

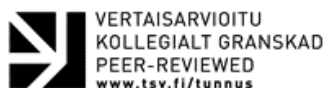
Article

# Digital learning design of Dynamo, entrepreneurship programme for highly educated - From ideas to learning processes, results, and recommendations

Reija Anckar <sup>1</sup>, Heli Potinkara <sup>1</sup>,<sup>1</sup> Haaga-Helia University of Applied Sciences, Helsinki, Finland

**Citation:** Anckar, R., & Potinkara H., (2023). Digital learning design of Dynamo, entrepreneurship programme for highly educated - From ideas to learning processes, results, and recommendations. *eSignals Research*, 3(2). URN <http://urn.fi/URN:NBN:fi-fe2023061555513>

Date of publishing: 6.6.2023



Reviewers: Marjo Ruuti Laurea University of Applied sciences & Heidi Myyryläinen, LAB University of Applied Sciences.



Copyright: © 2023 by the authors and Haaga-Helia University of Applied Sciences. Published under the terms and conditions of the Creative Commons Attribution (CC BY NC SA) license (<https://creativecommons.org/licenses/by-nc-sa/4.0/>).

**Abstract:** This conference papers investigates what kind of learning processes, results, and recommendations can be found when the digital learning design was conducted and implemented in the Dynamo programme for highly educated at Haaga-Helia University of Applied Sciences in Finland in 2021. The data were collected from the authentic, documented sources and situations during the planning and implementation of Dynamo programme. The informants were the students, supervisors, and stakeholders. A literature-guided thematic analysis was made using the design thinking process a framework to share the best processes, practices, and recommendations to a wider audience. The results indicate that the digital learning design should be done in collaboration with students, stakeholders, and experts. The highly educated students are an asset, and they can contribute to the programme, too. Peer learning and study groups online were vital as the sense of community and entrepreneurial identity grew even if the participants did not meet live. Agile development and improvement of the programme must be done continuously. Active counselling is powerful. Business and entrepreneurial skills and self-leadership were developed through experiential learning both in studies and in practice.

**Keywords:** learning, entrepreneurship, planning and design, Universities of Applied Sciences

## Introduction

An online entrepreneurship education for highly educated was designed in autumn of year 2020 and run in 2021 at Haaga-Helia University of Applied Sciences in Helsinki, Finland because of the lack of entrepreneurship trainings for highly educated. The programme was targeted to persons with a university degree with the minimum of a bachelor's degree and a relevant work experience. The pandemic raged and face-to-face education did not come to consideration.

As the learning design and implementation were 100 % digital and the target group was special, it was vital to document, collect feedback, and analyse the gathered insights. It was crucial to discover what kind of learning processes and results were created and how these experiences can be shared for the future implementations.

This paper introduces literature on entrepreneurship education, design thinking, and digital learning design. It combines all these aspects in a thematical analysis that organises the collected data in from the Dynamo year. Design thinking phases are used to parse, visualise, and discuss the learning processes, evaluate the quality and impact of the online education, and make some conclusions and recommendations.

The learning design process helped to recognise the need of the students and the society as the first phase of the learning design is to empathise. Feedback and continuous improvement are crucial when a study programme is monitored, developed, and cultivated.

The study benefited from the active and collaborative online community that was created through team building, challenges, group activities, digitalisation, entrepreneurial inspiration, and counselling. There were diverse learning processes for students, teachers, and stakeholders. It is recommended to focus on the group spirit and functions to create a successful and meaningful online entrepreneurship training for highly educated.

### **Background**

The tendency for governments to promote entrepreneurship is increasing because entrepreneurship creates jobs and economic growth in the society (O'Connor 2013). Dynamo – entrepreneurship programme for highly educated in year 2021 was created at Haaga-Helia University of Applied Sciences in Helsinki, Finland because influencers in the field of entrepreneurship were worried about the fact that there was no entrepreneurship education for highly educated in the country that needs entrepreneurship to generate jobs and money for the general wellbeing in Finland (Suomen Yrittäjät 2019).

Entrepreneurship experts were also involved in the planning of the programme. The Haaga-Helia planning staff was multi-professional including several supervisors that also had a business of their own.

The impact of the covid-19 pandemic hit the planning and the implementation of Dynamo programme. The only possibility to plan and run the programme was to do it online.

Like entrepreneurs, Haaga-Helia staff had to be agile when designing the programme. However, there are lessons to be learned for improving the quality and enriching the future entrepreneurship trainings that can be face-to-face, blended, or online and synchronous or asynchronous.

There are some studies concerning similar situations. Liguori and Winkler (2020), Deming et al. (2016), and Kassean et al. (2015) have discussed the challenges and opportunities of the entrepreneurship education following the pandemic. They stress that online studies have not been common in the field of entrepreneurship as little is known how effective online entrepreneurial learning is. Even less is known how real-world immersion, practice, and experiences can be implemented in an online education. Liguori & Winkler (2020) state that entrepreneurship studies in higher education consist of three elements: 1) business basics 2) entrepreneurship basics and 3) entrepreneurial mindset/competencies. All three should be included when designing an entrepreneurship course face-to-face or online.

Muthuprasad et al. (2021) have studied students' preference of online education in India during COVID-19 pandemic. Their framework is the Community of Inquiry (COI) which offers a baseline for intervening in online learning and teaching. The researchers concluded that the learners' group plays a central role in online learning when it happens through 1) social 2) cognitive, and 3) teaching presence. According to them an online course can be as effective as a face-to-face class when the learning design is conducted well.

Laanpere et al. (2014) discuss online platforms for learning. They write that many platforms are pedagogically neutral so that every team can apply various pedagogical approaches. We are now in the third generation of technology-enhanced learning systems. There is cloud architecture in them, and these systems are open, and web based. The pedagogical foundation is social constructivist, and they are made for reflection and sharing.

With these aspects on mind, it is useful to reflect and analyse the digital curriculum design and the implementation of Dynamo entrepreneurship programme for highly educated that was run completely online in year 2021 when the covid -19 pandemic was at its worst.

### **Literature review**

Borja de Mozota & Valade-Amland (2020) state that design is not any more manifested solely by a physical artefact. It can be also a process, speculation, critical thinking. Design does not belong to a silo but equips people with the lateral mindset.

Design thinking is utilized in entrepreneurship and learning design as the design process is a suitable way of developing novel services, products, or concepts. The core idea is to do everything in unusual ways, iterate and test. Like de Bono (1970) writes, design is

*“---the escape from cliché concepts, challenging assumptions”.*

However, dynamic design thinking processes need to be professionally managed and planned. It does not happen by chance. (Borja de Mozota et al. 2020.)

Design thinking is known in teaching and learning as well, and it is increasingly practiced online (Vallis & Redmond 2021). Salmon and Wright (2014) claim that digital learning design is not a sideline anymore but there is a sense of urgency to change teaching practices to more student-centred, future-oriented, and digital as informal learning outside the physical learning spaces, digital free open courses are available and there are a variety of digital devices to choose from. This is a critical shift. Solutions like 'one size fits' all or 'page turning' are not effective methods for today or for the future.

Even if the pandemic 2020 – 2022 increased online learning, there are specific challenges in creating high-quality collaborative learning in digital pedagogy (O'Dea & Stern 2022). Hence, it is crucial to collect all feedback and analyses on best practices and quality questions to improve the quality and impact of learning processes and sense of community in digital education. To share the novel insights, it is necessary to disseminate the results and recommendations.

### **Combining design thinking and entrepreneurial mindset**

Entrepreneurial mindset in its simplest form refers to person's ability to forge opportunities from uncertainty (Kor et al. 2001). Morris and Liguori (2016) list things such as opportunity alertness, value innovation, persistence and tenacity, optimism, adaptation, resilience, and building and using networks as part of entrepreneurial mindset and competencies. In general, entrepreneurial mindset entails issues related to enduring uncertainty, acting, and creating value. Although vaguely defined, it is something increasingly expected from both entrepreneurs and employees in the world of work. Therefore, it is an outcome sought after in entrepreneurship programs.

Garbuio, Dong, Lin, Tschang, and Lovallo (2018) state that design thinking incorporates cognitions, tools, and techniques. They especially underline that focus on the design thinking in entrepreneurship education should be on the thinking. By that they mean that design thinking is more than set of tools and techniques (e.g., visualising customer journey, creating customer personas), but rather a way of thinking. They focus especially on opportunity discovery.

Applying design thinking methodology to the context of learning and designing curriculum to the entrepreneurship education program can be seen through the lens of learning design, where the goal is to foster the emergence of entrepreneurial mindset.

Design is planning of one kind. When planning projects, learning, or teaching, the focus is on solid deliverables and assignments, learning environment and the social organization of the project or learning community. The participants can interpret them so that they suit their own needs. There are essential differences between design and planning of a project, learning, and teaching, though. For instance, planning is linear and focuses on goals. Design is based on differences and chaos, and it concentrates on the needs of the participants. It aims at true transformation and a learning organisation. (Goodyear 2015, 32; Aaltonen & Alanko-Turunen 2019; Schlechty 2011).

### **Aim of the study**

To create a 30-cp entrepreneurship programme for highly educated on master's level in Helsinki, Finland from scratch was a new task and the process was unpredictable. Therefore, there was a lot of development and inquiries when planning and when implementing the plans. To understand and improve it and further design the online education and trainings that were held online during the year of the covid-19 pandemic 2021, the diverse phases and collected data shall be thematically analysed

This research aims at finding out following:

*What kind of learning processes, results, and recommendation can be discovered based on the literature-guided thematical analysis of the data collected during the digital learning design and implementation of Dynamo – the entrepreneurship programme for highly educated?*

This study is novel as the target group of the fully digital Dynamo entrepreneurship programme are highly educated students. The paper describes and analyses the design and learning processes and the continuous improvement and development of the Dynamo programme according to the

design thinking approach. After thematic analyses, best practices are shared, and recommendations are made for the future quality and collaboration.

### **Methodology**

In qualitative social science research inquiries are from the reality and the informants and authors share the same lifeworld. The topic of this paper is the digital learning design, implementation, results, and recommendations of Dynamo entrepreneurship programme for highly educated. Hence, the object is a social, practical, interactive, and creative process. Also, the authors of this paper do not only share the same lifeworld with the diverse informants (students and stakeholders) but are also involved in the process as supervisors. All we were part of a co-creation process.

### **Data collection**

Dynamo programme was designed at the end of year 2020 and implemented in 2021 at Haaga-Helia University of Applied Sciences in Helsinki, Finland. Various phases were documented on 1) MS Teams project group and 2) MS Teams of the Dynamo students. There is online material on

- Participants
  - Administrative information
  - 10 Teams channels for group activities
- Meetings
  - Weekly staff meetings from October 2020 to December 2021
  - Development days
- Planning documents
  - Learning design folder with 3 documents
  - Word clouds
  - Miro boards
  - Dynamo Moodle
- Courses and workshops
  - Kick-off folder with 4 documents
  - 7 course descriptions
  - Course materials for students
  - Recordings
- Feedback
  - Course feedback
- Quality seminars
  - Quality seminar planning documents
  - Folder with 13 documents
  - Feedback on feedback
- Counselling
  - 3 rounds of group counselling, 10 groups
- Coaching
  - 6 rounds of coaching, 10 groups
- Literature circles
  - 6 rounds, 10 groups
- Spot and longitudinal questionnaires
- Mind maps
  - 2 cognitions charts of each student
- Project management
  - Budget, applications, invoices, agreements, project plan
- Communication

- 14 folders of information and marketing materials
- Videos
- 5 blogs
- Work and Study Channel
  - 6 documents
  - Work and Study planners for each work and study Dynamo student to follow the progress and guide
- Learning badge planning
- Steering Group documents
- Research and reporting

All this empirical data were analysed and discussed by the Dynamo supervisors every Monday in a weekly meeting and now in this paper. However, there was plenty of data and it is not easy to cover it all.

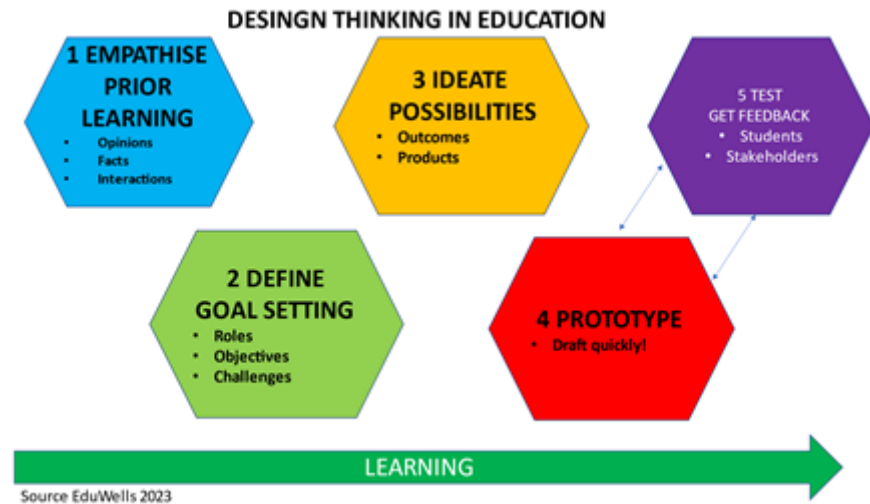
These insights were also used in diverse seminars, coaching, and academic advising when discussing the studies with the students and the steering group. The authentic material is used in this paper to describe and analyse the learning design and processes, and results of Dynamo.

### **Data analysis**

The analysis process is a combination of literature-guided empirical analysis with design thinking as a reference frame. The entrepreneurship education literature is behind all activities and research. The empirical data comes from the authentic documentation of Dynamo Programme. The implemented design thinking and learning design approach has its origins in design and entrepreneurship.

Dynamo programme was planned according to core principles of the entrepreneurship education that were mentioned in the literature section of this paper. There was business, entrepreneurship, and entrepreneurial mindset. The online learning processes were social, cognitive, and required teaching presence from time to time. Moreover, the entrepreneurial design thinking process was implemented in Dynamo to make the programme authentic, up-to-date, co-creative, and agile.

Consequently, based on the research material and the processes of Dynamo, a learning design approach was selected to be utilised in this theory-based empirical analysis. So, the learning design approach is based on design thinking approach widely used in design, service, and entrepreneurship. The collected data of Dynamo programme is divided into diverse learning design phases shown in picture 1.



Picture 1. Design thinking in Education (EduWells 2023)

When planning and analysing the Dynamo programme, the first phase is to find out what future customers might think and to empathise with them. What are the facts, opinions, and dialogue? When customer insights are discovered, it is time to define the learning objectives and roles. After that comes the ideation, prototyping and testing. The sooner the better, as there seldom is too much time. The valuable feedback shall be used to iterate the improving development of the training. The crucial thing that makes a difference is what kind of learning takes place in the process and what kind of community is born, what kind of learning experiences are produced.

### Learning design process of Dynamo and lessons learned

The Dynamo team was formed to plan and run the programme. There was a project manager, two pedagogical experts, a researcher, a communication specialist, and a service designer involved in the planning. The multi-professional team set goals and collected feedback from the stakeholders, various entrepreneurship influencers. The staff members had own experience of entrepreneurship, which was useful when planning Dynamo. It was crucial, that there was a clear vision on the competences that would be produced during the Dynamo year 2021. Dynamo's curriculum was based on combining entrepreneurship and pedagogical research with practical experiences and insights.

To sum up what Dynamo was, following descriptions are valid:

- Haaga-Helia's project of continuous learning that was implemented at the research area of entrepreneurship and business renewal at StartUp School.
- The project got financing 168 000 euros from the Finnish Ministry of Education and Culture.
- 30 credit-point entity online
- 49 highly educated started Dynamo and 39 students were took part to the end of the programme.
- 24 students did 20 credit points or even more
- Those who got together at least 30 credit points received an electric learning badge.
- Altogether 1010 credit points were done in Dynamo

- There were 40 visiting entrepreneurs or experts which contributed to the birth of a discussive community.
- The completed studies could be recognized as a part of the Master studies at Haaga-Helia.
- The project collected best practices and recommendation for the planning of an entity in the field of continuous learning.

### **Empathise**

Dynamo project team wanted to understand the future customers, students. Therefore, the multi-professional project team created three personas to map the needs of the students and design a programme that would create added value for the learners. The core message was that Dynamo is an entrepreneurship programme for the changemakers of the work life. The promise was that entrepreneurial competences will be cultivated together with the dynamic expert and trainer network. According to the promise Dynamo meaningful work life and future change would be created, too.

The first persona was called Kaitsu, a 45-year-old male, who wanted to develop his business to the next level. He was interested in entrepreneurial and coaching leadership, lean start-up, growth, and novel business models. The second persona was Anne-Mari, a 39-year-old female, who was a highly educated expert with a good job. She was interested in entrepreneurship in the future, either part-time or full-time. She was into something new in her life and wanted to develop her business ideas and become sparrred. She did not need a degree but was keen on continuous learning and micro credentials and reforms in her work life. The third persona was Camilla, 35 years. She was working in the Finnish oil business and wished to strengthen her internal entrepreneurship through coaching and service design. She valued entrepreneurial mindset and wanted to boost that.

A marketing campaign in social media was launched based on these personas and messages. Dynamo received 74 applications, which was a good result and indicated that there was a true need of this education. The 51 chosen participants that filled the set criteria were like the three personas Kaitsu, Anne-Mari, and Camilla. The empathising was successful and gave food for thought when planning the programme.

*“What was good with the people in Dynamo?”*

*People, relations, networks, teamwork, the development of the identity of an entrepreneur. Genuine dialogue with the work life. I was encouraged to utilise existing networks.”*

(Padlet of Quality seminar Oct. 6, 2021.)

### **Ideate**

Based on the needs of the imagined customers/students and opinions of the staff members and steering group with experts from entrepreneurship organisations the competences for the online programme were ideated. A word cloud was made and words such as entrepreneurial skills, learning design, continuous learning, quality, challenge-based learning, entrepreneurial leadership were frequently mentioned. Inquiries on experiential learning, entrepreneurial thinking and cognition, and soft skills were utilised to gather contents and methods for Dynamo programme. Digital solutions and business



development were vital themes, too. The project group decided that the three core objectives of Dynamo were to

- Improve the readiness for highly educated to act in the transition of work life and create new kind of work life
- Develop a novel way to learn entrepreneurship and entrepreneurial thinking with the help of networks, peer learning and learning through practice. All this would be research-based.
- Create national recommendations for continuous learning in entrepreneurship education.

When discussing the contents and the methods, the students said:

*“The education was long-term, specific, continuous learning, first of a kind, in the swim, innovative. The challenge hackathon with Helsinki Think Company was super. Many ways to complete your studies, online courses, assignments.”*

(Padlet of Quality seminar Oct. 6, 2021.)

### **Define**

Dynamo programme was designed to have three online modules: the first was about entrepreneurship basics and design thinking, the second business basics, and the third was about future tools. Peer learning was at the centre of Dynamo’s learning philosophy. For instance, prior joining to Dynamo programme, participants were expected to write short motivational letter describing how they would share their knowledge with other learners. Participants’ extensive prior knowledge and motivation to share it with their peers created favourable learning environment.

All the way it was vital that Dynamo would create an active and experiential ecosystem online. The students were divided into teams of four or five and they found peer support fruitful and wonderful. Diverse challenges would make the team building natural and entrepreneurial. Continuous group activities, such as study counselling, group coaching sessions, and literature circles were chosen to enhance the sense of community and exchange of ideas in this online training.

The modern learning concepts emphasize communal way of working, the activity of the students, authenticity, and common knowledge creation. In entrepreneurship education learners act in an entrepreneurial manner, take risks and challenges, have dialogues. They celebrate when they succeed and sees failures as learning possibilities.

*“The business and service ideas start living when you talk about them with others. One gets new ideas! Developing novel business models. Dynamo was a comprehensive training package.”*

(Padlet of Quality seminar Oct. 6, 2021.)

### **Prototype**

The Dynamo prototype concentrates on entrepreneurial competences. First, the learners need to act like an entrepreneur. They should learn how to innovate, have self-direction and an entrepreneurial attitude and way to lead the company and the people.

*"I have learned a lot about entrepreneurial leadership. I now realise that I can start developing in a small scale even if idea that is not fully ready yet."*

(Dynamo research in 2021.)

Second, the digitalisation should be utilised in the business. Digital trends, such as cloud services, artificial intelligence, mobile services have an impact on entrepreneurship. Digital solutions help when developing businesses. Third, business skills should be developed. Entrepreneurial growth is an important and multi-faceted question to be discussed. Basic economic skills are crucial for entrepreneurs. Entrepreneurial resources and networks can open new possibilities and support when running the business. Fourth, customer understanding creates success. That can be acquired through service design, customer orientation, and lean start-up thinking.

Dynamo's prototypes and experiments brought about change:

*"I have made myself to learn and try new things. For instance, our regular literature circles have introduced a new world to me. I will certainly take the literature with me from Dynamo."*

(Padlet of Quality seminar Oct. 6, 2021.)

### **Test**

The online Dynamo Programme was well planned and still, it evolved all the way. Participants' extensive prior knowledge and motivation to share it with their peers created favourable learning environment. All the way it was vital that Dynamo would create an active and experiential ecosystem online. The students were divided into teams of four or five and they found peer support fruitful and wonderful. Diverse challenges made the team building natural and entrepreneurial.

Dynamo consisted of various digital online learning processes that complemented each other. Peer group learning was experienced fruitful and useful. The participant could share ideas, thought, and feeling. They learned together, solved problems, and created novel ideas and services in an agile manner. They co-created and experimented. The challenge-based course at the beginning of Dynamo enhanced team building.

*"It feels good to follow my own growth. When I started in Dynamo, I had been active as entrepreneur only about six months. Everything was at the beginning and even if many things were clear, I now realise how much I have developed. Chaotic thoughts have been refined and in the cognition chart workshop I noticed that especially customer experience and problem solving for customer needs have become the most significant factors in my entrepreneurship."*

Dynamo research in autumn 2021.

Student engagement and co-creation of the programme were core processes of Dynamo. Counselling and guiding process was led by experienced teachers. The students need help in choosing relevant courses to improve their competences and plan their study paths. Study problems were solved together with the counsellor and the team and information on the programme was provided regularly. These activities were practical, emotional, and motivational.

The two quality seminars of Dynamo were also student-centred processes even if the staff did facilitate them. Student experiences were collected, and continuous improvement was implemented throughout the year. For instance, the students experienced that their learning process was interrupted by the summer holidays, and they would have needed a semester start together when it was time to return to Dynamo. Consequently, students had an active role, and they were empowered by their own agency in the programme.

Creating entrepreneurial mindset and competences was also a learning process that consisted of group coaching that were facilitated by certified business coaches and entrepreneurs. Coaching involved all the students and supported them when starting a business and developing it and one's own identity as entrepreneur. The students participated also in drawing cognition maps that helped to understand and develop the entrepreneurial thinking.

Six study circles throughout the year created a process where the students selected and studied topical literature that was related to the core themes of Dynamo. Teachers created a literature list where the students could choose two publications per circle. The students grew to like the literature and know now where to find it.

Work and Study process combined theory and practice. In these studies, the student is guided by an entrepreneur teacher, and she/he implements plans at work. In Dynamo Work and Study was about planning, starting, or running an own business in real life which is a most personal learning process. The students were provided also mentorship where external stakeholder experts gave them advice.

*"The best thing was work and study and all basic information on entrepreneurship and entrepreneurial thinking."*

(Dynamo research in autumn 2021.)

Thematic workshops were also a learning process. Based on feedback, these workshops became more practical over time. Dynamo was visited by more than 40 real-life entrepreneurs, so the ecosystem helped, and networking took place.

The digital tools used in Dynamo were of the third generation, MS Teams and Zoom mainly. Other tools were also implemented, such as Trello for learning portfolios, Flinga, Flipgrid, Miro, Sway, Adobe Spark, Moodle, HowSpace, and Google Drive. At first the students were complaining that everything was chaotic. So, new attempts were made to clarify the situation. Only chosen tools were implemented and a study guide was prepared. Finally, the students liked the tools and experienced that they had learned a lot when they got used to studying again and their digital chaos became cosmos.

*"To use diverse tools in practise has strengthened my theoretical competence."*

(Dynamo research in autumn 2021.)

Even if Dynamo was digital, it was close to work life. To sum up, Dynamo's digital processes and modules developed entrepreneurial and business skills from various points of view.

When the whole programme was tested the students noticed the continuous improvement and dialogue.

*“We Dynamos are not the same as Haaga-Helians. We are highly educated and experienced. Our identity consists of the ability to study in diverse ways. We are pioneers. We are curious. We want to develop ourselves. We are positive and want to find a way forward – always.”*

(Padlet of Quality seminar Oct. 6, 2021.)

### **Discussion**

When creating and designing an online entrepreneurship programme for highly educated, it is crucial to do research on what and how should be learned. Based on research literature, there must be a core that consists of business and entrepreneurship basics and entrepreneurial thinking. Also, the pedagogics must be student-centred, modern, and entrepreneurial, such as digital learning design that gives the floor to the students and stakeholders as well as supervisors.

As the Dynamo programme is about entrepreneurship, it is strongly part of our in-common lifeworld. Therefore, diverse actors were all involved learners. Consequently, there were the learning processes of the Dynamo students, Dynamo supervisors, and Dynamo stakeholders, too.

Based on the feedback, observations, and data collected during 2021 it can be concluded that Dynamo developed entrepreneurial competences online. A great deal of the studies focused on entrepreneurial mindset and the learning methods supported the development. Self-leadership was included in the studies, and there were many entrepreneurs who visited.

Design thinking was the general method that can be implemented in business and as a framework in the literature-guided thematic analysis of this study. Work and study course was all about entrepreneurship in practice as the students got study points when developing their businesses according to the agreement and discussion that were conducted with the supervisors.

Also, Dynamo succeeded in creating an experiential learning community online. The digital learning design enabled peer groups, group coaching, literature circles, and workshops where the interaction becomes natural. The students get to know each other, visitors, and the supervisors

Supervisors gave space to the students whom they valued because of their superb experience. In fact, no face-to-face encounters were not needed finally.

Because of the strengths that the online community created, it can be recommended that there will be a similar group from beginning to end when organising entrepreneurship trainings. If the participants vary all the time, the power of the groups will not be established.

A report on the best practices has been published on Dynamo online programme to share the every-day innovations that were made in 2021. The public online report (Anckar & Potinkara & Uotila 2022) places Dynamo among other entrepreneurship trainings within higher education and guides following trainings in Haaga-Helia.

## References

- Aaltonen, K. & Alanko-Turunen, M. 2019. Muotoilun työkaluilla voidaan luoda laadukkaita oppimisprosesseja. In Kotila, H. (ed.) *Ammatilliseksi opettajaksi*. Haaga-Helia julkaisuja 10, 62–72.
- Anckar, R. & Potinkara, H. & Uotila, T.-P. 2022. Dynamo-yrittäjyysohjelma - yhdessä tehden ja uutta hakien. <https://julkaisut.haaga-helia.fi/dynamo-yrittajyysohjelma-korkeakoulutetuille-yhdessa-tehden-ja-uutta-hakien/> Haaga-Helia, Helsinki.
- Borja de Mozota, B. & Valade-Amland, S. 2020. *Design: A Business Case. Thinking, leading, and managing by Design*. Business Expert Pres, Copenhagen.
- De Bono, E. 1970. *Lateral thinking – a textbook of creating*. Penguin Books, London.
- Deming, D. J., Yuchtman, N., Abulafi, A., Goldin, C., & Katz, L. F. 2016. The value of post-secondary credentials in the labor market: An experimental study. *The American Economic Review*, 106(3), 778–806.
- EduWells 2023. *Design thinking – a scaffold for all learning*. <https://eduwells.com/2020/09/12/design-thinking-a-scaffold-for-all-learning/>. Quoted Jan. 4, 2023.
- Garbuio, M., Dong, A., Lin., N., Tschang, T., and Lovallo, D. Demystifying the genius of entrepreneurship: How design cognition can help create the next generation of entrepreneurs. (2018). *Academy of Management Learning and Education*. 17, (1), 41-61.
- Goodyear, P. 2015. *Teaching as design*. HERDSA Review of the Higher Education, 2, 27 – 50. <http://www.herdsa.org.au/herdsa-review-higher-education-vol-2/27-50>
- Kassean, H., Vanevenhoven, J., Liguori, E., & Winkel, D. E. 2015. Entrepreneurship education: A need for reflection, real-world experience, and action. *International Journal of Entrepreneurial Behavior & Research*, 21(5), 690–708.
- Kor, Y. & Gunther McGrath, R. & MacMillan, I. 2001. The Entrepreneurial Mindset: Strategies for Continuously Creating Opportunity in an Age of Uncertainty. *The Academy of Management Review* 26(3) 457-459. <https://doi.org/10.2307/259188>
- Laanpere, M. & Pata, K. & Normak, P. & Pöldoja, H. 2014. Pedagogy-driven design of learning ecosystems. *Computer Science and Information Systems* 11(1), 419-442.
- Liguori, E. & Winkler, C. 2020. From offline to online: Challenges and opportunities for entrepreneurship education following the COVID-19 pandemic. *Entrepreneurship Education and Pedagogy* 2020, Vol. 3(4) 346–351.
- Morris, M. H., & Liguori, E. 2016. Preface: Teaching reason and the unreasonable. *Annals of entrepreneurship education and pedagogy*, 2, xiv-xxii.
- Muthuprasad, T. & Aiswaraya, S. & Aditya, K. S. & Jha, G. K. 2021. Students' perception and preference for online education in India during COVID-19 pandemic. *Social Sciences and Humanities Open* 3 (2021) 100101.
- MS Teams of Haaga-Helia 2023. Dynamo Programme, Dynamo Project Group, and Dynamo Steering Group. O'Connor, A. 2013. A conceptual framework for entrepreneurship education policy: Meeting government and economic purposes. *Journal of Business Venturing* 28(4), 546-563.
- O'Dea, X & Stern, J. 2022. Virtually the same? Online higher education in the post Covid-19 era. *British Journal Education Technology*. May 53(3): 437–442.

Salmon, G. & Wright, P. 2014. Transforming Future Teaching through 'Carpe Diem' Learning Design. *Education Science* 2014, 4 (1), 52-63. <https://doi.org/10.3390/educsci4010052>

Schlechty, P. C. 2011. *Engaging students: The next level of working on the work*. California, John Wiley, and Sons.

Suomen Yrittäjät 2019. Suomen Yrittäjät ja AKY – Akavalaiset yrittäjät. *Korkeakoulutetut tarvitsevat erikoistumiskoulutuksen yliopistoihin ja ammattikorkeakouluihin*. <https://www.yrittajat.fi/tiedotteet/suomen-yrittajat-ja-aky-akavalaiset-yrittajat-korkeakoulutetut-yrittajat-tarvitsevat-erikoistumiskoulutuksen-yliopistoihin-ja-ammattikorkeakouluihin/> Suomen Yrittäjät 2.5.2019

Vallis, C. & Redmond, P. 2021. Introducing design thinking online to large business education courses for twenty-first century learning. *Journal of University Teaching and Learning in Practice* 18(6), 213-234. <https://doi.org/10.53761/1.18.6.14>