledge of business and economics. I feel more like a student, but not really a full member of the group, as there is little that I could contribute. (st.5-1)

Differences in entrepreneurial experience were not *automatically* capitalized upon by the students and used as an opportunity to learn from each other although this did finally happen and the students themselves came to the conclusion that this should be done at the ESS. As one student remarked at the end:

... Because I did not have a background in that field, it helped me to have colleagues who did. It was really good that my colleagues already knew something I had this great opportunity to work with a group of people who already knew something about the field They taught us how to work on a business plan. (st.1-1).

The analysis of the student responses to the reflection questions further showed the skills which were valued in the group work to be more generic entrepreneurial skills than domain-specific knowledge and skills. In particular, students mentioned the importance of creative thinking skills, seeking and seeing opportunities, social skills, presentation and argumentation skills, and an intention to put all of their

skills into entrepreneurial practice. Furthermore, the students pointed out the importance of such personal characteristics as being open to change, optimistic, flexible, enthusiastic and willing to put the acquired knowledge and skills into practice or at least attempt to do this.

... to have patience and to divide up tasks Time management is really important because our time is limited; do not worry if your English isn't very good; pay attention to team progress, the team work ... a little bit more flexibility. (st.1-3)

... how important it is to go and ask for expertise when you are stuck, because that really helped me today. I will use this in my further life ... Flexibility, social competences like communication and you should also specialise yourself in something. (st.7-5)

You should have fun, not be too serious, but sometimes work hard and be able to shout out when discussing with the team! ... independent, brave, ready for challenges. Willing to take risks, but still realistic and know when it is time to stop. (st.7-3)

I realized even more than before that a negative attitude is not helpful at all. I learned that creativity can be quite fun (st.5-3)

From a pedagogical, teaching perspective, the students emphasized the importance of having guided group activities before starting the project work. For instance, the students emphasised the importance of visiting companies together at the beginning of the programme.

... it was interesting to see the differences between company A and company B regarding the work atmosphere and employee treatment. This made me think about what I actually expect of my own workplace and what kind of atmosphere I would like to work together in with others. (st.6-3).

From company B, I learnt that first impressions are really important – in order to become successful, you need to make a product that makes a good first impression. It is important to have some innovation from time to time. (st.6-1)

However, the companies should be comprehensible for everyone. Not everyone was able to directly relate to multinationals or very competitive, aggressive companies.

We realized that the group members had totally different expectations and experiences during the company visits. Opinions about the visits differed, partly because of personal preferences, cultural and background differences and educational focus (group 3).

Related to product comprehensibility, the next important insight provided by the students' responses to the reflection questions concerned preparation of both the students and the companies before visiting them. Given that many of the students did not have clear ideas about entrepreneurship or a focus for their own entrepreneurship yet, they found it difficult to ask questions and request relevant information.

As we had very little information about our project at the time, we had difficulties preparing questions for the company visits. We did not know what we might get out of the visits. What was the intended value of the visits? We nevertheless saw that teamwork, attitude, motivation, prestige and project management are really important. (group 3)

The importance of entrepreneurs sharing their experiences with students also stood out in the responses of the students to the reflection questions.

When we visited the business incubator, I learned a lot more about the process of starting a business – also from meeting people who had been part of the business incubator, who shared their own start-up experiences. As there is still a lot I need to learn about business, I do not know which of the ideas might become useful yet. (st.5-1)

4.2. Communication

The second factor identified by Popov et al. (2012), namely communication, was mentioned by the students as well. Students referred to the importance of cultural awareness and being able as a group to overcome language, cultural and education barriers. The students also mentioned the importance of listening, sharing ideas, inspiring each other, having positive group spirit and achieving mutual goals. Openness, tolerance and patience were further mentioned as important.

... it is more helpful to talk even when you do not say everything correctly, because I learn from mistakes I make.... (st.7-2)

Choosing an idea is difficult but with a good communication we are able to overcome those difficulties. (group 4)

I could say I learned to be more patient, to be a better listener, to communicate my thoughts in a creative and maybe also more clear and organised way. I learned that my thoughts may be worth listening to even if I have less background on the topic. (st.3-2)

I have already learned new things about Latvians and Dutch by communicating with them. I have learned things about their language, personalities and culture. (st.2-4)

4.3. Problem solving and decision making

While working on their projects, the students came across many problems and thus the third factor identified by Popov et al. (2012). These were problems which the students in the groups had to address both individually and as a team. While their problem solving required them to see the “bigger picture” and thus keep the context of the overall business concept or model in mind, this was unfortunately not always possible because it required an understanding of market information, societal issues, supply-demand principles and marketing channels as well as the needs, problems and pains of potential customers.

We have understood that it is very hard to work on a project that requires a lot of research and work, especially when the team mates are from different fields of expertise and the communication is sometimes hindered. (group 5)

Everyone has their own expertise and their own way of approaching a problem.(group 4)

I liked getting an idea of the “concrete” form of a business plan. To be honest, I did not really know what should be in there before. Furthermore, I like that entrepreneurship is an on-going process about problem solving: you always try to see opportunities when a problem pops up. I like this way of “reframing” problems. (st.3-3)

Teamwork is essential for the outcome. Language and cultural barriers can be a problem for research. Don't try to change the person, use his best qualities. (st.3-2)

Meta-knowledge about the problem solving process and awareness of problem solving strategies seem to be key here.

Different people (probably depending on culture in my opinion) have different strategies and views on problem solving. When working together with people from different countries, I noticed that priorities were set differently. This could create friction, but also open new windows. (st.3-3)

Moving from the opportunity identification phase to the exploitation phase of opportunity-centred learning (Rae 2003) meant a substantial shift in the decision-making logic of the students. The identification phase – which is characterized by experimentation, creativity, play and discovery – was abruptly replaced by refinement of ideas, production considerations, efficiency, selection and implementation. During the exploitation stage, the students had to make decisions, distribute tasks and manage their time effectively. The shift from the first to the second phase opportunity-centred learning was experienced by the students as difficult, but important.

I liked thinking of a business plan from the client's point of view, what they can get out of it. By thinking and talking about it like that, I understood the main point and necessity of our product even more. (st.2-4)

We think more in detail about our project now. It is another point of view, we now rethink everything. It offers more structure. It became more real. Better understanding of the feasibility of the project. (group 2)

I think that during the next days, after talking to our potential customers, we will have to make many changes to our first ideas. (st.7-2)

I liked getting through the difficulties we had to make the process and the business idea itself better. It helped to see how a business idea needs to be elaborated and what different things need to be considered and come up.(st.3-1)

4.4. Conflict management

As the ESS progressed, some groups had to face internal conflicts, the fourth factor described by Popov et al. (2012). In order to effectively deal with such

conflicts, students indicated the importance of identifying problems at an early stage. The key to solving group conflicts, in their opinion, is to identify and realize collective goals through communication.

I learned that a clear and fully-defined aim is vital. I will remember this in even the most mundane activities. (st.2-2)

I liked the part when we finally made a decision together. It was usually worth arguing about. (st.7-5)

Furthermore, the prevention and solution of internal conflicts requires team discipline, shared rules and roles, and also team participation and input from all members of the group. From an individual perspective, this requires listening and being open, acknowledging different opinions, coping with insecurities and staying positive.

4.5. Leadership

Finally, leadership or the fifth factor mentioned by Popov et al. (2012) was mostly perceived as the necessity of having *entrepreneurial* leaders. Such group leaders were perceived to engage others, recognize opportunities, dare to take risks and detect failures before other members of the group might do this.

It is hard to motivate people and especially in such a short period of time. (st.7-3)

In a group, I really need someone to be a leader, both to exploit my idea-generating personality but also prevent me from mixing things up and doing everything at the same time (prevent me from getting distracted) – a group leader who needs to be stimulating at the same time. (st.5-2)

I know my weaknesses, so I can tell that I am more of a team player than a leader. I suppose that it is important to be a leader and have strong communication skills and an ability to convince people, which I am not always good at. (st.3-1)

5. Discussion

The research question posed in the introduction was: *What factors are perceived by students to contribute to entrepreneurial learning within interdisciplinary, intercultural student groups?* The results showed that all diversity factors as described by Popov et al. (2012) for group work were also highly relevant in the interdisciplinary, intercultural summer school context of the present study. Nonetheless, the general factors described by Popov and colleagues also showed dynamics which appeared to be specific to the context of EE. Particularly the factors embracing members' knowledge, experiences and skills, problem solving and decision making and leadership showed this context-specificity and are therefore discussed in the following.

Firstly, from the perspective of embracing the knowledge, experiences and skills of the different members of the group, the groups of students participating in

the ESS can theoretically draw upon three valuable sources for entrepreneurial ideas: the diversity in the prior entrepreneurial experiences of the members of the group, the national/cultural diversity of the group members (e.g. how problems are solved in other countries) and the disciplinary diversity of the group (e.g. adoption of different angles to explore an entrepreneurial opportunity and the creation of something new by crossing traditional disciplinary boundaries). However, our results show that having at least some entrepreneurial experience was valued most in the groups and therefore regarded as most important. The national/cultural and disciplinary diversity within the groups were often not recognized by the groups as an asset for the identification and generation of entrepreneurial ideas. Tapping into group diversity may thus require more effort on the part of group facilitators, who can – for example – help students make what they as an individual can contribute to an entrepreneurial idea more explicit. In other words, helping students to develop a “professional” language for the sharing of each other’s ideas and thus creating a common ground. Gaining insight into the backgrounds of the students in a group right from the beginning can help establish a high-performing group – a group which capitalises on its diversity rather than being constrained by it (McCorkle et al. 1999). Special attention must be paid to several background variables in particular: prior domain knowledge, prior experiences with group work, prior entrepreneurial experience and mastery of the specific skills needed to perform the task at hand. Company visits can help in this regard, provided that these visits address the importance of all three sources of entrepreneurial opportunities (i.e. entrepreneurial, disciplinary and cultural diversity) and that the students are able to connect their backgrounds to what they see at the companies (i.e. scaffolding company visits).

Secondly, joint problem solving and decision making posed one of the major challenges in the intercultural group work as observed by Popov et al. (2012). The combination of the problem solving and decision making required by entrepreneurial projects together with the challenges of working in a nationally/culturally diverse setting, require groups to find workable methods to proceed. If this takes too much time or occurs with too much conflict, the group outcome is seriously threatened. And in a number of studies, the group dynamics in culturally diverse groups have been shown to differ to a large extent from those in same-culture groups (see Williams and O’Reilly 1998). Culturally diverse groups often suffer from process losses precisely because of misunderstandings and coordination difficulties, and this has been found to be the case especially when the students do not know each other and must collaborate together for the first time (Anderson and Hiltz 2001). Students working in culturally diverse environments may not overcome the challenges of group work to achieve the potential rewards of such collaboration, thus, without additional facilitation. Effective entrepreneurial problem-solving and decision-making require more than minimal guidance from EE teachers; they require active facilitation. Given that the business opportunities of tomorrow (like in the field of sustainability, see Lans et al. 2013) are often ‘wicked problems’ or, in other words, problems which are difficult to

pin down, new pedagogical tools are needed to help students develop the skills needed to tackle such problems. For example, implementation of the eight stages which have been identified for the creative problem-solving process could be stimulated (see Sawyer 2012). Teachers/facilitators should make groups aware of the importance of the problem-solving process and the problem-solving strategies adopted within the group and give clear suggestions for addressing them in their group (see Popov et al. in press).

Thirdly, entrepreneurial leadership is always needed at some point. This type of leadership involves more than simply having a group leader who effectively deals with free riders, dominance or lack of motivation (Popov et al. 2012); entrepreneurial leadership requires someone who is engaging, is proactive, is willing to take risks, has the achievement motivation to really pursue ideas with passion. Watching for such inspiring individuals while forming groups thus appears to be the key here for facilitators.

Finally, some possible limitations on the present study should be addressed at this point. The length of the study period allowed only short-term learning experiences. The development of effective team dynamics and teamwork requires time, however. In future studies, moreover, greater attention should be paid to influences of specific pedagogical interventions themselves (e.g. informed company visits, aligned proactive group facilitation, etc.). In addition, not only the reflections of students but also the reflections of their facilitators should be analysed during such a ESS.

This allows corrective measures to be identified at an early stage and subsequent interventions to be applied. This is of great importance in intense and short-term courses as investigated in this study. Future research would benefit from teacher reflections on such interventions during the learning processes.

6. Conclusion

To conclude, we started this article with the observation that the number of EE programmes is rapidly growing in Europe but that there is room for improvement. Research on EE is nevertheless still young. At present, most of the empirical work on EE is carried out from the perspective of stimulating entrepreneurial intentions. Only limited empirical research has been conducted on the entrepreneurial learning of higher education students. The present research helped fill this gap by exploring the learning of 35 non-business students who participated in an intensive, intercultural, interdisciplinary, entrepreneurial summer school. The results showed heterogeneity in the form of disciplinary and cultural differences within student groups to contribute to their learning in general and their opportunity-centred learning in particular but also give rise to considerable confusion and misunderstandings within the entrepreneurial education context. The present results can help researchers, teachers and facilitators to better understand the entrepreneurial student learning process and influence of working on international, interdisciplinary

projects. And with this improved understanding, a start can be made on the development of effective EE for higher education students.

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