Choosing Collaborative Learning Options for Preparing Innovative Entrepreneurs

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Abstract: This paper focuses on comparing and choosing online and face-to-face collaborative learning applications for preparing students to innovative entrepreneurship. The main research question is: What are the pluses and minuses of programs with different time frames and combinations of online and face-to-face teamwork for facilitating innovative entrepreneurship and international scaling readiness? Learning concepts based on collaborative learning and improving the international networking readiness of students are presented. Estonian-Finnish business in virtual networks course, online teamwork experience of students that have participated in X-Culture global teams, intensive one semester face-to-face business development projects in the Starter programme and one-week course European and Global Horizons for Start-up Entrepreneurship in the Post-COVID World at the KEDGE Business School are compared. We analyse the pros and cons of these educational practices and give recommendations on how to customise these practices to intended learning outcomes depending on the international mobility possibilities of students. The paper explains how to align collaborative learning options to the entrepreneurial orientations of students, their readiness to launch a new venture and to international scalability potential of their innovative ideas. Limitations of intensive learning by doing programmes for team-based venture development and different ways of international student team creation for collaborative project work are explained. The recent COVID-19 crisis has expanded the need to apply online learning and hybrid learning for collaborative projects. Implications of limited international mobility of students during the pandemic on scalable business idea development are highlighted. The importance of networking knowledge for international entrepreneurship and the role of team projects for other entrepreneurs before starting students' own innovative ventures is explained. Learning in higher education should not be locked to closed e-learning platforms. Online learning can support international entrepreneurial collaboration. The paper also discusses changing trends of collaborative learning to facilitate innovation and green entrepreneurship for regenerative futures in the new normality during the COVID-19 pandemic.

Keywords: innovative entrepreneurship, collaboration, knowledge co-creation, networking, online teamwork

1. Introduction

Innovative entrepreneurship assumes international scalability, especially for start-ups from small economies. For decades, learning and knowledge have been among the central components underlying the causes, processes, and early internationalisation outcomes (De Clercq et al, 2012, Renfors, 2021)). Development of innovative entrepreneurial teams that involve members and partners from different countries are implications of business globalisation. In this context, entrepreneurship educators should support learners by applying culturally inclusive educational technologies (Akinrinola et al, 2020). Thompson (2017) encouraged using digital tools such as social media in line with the flipped classroom approach to make the learning process more interactive. Online social and business networks can support international collaborative learning as enablers of learner-driven networking and cross-border knowledge sharing for entrepreneurship. Collaborative learning should prepare students for entrepreneurial team formation and combine online and face-to-face learning to develop mindset, skills and practice for starting a new venture, but its outcomes can support life skills even if learners do not start a new business (Neck and Corbett, 2018).

The recent COVID-19 crisis has facilitated both initiatives to create a better virtual environment for university-driven online and hybrid learning (Kurbakova, 2020) and student-driven informal information sharing on the internet. Different target groups involved in entrepreneurship education have diversified experience and readiness to start their own local or internationally oriented business or act as intrapreneurs in existing business organisations. Sector-specific learning by doing opportunities and the need to integrate entrepreneurship education with international business knowledge must also be considered when applying entrepreneurship education as a tool to learn through practical entrepreneurship process already during university studies or to create readiness for more innovative and internationally scalable start-up activities after university studies.

Our objective is to develop the framework for choosing and combining international collaborative entrepreneurial learning tools at universities. This paper compares different collaborative learning options from the point of view of expanding networks for entrepreneurial knowledge sharing, developing creativity for innovative entrepreneurship and supporting start-up processes. The context of online and hybrid learning is also
taken into consideration, having in mind the COVID-19 crisis and potential implications for learning in the new normality.

2. Literature review

Kedia and Englis (2011) stated that businesses' globalisation had occurred faster than business schools' internationalisation. In collaborative learning, students participate in small-group activities to share their knowledge and expertise. During the 1970s and 1980s, cooperative learning dominated as the general term for group-based learning in the research literature, but since the beginning of the 1990s, collaborative learning has become a more popular term (Strijbos and Martens, 2001). Johnson et al. (2007) explained how learning in groups is influenced by social interdependence. The increasing variety of information search and communication opportunities available through the internet leads to the need to reflect several learning modes and tools in groups and communities. Group activities can be driven by teacher-driven tasks only, but group work can also train students to find new useful information and compare their priorities with other students. Collaborative learning focuses on knowledge co-creation (Vuopala et al, 2019). In comparison with cooperative learning, collaborative learning is not so highly structured and is less teacher-centred. Collaborative learning experiences allow more delegation of decision-making to students that can use various knowledge sources. It is focused on socialising students into new communities, cultures and the wider World (Veldman and Kostons, 2019). International collaborative learning assumes the involvement of students representing different nationalities and societies.

Dania and Griffin (2021) use the term "collaborative learning communities" when studying social media and related collaboration solutions in the classroom. Collaborative learning can be implemented in a face-to-face classroom environment, but online networking can also give input to collaborative learning. A challenge for established higher education institutions is understanding both the positive and negative social media implications for collaborative learning. Universities have to align university curriculum and instruction methods to such student-driven networking and knowledge sharing activities on social media that support students' future careers and self-development. Benson and Filippaios (2015) studied graduates from AMBA-accredited universities and highlighted skill gaps between generation Y (born between years 1980-1994) and experienced graduates in using online social networking tools. They pointed out that although online networking increases the social capital of students and improves collaborative competencies, knowledge construction and sharing skills, still only a few universities provide courses for professional use of online social networks.

Networking is a core entrepreneurial capability in attaining necessary resources, knowledge, and information (Morris et al., 2013). Elenurm (2012) explained how co-creative, individually innovative and imitative entrepreneurial orientations influence the networking needs of students. Co-creative orientation supports creative teamwork for developing innovative business ideas. Imitative orientation is focused on transferring established best business practices to a new business environment. Social media has become influential in the daily life of many students, and adoption of it for self-development may motivate entrepreneurial intentions (Do et al, 2020). Sula and Elenurm (2018) have studied how students use online networking opportunities for entrepreneurial learning. Young students rely equally on online and offline entrepreneurial ties, but they often do not have a clear vision of using weak and strong ties in their networks at different stages of their self-development. Adner (2012) stressed the open innovation readiness to encourage new ideas from outsiders. The open innovation approach assumes collaboration and engagement with a wider variety of participants (Chesbrough, 2017). Autio et al (2013) explained how knowledge sharing in online communities could reduce demand uncertainty for new international business initiatives. In international business research, one implication of the networking focus has been revisiting the traditional Uppsala concept of step-by-step internationalisation. The original Uppsala model (Johanson and Vahlne, 1977) focused on learning from market commitment and knowledge available from neighbouring countries and, after that, from incremental internationalisation by moving towards more distant markets. In their later work (Johanson and Vahlne, 2009) the same authors, however, discussed the increasing role of network relations in internationalisation. Innovative start-up businesses apply network learning as their business intelligence tools to achieve their space in international markets (Caseiro and Coelho, 2019). Rapidly internationalising small and medium-sized enterprises from emerging countries need to use a wide range of internal and external network sources (Puthusserry et al, 2020) also during their post-entry business development stages.
Entrepreneurship education discourse has specified competing departure points of entrepreneurship education (O’Connor, 2013). Applying learning by doing through practical venture creation and business idea commercialisation processes is a suitable framework if the student enterprise team is ready to jump-start such a process and their sector-specific resource base can be created. Learning for future entrepreneurship by exploring features and role models of successful entrepreneurs in various countries, studying different types of entrepreneurship, including social entrepreneurship, and new business opportunities in the context of the green agenda for regenerative futures (Camrass, 2020) is, however also operational for these students that need to broaden their interdisciplinary knowledge base and create their international network before launching a real start-up initiative. Collaborative learning can focus on own entrepreneurial start-up development of a team or engage learners in projects where student teams solve problems faced by other entrepreneurs already operating in practice. Contributing to solving problems of practitioners enhances critical thinking (DeSimone and Buzza, 2013). Learning from the success and mistakes of others without making their own investments and long-term commitment to own enterprise development are essential at the life stage when learners are not ready for such commitments. Kwong and Thompson (2016) have pointed out the contradiction that although learning through practical entrepreneurship has been a key element of the curriculum in many universities during recent decades, students focused on long-term innovative product development often prefer at first to learn from the experience of established entrepreneurs, create some financial basis and broaden their social network before starting their own business.

Online and offline collaboration ties are mutually complementary, and collaborative university education can create synergy between these ties in entrepreneurial learning. The blended learning discourse addresses the right balance between online learning and face-to-face classroom activities. Blended learning is defined as the system combining face-to-face and computer-mediated instruction (Manwaring et al, 2017). During the COVID-19 crisis, face-to-face classes were often changed to web-based conferences using Zoom, Big Blue Button, and other synchronous online learning tools combined with asynchronous e-learning uploaded lecture content, quizzes, and discussion forums. Finding the right combination of synchronous and asynchronous knowledge sharing is vital for developing new blended learning solutions. Some researchers see online learning as a panacea in the time of the COVID-19 crisis (Dhawan, 2020). At the same time, educators face conceptual and technical challenges in the hybrid classroom, where during the COVID-19 pandemic, some students participate in classes conducted on the campus, and some are involved online (Triyason et al, 2020). It is essential to discuss the prospects of the hybrid classroom for potential entrepreneurs as the new normal after the pandemic.

3. Methodology for comparing collaborative learning options

The methodological departure point of our approach to collaborative knowledge co-creation is the comparison of learning processes, where students have contributed to international business initiatives or started their development journeys as start-up entrepreneurs focused on international business opportunities. We applied educational action research. Action research in education reveals both the potential as well as the challenges of educational practices centred on learning projects in different formats and with various internal and external partners (Mandrup and Jensen, 2017). We compare five collaborative learning projects where the author has been involved: Estonian-Finnish business in virtual networks course, the Nordic Ideation Camp, X-Culture global teams programme, intensive face-to-face business development in the Starter programme and the recent Global Horizons for Start-up Entrepreneurship course at the KEDGE Business School. The pluses and minuses of these knowledge co-creation processes for enhancing creativity, readiness for innovation and international teamwork are analysed. Comparison of programs is mainly based on observations of learning processes in the instructor role, discussions with other instructors, students’ group work on lessons learnt, assignments submitted by learners, and their individual verbal feedback. The literature overview serves as the basis for formulating the following questions for comparing these collaborative learning practices.

- 1. To what extent collaborative learning supports discovering or expanding networks for international scalability of business initiatives?
- 2. To what extent creativity for innovative entrepreneurship is developed?
- 3. To what extent learning by doing through start-up development is supported?

4. Pluses and minuses of collaborative learning cases

Business in virtual networks courses have been conducted at the Estonian Business School (EBS) from the year 2008. Starting from 2014, these courses were simultaneously conducted in the Tallinn and Helsinki campuses of
EBS. At first, students were asked to find and review in the course weblog the best online network for business students that they individually identified. Online network overviews that offered new information for many students were chosen for oral presentations in group work during the course. Students formed project teams during these courses based on their networking priorities. In the next stage, online teams for course projects were created by students. The rule was that each team had to involve students from both campuses. At the end of each course, student teams presented ideas for developing new online networks that could serve the self-development needs of business students. Teams had to present a simple prototype of a new useful online social networking tool for business students and explain the mission, main features of the tool, value of the network for its members and the potential target group to engage members to this network. As the course was focused on strategies and priorities of online networking, information technology application was quite limited during this course. The primary function of prototyping was to visualise and explain the new potential network concept.

Nordic ideation camp programme that started in 2017. This programme combined a week for online team formation and ideation preparation with an intensive one-week ideation camp involving students from Denmark, Finland and Estonia. The third week was for reflection and follow-up when students were back at their universities. This was a cooperation project between Copenhagen Business Academy, Haaga-Helia School of Applied Sciences and Estonian Business School. Student teams started working online on assignments presented to them online by enterprises one week before the camp. Tasks were defined by enterprises from the country, where the ideation camp was arranged following the rotation between participating universities. Camp organisers chose these enterprises. The main ideation and idea validation were organised in the camp’s face-to-face learning environment, where students during a week each day concentrated on the task of their team. The pre-camp week had an important role in identifying the competencies of team members to use online tools and collecting data from each participating country as input to ideation during the intensive face-to-face teamwork in the camp. Face-to-face ideation in the camp started from filling in the empathy canvas about potential customers, and several canvases supported ideation mainly from the point of view of design thinking and understanding clients. Students validated prototypes based on their preliminary ideas through face-to-face interviews with potential customers during the camp. During the last day of the camp, enterprise representatives gave feedback to student teams about the practical value of their reports.

The globalisation of business opportunities assumes the capability to co-operate with students as potential entrepreneurship partners all over the World. The global X-Culture https://x-culture.org consortium has been able to involve students from more than 100 universities in 40 countries on six continents. Online X-Culture projects have continued during the COVID-19 pandemic. Students must pass a pre-test to demonstrate their knowledge about online communication and knowledge sharing tools and X-Culture rules. X-Culture organisers allocate students to virtual project teams following the principle of the geographical and cultural diversity of each team. Students have to build their team consensus on the international business opportunity challenge they try to solve together by working online for two and half months. Based on consensus in their team, they can choose the project enterprise after studying written challenge descriptions compiled by enterprises for X-Culture. Creativity in X-Culture is needed for identifying new international business opportunities that match the needs of companies and aligning knowledge sharing styles of students from different cultures, and finding the best online cooperation tools in situations where team members never meet each other in a physical space. There is no direct face-to-face contact with the client enterprise during project work. Sometimes, even more than a hundred teams may choose to prepare a report for the same enterprise. X-Culture team reports are graded by lecturers representing these universities where team members study. Starting from 2015, we have used X-Culture international business courses for the whole student group.

In 2017 Estonian entrepreneurship education framework programme EETA launched pre-incubation programs StarterTech and StarterCreative that bring together to joint sessions students from several Estonian universities. These pre-incubation programs mean intensive 3-4 hours sessions after two weeks, where guest speakers and mentors assigned to each team encourage student teams to take the next steps in their business development efforts. Ideation periods during sessions are, however, only 15-20 minutes, and creative thinking outside the training room depends mainly on commitment and time arrangements in each team. At the end of the programme, there are semi-finals and final of pitching business models that have been developed by teams. Business angels are also involved in the final session at the event called Startup Day, where the best teams are rewarded based on their presentations. Although students are encouraged to develop prototypes and test these with users, the pre-incubation program time span of three months is quite limited to conduct in practice several start-up development stages that are introduced during programme sessions.
The international week of the KEDGE Business School in Bordeaux in 2021 autumn focused on regenerative futures. Collaborative learning for entrepreneurship in the regenerative futures and green thinking context was applied in the course Global Horizons for Start-up Entrepreneurship. Students were asked to use teamwork to develop start-up ideas that follow the United Nations 17 sustainable development goals and regenerative futures principles. In the COVID-19 situation, there were few international exchange students. Although online networking opportunities were introduced, the one-week cycle of classes and assignments was too intensive to expand the network for discussing the international scalability of start-up ideas. As a result, teams mainly developed business models for local green initiatives in recycling and diminishing food waste. In final reports by student teams, comparison of these initiatives with similar best practices in other countries was quite limited.

Table 1 sums up the main differences of reviewed collaborative learning cases.

Knowledge about new online networking tools is most extensively disseminated in the Business in virtual networks course. X-Culture global programme has the highest international diversity in teams and structured support for the step-by-step process for export plan development, but in this programme, students cannot choose their team members and pursue their own entrepreneurial initiative. The same limitations apply to the Nordic ideation camp, although in this programme, creativity based on design thinking and client problem validation is applied in an advanced way. The Starter pre-incubation program involves practitioners to highlight challenges at different stages of the start-up process, but the time frame is too compressed for deep learning by doing during these stages. One-week international week programme at the KEDGE Business School is even more compressed, and innovative learning in such intensive courses depends on the international composition of the study group and student involvement in online networks to increase the diversity of their knowledge sources. Learning by doing that could cover the whole start-up development cycle assumes the readiness of students to commit themselves to real entrepreneurship already during their university studies. Pursuing radically innovative entrepreneurship ideas assumes cooperation with business angels of other types of investors and also some freedom to choose start-up team members. Pre-incubation programmes such as Starter can prepare teams for further incubator or accelerator involvement.

Creativity driven by design thinking and client validation through communication with potential clients is developed in the Nordic Ideation Camp, but the face-to-face focus nature of interviews does not allow to compare client needs in different international markets for business growth. To broaden the mindset of students in study groups, where readiness to develop their own innovative ideas and where international diversity is limited, we have used during the COVID-19 pandemic as an icebreaker discussion Global Hack for Fighting the Global Crisis https://theglobalhack.com. This online hackathon in April 2020 involved more than twelve thousand participants from more than 100 countries. Hackathon resulted in 500 business development ideas focused on overcoming the medical, economic, social, and educational crisis resulting from the COVID-19 crisis. Online hackathons as such are large-scale collaborative learning processes, where participants can recruit new members to their online teams and learn from other teams, mentors and finally from the panel that assesses business ideas and tries to identify winners. They learn how to explain their business concept in a brief written outline and in a video presentation.

**Table 1:** Networking, creativity and business development outcomes of collaboration

<table>
<thead>
<tr>
<th>Comparison criteria</th>
<th>Business in Virtual Networks course</th>
<th>Nordic Ideation Camp</th>
<th>X-Culture global programme</th>
<th>Global Horizons for Start-up Entrepreneurship</th>
<th>Starter pre-incubation programme</th>
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</thead>
<tbody>
<tr>
<td>Expanding networks for international entrepreneurship</td>
<td>Extensive screening of online networking</td>
<td>Synergy of team members around the Baltic Sea, online team building stage before the face-to-face ideation camp</td>
<td>Global diversity of online team membership but no opportunities to choose team members</td>
<td>During COVID-19 in 2021 more limited international networking for information search due to the limited number of exchange</td>
<td>Motivational presentations and mentoring by practitioners as face-to-face network expansion tools</td>
</tr>
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</table>
### Comparison criteria

<table>
<thead>
<tr>
<th>Programmes compared</th>
<th>Business in Virtual Networks course</th>
<th>Nordic Ideation Camp</th>
<th>X-Culture global programme</th>
<th>Global Horizons for Start-up Entrepreneurship</th>
<th>Starter pre-incubation programme</th>
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<tr>
<td></td>
<td>students outside France</td>
<td></td>
<td></td>
<td></td>
<td>Diversified practitioner experiences. Presentations to practitioners for facilitating creativity</td>
</tr>
<tr>
<td>Developing creativity for innovative entrepreneurship</td>
<td>Creativity applied in developing networks for student collaboration and internship opportunity search</td>
<td>Creativity is driven by design thinking and potential client validation exercises</td>
<td>Creativity focused on customising marketing activities to new export markets</td>
<td>Creativity applied to local green initiatives but no radical innovation ideas</td>
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</tr>
<tr>
<td>Supporting the start-up development process</td>
<td>Awareness of online networking opportunities for future start-up initiatives was raised, but no follow-up after prototyping</td>
<td>No own start-up but learning by doing for understanding problems of potential customers and interviews ad idea validation tools</td>
<td>Export plan development based on detailed written challenge description but no direct feedback from ventures to each student team</td>
<td>One week + one month for report finetuning allowed to specify business model but limited validation efforts.</td>
<td>Understanding challenges of start-up process but time frame too limited for learning by doing. Can serve as input for further incubator or accelerator involvement</td>
</tr>
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</table>

However, students who are not directly involved in a hackathon can be engaged in a post-hackathon selection of ideas that are most relevant for them as potential start-up team members or investors. Screening online hackathon results inspires students to generate their own innovative ideas that may have global scalability.

### 5. Conclusions

An ideal collaborative learning programme for innovative and internationally scalable entrepreneurship could benefit from features of all five compared programmes. However, curriculum and course time frames, diversity of student group composition, and readiness of students to start and continue practical entrepreneurship journey already during their university studies will influence opportunities to attain international networking, learning by doing and creativity outcomes in entrepreneurial and collaborative learning. In entrepreneurial learning processes, the role of action learning through real innovative start-up activities depends on the stage of the self-development journey of a learner and assumes knowledge about networks and resources to support this journey. Collaborative learning can develop creativity for finding new business opportunities and for networking to find new knowledge sources and international partners. During the COVID-19 pandemic, many universities have more extensively applied online learning and hybrid learning. Collaborative learning for innovative entrepreneurship should not be limited to the classroom or e-learning environment of a separate university. It should initiate networking and collaboration between students from many countries and also with contributors not involved in universities. COVID-19 crisis has disrupted some established academic practices but, at the same time, created new incentives for developing virtual learning in the open university and international networking context.

The limitation of this paper is its focus on reflecting the author's experience in developing and implementing collaborative learning programmes. Comparing a larger number of academic practices and assessing the long-term results of different collaborative learning patterns for innovative entrepreneurship in post-university practice is a further research direction.

### References

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