

Chapter 5

Entrepreneurship Education in Finland



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This chapter presents the state-of-the-art entrepreneurship education (EE) in Finland through lenses applied in this volume. We first provide background by describing the context for EE in Finland. We continue by discussing the internal development of EE in the individual HEIs based on the information provided in their websites in Fall 2021. Then, we describe the supporting systems of EE in HEIs and the characteristics of EE by highlighting an example of an entrepreneurial university. We conclude with alternative futures toward higher quality of EE.

5.1 Context

After the Second World War, Finland developed from a poor agricultural country to a forerunner in high technology and well-being. Education played a role in improving the cultural level of the country. Finland's education system is publicly financed, including universities. The latter currently rely heavily on public funds, although some of them were originally established by private initiatives and funds.

Economic education in HEIs began in business schools. During the 1950s–1960s, the focus was on educating economic issues, whereas in the 1980s the emphasis was on providing EE. Finally, from the 1990s onward, the concept of enterprise education evolved in parallel with EE with slightly different meanings and foci (Ministry of Education & Culture, 2009).

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EE, or rather the first mentions of entrepreneurship in the national education program, took place in 1985. At the national level, the notion of EE to support individuals for earning a living independently or to improve employability was launched in the 1990s as a remedy to the economic and financial crisis in Finland. Entrepreneurship was meant to provide citizens with self-employment and entrepreneurial opportunities, as a record number of individuals was laid off (Ministry of Education & Culture, 2009). Furthermore, the idea of intrapreneurship was apparent as measures also addressed individual employability in the national education program in 1994.

In 1999, the Ministry of Trade and Industry launched the two-year Entrepreneurship Programme—a cross-sectional and horizontal approach to entrepreneurship—with the aim of increasing economic growth, employment, and diversifying the industrial structure. The focus was on SMEs: to remove barriers and reduce administrative burden in order to incentivize small firms to grow. As for EE, the program focused on developing the education system to support entrepreneurship and the administration for this end, not on encouraging individuals to undertake entrepreneurship per se. The Entrepreneurship Programme was a precursor of specific entrepreneurship policy initiatives included in official government programs from the early 2000s (Heinonen & Hytti, 2016). Through the Entrepreneurship Programme, the idea of cross-sectoral and horizontal collaboration between ministries and with stakeholders was seeded into Finnish entrepreneurship policy mission and its implementation. Given this, EE policies were also guided and implemented as a part of ministerial collaboration. In the following, we first give an overview of the government-level entrepreneurship policies based on government programs to understand the main problems and challenges to be addressed by policies,¹ and then examine specific EE policies.

An important step was taken in 2003 when an entrepreneurship program was launched as a part of the government program. The aim of the program was to secure economic growth, employment, and investments in Finland. The focus was on individuals, particularly potential entrepreneurs, rather than firms. The program provided incentives and education for an entrepreneurial career. This was done, for example, by introducing guidelines for enterprise education at different educational levels.

In 2007, the new government introduced a policy program on work, entrepreneurship, and work-life. The aim was to promote economic growth, employment, and a welfare society. The policy was broadened to include work and the working lives of individuals and was less focused on entrepreneurship. To improve the employment situation, it emphasized the responsibility of entrepreneurs and small businesses to create more and better jobs, and the responsibility of individuals for remaining employable. The latter can be understood as a way to encourage individuals to take on entrepreneurship, or rather intrapreneurship, as it views every individual as an entrepreneur in charge of one's own employment. The focus of the program was on

¹ The developments were derived from the study of Heinonen, J., & Hytti, U. (2016). Entrepreneurship mission and content in Finnish policy programmes. *Journal of Small Business and Enterprise Development*, 23(1), 149–162.

employees and entrepreneurs. Flexicurity, i.e., balancing flexibility and security at work, helped remove barriers from employment and improve individual employability. Furthermore, the desirability of entrepreneurship was enhanced through EE, the offerings of which were broadened in addition to intensifying collaboration between education and businesses, for example.

In the aftermath of the 2011 global financial crisis, the government again assumed the role of fighting poverty and social exclusion as well as balancing public finance and employment. The government program did not have a dedicated program for entrepreneurship, but the key project on the enhancement of sustainable economic growth, employment, and competitiveness was launched with the aim to secure socially and ecologically sustainable economic growth, employment, and development of new industries. This focus was a clear response to the global economic crises after a long period of continuous growth in the 2000s. Entrepreneurship was again expected to create more and better jobs to tackle the challenges of an ageing population, modest economic growth, and social exclusion. Entrepreneurship was thus presented as a remedy rather than an opportunity for society.

Similarly, in 2015, no dedicated entrepreneurship program was included in the government program. However, the entrepreneurship package introduced eight wider measures to help existing entrepreneurs and businesses. Measures such as the renewal of growth services for businesses and lowering the threshold for employing the first employee targeted at existing businesses with recruiting, growth, and internationalization potential. EE was not emphasized in the government's entrepreneurship package.

In 2019, entrepreneurship strategy was included in the government program to increase trust among companies that it was worth creating employment, developing businesses, and investing as well as becoming an entrepreneur in Finland. The eight strategic themes of the entrepreneurship strategy were again targeted at existing and potential entrepreneurs. EE was not explicitly in the agenda of the entrepreneurship strategy headed by the Ministry of Economic Affairs and Employment, although many other ministries, including the Ministry of Education and Culture, were involved in its planning and execution.

The emphasis of Finland's entrepreneurship policy has evolved over the years under different governments and political parties. Although entrepreneurship policies have addressed a variety of issues during the years, the primary focus began with administrative support for SMEs. Then, first, it moved to emphasizing entrepreneurial careers and individuals; second, working life; third, it considered entrepreneurship as a remedy to the financial and economic crisis; and finally it focused on existing and potential entrepreneurs and growth-oriented businesses. The shifts in focus reflect the economic situation of Finland rather than political power relationships. Although the focus on EE was limited in the above entrepreneurship policies, particularly in the recent ones, EE has been more visible in the national guidelines of the Ministry of Education (and Culture).

Through EE, the Ministry of Education has supported entrepreneurship and innovation in Finland. From the beginning, the aim has been to make entrepreneurship

more attractive as a career option and to enhance entrepreneurial attitudes and competences throughout the education system. The emphasis varies at different educational levels. In general, the focus in primary education is on enhancing entrepreneurial attitudes, basic knowledge and skills as well as an entrepreneurial mode of operation. In secondary and higher education, the focus is on the development of knowledge and skills, including entrepreneurial competences.

For HEIs, EE focuses on strengthening entrepreneurial attitudes among students and teachers; boosting innovation and business ideas; promoting the utilization and commercialization of research findings and academic expertise; academic entrepreneurship; and promoting collaboration with businesses, science parks, and technology centers. For universities, in particular, these imply the exchange of knowledge between academia and businesses as well as strengthening the entrepreneurial competences of researchers (Ministry of Education, 2004; Ministry of Education & Culture, 2009). These national guidelines have been adopted from EU policies and guidelines, and further accommodated for regional and local level strategies and execution.

The most recent national guidelines (Ministry of Education & Culture, 2017) approach EE from various perspectives:

1. *Strategic level and leadership*: Defines the basics through planning, resource allocation, and evaluation of activities. Furthermore, issues relating to staff competences and collaboration across fields and with working life are highlighted.
2. *Training for education and teaching staff*: Defines the access of teachers to EE training at all educational levels.
3. *Training that supports entrepreneurship*: Defines the access of EE at all levels of education and related collaborations.
4. *Learning environments*: Focuses on a culture of experimentation and versatile and innovative learning environments and situations.

These EE guidelines of the Ministry of Education and Culture guide and develop measures promoting entrepreneurship and enterprise education at different educational levels. Furthermore, they serve as a part of the ministry's information guidance and demonstrate public commitment to introduce EE in a variety of ways, from kindergarten to higher education. Next, we will look at higher education and universities to understand how EE has developed there.

5.2 Internal Development of EE in HEIs

Finland has a strong strategic emphasis for EE at all educational levels, including higher education (Ministry of Education, 2004; Ministry of Education & Culture, 2009, 2017). Due to long-term efforts, Finnish entrepreneurship culture has improved significantly in recent years (OECD, 2021). Finland's higher education field consists

of two types of institutions: universities and universities of applied sciences. Universities focus on scientific research and education, while universities of applied sciences offer more pragmatic education that responds to the current needs of working life. Finland has 13 scientific universities spread across the country. The Ministry of Education and Culture has actively monitored the development of EE in the higher education system, and two reports produced in 2005 and 2016 give overviews of EE in universities (Ministry of Education & Culture, 2005, 2016). In the following, we analyze the internal development of EE in the Finnish universities based on the outcomes of these two policy reports. Then, we describe the current state of EE in Finnish universities. The descriptions of the current state is handpicked from each university's website in Fall 2021. The section ends with a synthesis of the policy developments and the current state.

5.2.1 EE in Finnish Universities in the Early 2000s

In 2005, the Finnish university field consisted of 21 universities located all over Finland. The report emphasizes that there seemed to be an extensive shift from salary work toward “an entrepreneurial society,” but universities were still not well prepared nor equipped to facilitate this shift. At the same time, however, many distinct EE-related expectations were directed toward the Finnish university field. Even then, EE was seen as a “relatively marginal phenomenon in Finnish universities.” Nonetheless, many universities considered entrepreneurship to be an important issue that was closely related to the university's third mission of social interaction. No specific entrepreneurship strategies were identified in the universities. Moreover, there were no explicit objectives for EE. In terms of entrepreneurship, universities' role was seen as a creator of new scientific knowledge in entrepreneurship; a compiler and distributor of entrepreneurial knowledge for the purposes of the business sector; being an EE teacher; or solver of local needs. The policy report raised the importance of multidisciplinary in promoting EE. The integration of EE with non-business subjects was mentioned as one of the most important tools to facilitate EE in universities. In addition, there seemed to be a gap between academia and business reality. This gap was recommended to be solved with tighter interaction and innovative solutions. The report also highlighted the importance of EE in both universities and universities of applied sciences. The report stated that the key challenges of EE concerned financing of related programs, facilitation of interaction between universities and stakeholders, and reforming ongoing curriculum to reflect the importance of EE in universities.

In 2016, the Finnish university field consisted of 14 universities. That year's report highlighted that EE had been widely offered in Finnish universities at least in individual entrepreneurship courses, which implied there had been tremendous development between 2005 and 2016. The aim of EE was particularly to support the formation of new businesses and startups. Finnish universities had noticed the importance of pedagogy in facilitating entrepreneurial learning. However, there seemed to be a lack of such pedagogical training for entrepreneurship educators. Universities

were also lagging behind universities of applied sciences in terms of collaboration with the business sector. However, universities and universities of applied sciences had some collaboration in terms of EE, but it was suggested that such collaboration could be further developed in the future. Multidisciplinary entrepreneurship research with diverse foci was conducted in many universities, which formed a good stepping stone to developing entrepreneurship-related education. In addition, universities were interested in the commercialization of research and had invested in different types of innovation and patenting services, and support structures. Student-led entrepreneurship societies had boomed all around Finland, and each town with a university campus had its own student-led entrepreneurship society. In 2005, none of these student-led entrepreneurship societies had existed. Universities had some connections and collaborations with the entrepreneurship societies, but it seemed that the collaboration was not yet that systematic, particularly outside capital region, Helsinki. It was suggested that the assessment and evaluation of the impact of EE would require further attention as universities applied very different measures in analyzing the impact. Some focused on the number of students in EE courses, while some looked at the employability and the number of businesses and startups after graduation.

5.2.2 Current State of EE in Finnish Universities

The following provides a brief description of all 13 Finnish universities and their EE activities. The information is not exhaustive, but focuses on core EE activities published in the universities' webpages in August/September 2021. The data, thus, reflect the ways in which the universities presented their EE activities and hence the articulation of the role of EE. The data was not complemented or verified with interviews, for example.

5.2.2.1 Aalto University

Aalto University is composed of six schools with close to 17,500 students and 4,000 faculty members. It is Finland's second-largest university. Its main campus is located at Otaniemi, Espoo. Aalto University is one of the best-known universities in Finland in terms of its entrepreneurship-related activities. Every student in Aalto can complete a minor or take individual courses in entrepreneurship. These are organized by the Aalto Ventures Programme, founded in 2012 as a joint initiative of students and faculty across the university. In addition, Aalto offers another entrepreneurship related minor: Aaltonaut, a bachelor's minor program in Interdisciplinary Product Development, launched in 2013. Aalto has a master's program in Entrepreneurship and Innovation Management, but this is planned to be discontinued. Students can graduate from the MSc program in Entrepreneurship and Innovation Management until July 31, 2023. Startup-oriented researchers can receive help in

commercializing their research at the Aalto Startup Center, which is a hybrid accelerator offering its own incubator and accelerator services as well as several partnership programs. It focuses on sustainable research-based and innovative deep-tech startups. Aalto's strength lies in its student-led entrepreneurship society known as Aaltoes, the first student-led entrepreneurship society in Finland. Aaltoes is active in organizing entrepreneurship-related events and boosting entrepreneurship within Aalto University. Aaltoes played an important role in the development of the awarded, international startup event Slush. In addition, it runs KIUAS, which is an incubator, accelerator, and bootcamp. It also organizes FallUp, Europe's biggest student-run entrepreneurship event for students, as well as hackathons such as Junction and Dash. Aalto University provides opportunities for internship in startups in Asia and Silicon Valley in a program called Startuplifers. The program was established from the initiative of students and it is now open for students in several universities in Finland. Aalto University also contributes to EE in the country by offering a free startup online course for anyone interested. It is an introductory course to startup entrepreneurship where one can learn the basics of setting up a small business. Finally, Aalto University has active research groups that study entrepreneurship.

5.2.2.2 University of Helsinki

The University of Helsinki is the largest university in Finland with close to 32,000 students and 8,000 faculty members. It has 11 faculties and teaching in our campuses in Helsinki. The university provides individual courses in EE for all interested students. The Faculty of Agriculture and Forestry offers an entrepreneurship-related module consisting of several entrepreneurship courses. The faculty also plans to develop a hub where companies and students can better interact and discuss projects and real-life cases. The Ruralia Institute provides entrepreneurship-related courses from the perspective of rural studies. It coordinates the Co-op Network Studies, which offers courses and modules relating to the co-operative sector and social economy. Other participants in the network are the Aalto University School of Business, University of Jyväskylä, LUT University, University of Oulu, and University of Tampere. The Helsinki Think Company plays an important role in supporting and organizing courses and programs in collaboration with the University of Helsinki to encourage students to become entrepreneurs and supporting startup teams at different stages of development.

5.2.2.3 University of Eastern Finland

The University of Eastern Finland has approximately 16,000 students and close to 3,000 faculty members. It is composed of four faculties and its campuses are located in two cities: Joensuu and Kuopio. The university provides minor and individual courses in entrepreneurship for all students. Organized by the business school, the

minor in entrepreneurship deepens students' understanding of the basics and requirements of generating, managing, and developing businesses. There are also initiatives relating to entrepreneurship studies for specific programs—for instance, in bioeconomy. Major degree studies in entrepreneurship used to be offered, but the program was discontinued during the structural development of the university field in 2010. The Joensuu campus collaborates with SPARK Joensuu, which offers entrepreneurial studies and startup business activities in science park facilities. SPARK is open to students from different levels of education. The University of Eastern Finland has two student-led entrepreneurship societies: one in Kuopio (KuopioES) and another in Joensuu (Joensuu Entrepreneurship Society). The university's business school is active in entrepreneurship-related research.

5.2.2.4 University of Jyväskylä

The University of Jyväskylä has approximately 14,000 students and six faculties with around 2,600 faculty members. Entrepreneurship is highlighted in the university's strategy and implemented as a cross-sectional feature for all its educational programs. The university provides minor and individual courses for anyone interested in entrepreneurship. It also offers a master's program in International Business and Entrepreneurship. The university collaborates closely with other educational institutes in terms of entrepreneurship studies. For instance, Edufutura—a joint initiative of the university and the Jyväskylä Educational Consortium Gradia, a university of applied sciences—provides general upper secondary education and vocational education, and organizes courses for university students. Students can participate in the Startup Factory, an incubator where initial-stage business ideas can be developed into companies in cooperation with educational institutes. Jyväskylä Entrepreneurship Society is a student-led entrepreneurship society in the region. It organizes activities that may be integrated with entrepreneurship studies. The University of Jyväskylä, particularly its business school, is active in entrepreneurship-related research.

5.2.2.5 University of Lapland

The University of Lapland is located in Rovaniemi. It is a relatively small university, consisting of four faculties with approximately 4,300 students and 450 faculty members. It is the northernmost university in the European Union. The university offers minor and/or individual courses in entrepreneurship. Entrepreneurship studies, which account for 60 ECTS, are organized by the open university. The university has provided EE in teacher education for decades. The student-led entrepreneurship society LaplandES is one of the newest entrepreneurship societies in Finland. It has organized hackathons and other entrepreneurship-related events for students. The University of Lapland has active entrepreneurship research focused on EE.

5.2.2.6 Lappeenranta University of Technology

The Lappeenranta University of Technology has approximately 5,300 students and almost 1,000 faculty members across three schools. The campuses are located in the cities of Lappeenranta and Lahti. The university has a strong strategic emphasis in entrepreneurship in terms of sustainability and renewal of industries. It offers entrepreneurship studies and a minor in entrepreneurship to all students. Moreover, it has two master's programs focused on entrepreneurship: International Business and Entrepreneurship, and an Entrepreneurship major in Engineering. The on-campus J. Hyneman Center brings together students, university research and skills as well as companies. It aims to support student entrepreneurship and university innovation. The student-led LUT Entrepreneurship Society, LUTES, organizes entrepreneurship-related events and programs for entrepreneurship-oriented students. The university has active entrepreneurship research. For instance, they have been coordinating the national data collection known as the Global University Entrepreneurial Spirit Students' Survey for years and have been actively developing a measurement tool for EE.

5.2.2.7 University of Oulu

The University of Oulu has close to 14,000 students and around 3,400 faculty members across eight faculties. It offers minor and individual courses in entrepreneurship for all students. The minor was piloted in 2016 (Ministry of Education & Culture, 2016). The student-led Oulu Entrepreneurship Society organizes entrepreneurship events and training such as Human Accelerator, Startup Weekend Oulu, and Idea Accelerator. Students can also take part in Demola, an open innovation platform. The university has been involved with the Polar Bear Pitching event, which has become fairly popular nationally and globally in recent years. The University of Oulu has active entrepreneurship-related research in its business school.

5.2.2.8 Hanken School of Economics

Hanken is a small Swedish-speaking university with approximately 2,500 students and around 250 faculty members, operating in both Helsinki and Vaasa. It offers a major degree in entrepreneurship and management. Its student-led Hanken Entrepreneurship Society was founded in 2010. Hanken has an incubator called Hanken Business Lab, which is a new form of incubator that aims to help startups, scale-ups, nonprofit organizations, and individuals achieve significant growth at Hanken. The Hanken Business Lab has operations in both university campuses. Hanken has active research in entrepreneurship.

5.2.2.9 University of Arts

The University of Arts is a small university based in Helsinki. It has fewer than 2,000 students and around 750 faculty members across three academies. It offers a master's degree program in Arts Management, Society and Creative Entrepreneurship.

5.2.2.10 Tampere University

Tampere University is a community of 21,000 students and close to 4,000 faculty members in seven faculties. The university was established in 2019 through a merger of the University of Tampere and the Tampere University of Technology. The university has a strategy for promoting sustainable entrepreneurship. It provides minor and individual courses in sustainable entrepreneurship for any students who are interested. The university collaborates with HUBS, which promotes sustainable entrepreneurship and offers support and optional studies in entrepreneurship and innovation to all students of Tampere University and the Tampere University of Applied Sciences. Furthermore, the student-led Tampere Entrepreneurship Society organizes entrepreneurship-related events and programs for entrepreneurship-oriented students. Students can also take part in Demola, an open innovation platform.

5.2.2.11 University of Turku

The University of Turku is a multidisciplinary university with approximately 20,000 students and around 3,400 faculty members across eight faculties. It is an entrepreneurial university with a strategic aim to facilitate entrepreneurship awareness and enhance EE in its all faculties. The purpose of EE in the university is to boost entrepreneurial behavior across society by generating new ventures and supporting established business activities as well as by enhancing entrepreneurial culture and attitudes among students and faculty members. All the faculties offer study programs that include courses with an entrepreneurship theme or an entrepreneurship-related focus. The business faculty offers individual courses on entrepreneurship as well as entrepreneurship as a major and minor. Moreover, students across faculties can take entrepreneurship as a minor, or some individual entrepreneurship courses. All business students have an obligatory course in entrepreneurship. In the faculty of science and engineering there is also a minor study module, Innovation and Business Creation, included in seven master's degree programs. In addition, the business school offers faculty-specific entrepreneurship studies—in medicine, for example. Students can participate in the student-led entrepreneurship society Boost Turku, which aims to inspire and help young students from different HEIs to become startup entrepreneurs by organizing events and programs. Boost Turku collaborates closely

with the university and students can acquire study points if they participate to its activities. The SparkUp startup community organizes events and provides office space for startup teams.

5.2.2.12 University of Vaasa

University of Vaasa has around 5,000 students and 550 faculty members across four schools. It offers two master degree programs: international master's degree program in Strategic Business Development and master's degree program in Management of Growth Businesses. The latter is targeted particularly at individuals who are working simultaneously. Its innovation and entrepreneurship laboratory InnoLab is a phenomenon-based, multidisciplinary open research platform for academics and experts. The Vaasa Entrepreneurship Society organizes entrepreneurship-related events for entrepreneurship-oriented students.

5.2.2.13 Åbo Akademi University

Åbo Akademi University is a Swedish-speaking multidisciplinary university located in Turku, with around 5,500 students and 1,000 faculty members. It offers an entrepreneurship module (20 ECTs) with several entrepreneurship-related courses. This is done through Startup Åbo, which is ÅboAkademi's unit for entrepreneurship. The unit offers support for educators if they wish to develop entrepreneurship-related education. The university has been offering the course, Business Essentials for Scientists, since 2011. It is targeted at faculty members in Åbo Akademi University and the University of Turku which collaborate in promoting entrepreneurship. Åbo Akademi also encourages students to take entrepreneurial courses in other Finnish universities. Its students can participate in the student-led entrepreneurship society Boost Turku, which serves all HEIs in Turku. Similarly, the services of SparkUp are open to students of Åbo Akademi University.

5.2.3 Summary of the Internal Development of EE in Finnish Universities in the 2000s

The policy reports and our investigation of the current state of EE in the Finnish university sector in 2021 provide evidence that EE has developed significantly in the past two decades. In 2005, EE was considered a “relatively marginal phenomenon in Finnish universities,” but currently EE is offered at least as individual courses in all universities in Finland. In recent years, the focus of EE has expanded from the strong support of business ownership to intrapreneurship and supporting students’

learning. In 2005, universities did not articulate university- or faculty-level objectives of EE, but in 2021 there exists multiple university- or faculty-level strategies for entrepreneurship in line with national and supranational political agendas. Moreover, in many universities, EE has expanded from business schools to the whole university. At the same time, however, some entrepreneurship programs are being discontinued. Many universities have emphasized willingness to develop entrepreneurial activities for students and/or faculty members, and in recent years entrepreneurship studies have become integrated with topical societal phenomena such as sustainability, responsibility, and the arts to address societal changes and challenges. Pedagogical approaches and learning environments have also developed to support the entrepreneurial behavior of students, while education among faculty members has increased. The education of faculty members was a response to the calls of researchers (Béchar & Grégoire, 2005; Ilonen, 2021; Neck & Corbett, 2018) who have put forth teacher education to be an important element of successful EE. Teacher education has been provided as part of formal (e.g., courses, information sessions) and informal activities (informal mentoring, informal networks). Universities are also active in the commercialization of research, and have continued to invest in related support structures and services.

HEIs and other external institutions have increased systematic collaboration locally and nationally in terms of entrepreneurship courses and programs. There are also different support channels for educators who wish to engage in EE. Universities and faculties work increasingly in collaboration with industry, and related models have been developed in recent years. In this regard, universities have caught up with universities of applied sciences.

Entrepreneurship research provides a good basis for EE in Finnish universities. Multidisciplinary entrepreneurship research is conducted in the majority of Finnish universities, and many universities have active research groups with a strong focus on entrepreneurship. Research projects are conducted in collaboration with businesses. In the past decade, student-led entrepreneurship societies have boomed in Finnish university cities to support startup activities and entrepreneurial behavior among higher education students through extracurricular activities. Scholars argue that student-led entrepreneurship societies are important creators of positive energy and thinking around entrepreneurship (Parkkari, 2019; Siivonen et al., 2019). Many universities have started to systematically cooperate with these student-led entrepreneurship societies; in some cases, students can receive course credits by participating in entrepreneurship society activities. EE has reached a relatively comprehensive position among Finnish universities, but this implies increased complexity due to multiple courses, programs, actors, and collaboration. To summarize, recent EE developments in Finnish universities include:

- EE is currently offered in all Finnish universities.
- University- and faculty-level strategies in entrepreneurship are identified in several universities.
- Multiple approaches and themes of EE: e.g., sustainability, arts, responsibility.
- Increased support of educators.

- Increased collaboration among HEIs locally and nationally.
- Increased collaboration with the business sector.
- Systematic collaboration with student-led entrepreneurship societies.
- Increased complexity due to multiple courses, actors, and collaboration.

5.3 Supporting System of EE

5.3.1 Funding Model of Finnish Universities

Finland's education system is publicly funded. The main financial source is the Ministry of Education and Culture, which also coordinates the activities of universities. The Parliament of Finland annually decides on the amount of core funding that the Ministry of Education and Culture allocates to the universities. This budget is created based on the national financial model. In the 2021 universities' core funding, 42% is allocated based on educational input (numbers of degrees, continuous learning, number of employed graduates, student feedback). In terms of educational input, four percent is allocated based on the number of employed graduates with an emphasis on entrepreneurship. This is closely related to EE, which aims to enhance employability and entrepreneurship post-graduation, and thus encourages universities to promote EE. 34% of core funding is allocated based on research input, which comprises the number of PhD degrees, publications, and competitive research funding. This encourages high-quality research in any research fields, including entrepreneurship and cooperation with the business sector. 24% of funding is allocated based on other education and science policy considerations. These considerations entail the strategic development and national duties of universities. As entrepreneurship is a strategic element in many universities or faculties, and noted in national educational goals, some additional, albeit minor, funding is allocated based on this. Besides the core funding, universities are encouraged to apply for external financing from sources such as the Academy of Finland, Business Finland, the European Union, foundations, and businesses.

Universities have internal support mechanisms to encourage entrepreneurship and EE. As EE is high in Finland's political agenda, there are several support organizations with which universities can collaborate for promoting EE. The following section will discuss these support mechanisms.

5.3.2 Internal Support in Universities

The core funding model of the Ministry of Education and Culture takes entrepreneurship into consideration in funding allocation, which provides possibilities and incentives for universities to support EE. Internal support can take place at several levels and in different forms either formally or informally. Universities may centrally

provide top-down support for EE to encourage staff and students to consider entrepreneurship.

Top-down encouragement of EE implies that the university rectorate would clearly demonstrate its commitment to entrepreneurship on the strategic level and integrate it into everyday activities. This may be done via communication and incentive systems, for example. Internal support may relate to entrepreneurship strategies in universities and faculties, such as in the University of Turku (UTU) (see Sect. 5.4 on UTU Entrepreneurial University). Strategies provide legitimacy for EE within the university. Universities may design internal support services for entrepreneurship, such as staff training or innovation and technology transfer offices. These would generate new research-based ventures as well as coordinate and support funding for entrepreneurial endeavors. University innovation services often manage the existing intellectual property rights portfolio and negotiate sales and licensing agreements. Assessment mechanisms and measures to evaluate the outcomes of EE may be provided top-down at the university level. EE outcomes usually relate not only to education but also to the third mission of the universities, i.e., societal interaction. But these internal support mechanisms are not enough: individuals need to participate in the process (see OECD and European Commission, 2012).

Faculty members take concrete steps to develop EE in a bottom-up approach, whereas encouragement and guidance thereof are provided top-down. It is up to each individual to participate in teachers' training to improve the quality of EE. Furthermore, teachers plan and execute EE courses and programs within the framework of university policy and resources. They may also jointly discuss approaches and, by sharing their experience, learn from their peers. It is important that the university provides forums and opportunities for such activities and articulates their importance, but the very actions are taken by committed teachers. In addition, the university's support structures for commercializing research, for example, are to be exploited by faculty members, and the ways in which this is done depends on the discipline. Technology transfer offices, incubators, and innovation services are also important for graduating students who wish to start new ventures. Such external support organizations are useful, and the following section will briefly discuss these.

5.3.3 External Support Organizations

There are a variety of national, regional, and local organizations dedicated to supporting entrepreneurship in different ways. Locally in different cities there are, for example, informal teacher networks for university and/or higher education teachers where educators can share their experiences and learn from others. These can be particularly important in EE, where experiential learning approach is encouraged. The following lays out some national organizations that the universities can tap on for their EE activities.

Junior Achievement Finland

Junior Achievement Finland positions itself as a leading organization in EE in Finland. It aims to help students learn entrepreneurial and working life skills as well as financial literacy at all school levels, from early childhood to higher education. The organization cooperates with education providers, decision makers, business communities, and students. Junior Achievement Finland offers different study programs that can be integrated into the curricula. The organization equips educators with tools that are crafted in accordance with the current national curricula. One of its best-known programs is a company program where students set up and run businesses for an academic year or semester. The program is widely adopted among HEIs in Finland.

YES Network

YES Network describes itself as Finland's most significant network for the development of EE. It promotes the implementation of EE by strengthening entrepreneurial culture, coaching teachers, developing training, and building school–business collaboration. YES Network organizes several events that support EE, and collaborates widely with different operators and individuals.

The Federation of Finnish Enterprises

The Federation of Finnish Enterprises, SuomenYrittäjät, is a national interest and service organization for SMEs and business owners. Its mission is to improve the position of entrepreneurs and the conditions for entrepreneurship nationally. In relation to this mission, the organization has a strong emphasis on educating educators. The “Competent Teachers—Entrepreneurial Young People” project funded by the Sakari Alhopuro Foundation has contributed significantly to the promotion of EE in Finland. It provides materials, education, and networks for educators who wish or are expected to be involved in EE.

TAT

TAT, Economy and youth-organisation, is a national influencer that aims to help young individuals develop their economic and working life skills and be interested in entrepreneurship. TAT's operations are financed by several Finnish organizations such as the Confederation of Finnish Industries and the Ministry of Education and Culture. TAT provides materials for educators as well as opportunities for students to participate in their programs and events.

Support Materials

Some useful examples of support materials include:

An Entrepreneurship Gamebook,² which consists of the joint recommendations of the Rectors' Conference of Finnish Universities of Applied Sciences, Universities Finland UNIFI, and The Federation of Finnish Enterprises for the promotion of entrepreneurship in higher education.

Entrepreneurship for Education Guidelines,³ provided by the Ministry of Education and Culture, provides information on the principles and concrete measures to promote entrepreneurship and EE at different education levels.

5.4 Characteristics of EE

EE in Finnish universities is governed and guided by the government and its entrepreneurship and educational policies were discussed above. Naturally, these reflect EU-level policies and guidelines, which are further accommodated for regional and local needs. The uniqueness of the Finnish entrepreneurship policy is its cross-sectoral and cross-ministerial approach both at the strategic and operational levels. This implies that ministries attempt to coordinate their individual promotion of entrepreneurship, which indicates a consensual understanding of the holistic nature of the phenomenon of entrepreneurship (Heinonen & Hytti, 2016). The cross-sectoral approach also highlights the importance of entrepreneurship as an engine of economic and social development in Finland.

The leading ministry in entrepreneurship policy is the Ministry of Economic Affairs and Employment. Therefore, it is understandable that the main focus of entrepreneurship policy is not EE as such, but measures to support the development of new businesses and economic growth. However, in the early 2000s, entrepreneurship and EE were high in the entrepreneurship policy agenda to raise awareness of entrepreneurship and to improve entrepreneurial attitudes and skills. Since then, the Ministry of Education and Culture has introduced entrepreneurship to educational institutions at all levels. This is done by integrating entrepreneurship with other subjects such as civic competences in the curricula. Although entrepreneurship is not the focus, many of its facets are implicitly introduced through the curricula. Due to the longstanding work in primary and secondary schools, students' entrepreneurial awareness and attitudes as they enter universities have improved over the years. Therefore, the landscape for university-level EE endeavors has also changed.

Finnish universities have special foci in promoting entrepreneurship through their core tasks in research, education, and social interaction as described in the earlier sections. The focus is on developing knowledge-based academic entrepreneurship and innovation, and multidisciplinary of universities is considered an asset. EE activities are research-based, though they are implemented in close collaboration with

² <https://www.unifi.fi/wp-content/uploads/2019/04/Entrepreneurship-recommendations-for-higher-education-institutions-2018.pdf>.

³ Ministry of Education and Culture (2017) accessed at <https://minedu.fi/documents/1410845/4363643/Entrepreneurship-for-Education-Guidelines.pdf/ad2a7ecc-ae1b-4460-8fc6-d394e9a0a23a/Entrepreneurship-for-Education-Guidelines.pdf>.

stakeholders and embedded in entrepreneurial ecosystems. Student-led entrepreneurship societies play an important role, and these extracurricular activities are typically integrated with entrepreneurship studies.

The governmental push, along with the systematic and long-term measures of the Ministry of Education and Culture, has encouraged universities to introduce and increase their EE offerings and other related activities. The next section highlights an example of an entrepreneurial university in Finland, the University of Turku, which demonstrates the core characteristics of an entrepreneurial university. Many similar characteristics and activities are also found in other Finnish universities.

Example: University of Turku (UTU)—An entrepreneurial university⁴

In 2015, the UTU adopted the “Entrepreneurial University” strategy. This strategy was prepared by a multidisciplinary task force comprising professors, teachers, researchers, and students. In the following year, major elements of the strategy were integrated with the whole University strategy of 2016–2020, serving as a route map for UTU to strengthen its profile as an entrepreneurial university.

The Entrepreneurial University strategy focused on strengthening entrepreneurial attitudes and working practices that support entrepreneurship within the university. Its concrete steps were derived from the Guiding Framework for Entrepreneurial Universities,⁵ aimed at European universities and HEIs looking for advice and ideas for the management of institutional and cultural change (OECD & European Commission, 2012). In UTU’s strategy, entrepreneurship is promoted mainly through the policy program, “A University for Entrepreneurship,” which incorporates goals for enhancing entrepreneurial attitudes, behavior, and culture across UTU to strengthen the university as an academic and societal influencer. Furthermore, with its multidisciplinary expertise, UTU collaborates with the business sector and is therefore present in the regional entrepreneurial ecosystem (e.g., Turku Science Park Ltd; startup community SparkUp; and student-led entrepreneurship society Boost Turku). The program comprised various measures with an implementation schedule and involved groups such as the rectorate, deans, staff members, and students. The measures acknowledged the differences of the needs and approaches among faculties and therefore emphasized faculty embeddedness and multi-faculty collaboration. From the beginning, it was decided that the strategy needed to be guided top-down, but implemented bottom-up by the faculties. The entrepreneurial university is coordinated by two designated program managers: one focused on EE, and other on innovation services. They collaborate closely with faculties and external stakeholders. UTU has also nominated entrepreneurship champions and innovation scouts for each faculty.

Next, we look at some exemplary measures that UTU has implemented as an entrepreneurial university. University faculty deans are responsible for implementing the strategy and ensuring that students have opportunities to participate in EE. UTU offers variety of **entrepreneurship studies for students** despite their study program (see also UTU's description in Sect. 5.2 "Internal Development of the EE in HEIs"). All students can take individual courses on entrepreneurship or take entrepreneurship as their minor. The minor degree module, in particular, has become increasingly popular with rising demand from other faculties. Business students can select entrepreneurship as their major at the bachelor's and master's levels and even defend their PhD in entrepreneurship. Some dedicated courses have been designed to support students from different faculties to study entrepreneurship in a multidisciplinary setting:

- *Intoa! Lean Business Program* provides a new type of research and commercialization tool for collaboration with companies. In the program, a multidisciplinary product and business development team—consisting of UTU students and researchers—ideates, conceptualizes, and tests new business concepts for the client company.
- *Startup!* is an 18-week practice-based course organized jointly by three HEIs and a junior achievement program. During the course, students work in multidisciplinary teams and craft business ideas, test suitable business models, and set up businesses that operate in actual markets.
- *Entrepreneurship for Research Professionals Course* is targeted at doctoral candidates at UTU. It fosters multidisciplinary and the cross-fertilisation of expertise among candidates. The 10-h workshop follows the lean startup method and introduces participants to teambuilding, working with and validating problems, interacting with (potential) customers to get early feedback, developing the business model, and communicating their ideas to different audiences through pitching. The course is run as an intensive, experiential learning workshop.
- *Business Essentials for Scientists* is a joint doctoral course for young researchers at UTU and the Åbo Akademi University. The course includes starting a company, pitching, financing a startup, understanding intellectual property, technology/knowledge transfer, working outside the academic sector, and marketing academic expertise.

The School of Economics also launched the *Entrepreneurship in Residence* (EiR) program, where entrepreneurs participate in the faculty's activities in roles such as guest lecturers, experts, and advisers. EiR is a means to bring entrepreneurs into the classroom and familiarize students with the real life of an entrepreneur and vice versa. Meanwhile, the *Innovation and Business Creation* module provides students with the fundamentals of venture creation and business development, targeted at master's students at the Faculty of Science and

Engineering. In addition to dedicated entrepreneurship courses, UTU provides **entrepreneurship-related training for its educators**, which is an important mechanism in the facilitation of EE. The course *Entrepreneurship and Entrepreneurial Behavior in the University Education*, for example, aims to support the integration and adoption of entrepreneurial pedagogies and an entrepreneurial curriculum, particularly in non-business disciplines.

There are also other means to **encourage the entrepreneurial behavior of staff members, teachers, and researchers** and develop their entrepreneurial knowledge and skills. In order to showcase the entrepreneurial achievements of UTU's staff, the university gives out the annual *Intoa! Entrepreneurial Act of the Year Award* worth €30,000. Two dedicated Entrepreneurship Days are organized around the Intoa! Entrepreneurial Act of the Year Award. Additionally, in 2019, the university launched a small funding for student-initiated entrepreneurship projects in order to support student activities.

UTU has designed an **entrepreneurial path** to enhance the entrepreneurial potential of its students and staff members. The entrepreneurial path comprises education, training, and support services available both in UTU and in the local entrepreneurial ecosystem. The university promotes different services such as startup advisory, co-working spaces, and local governmental business support offices in the region, to guarantee a versatile environment for academic entrepreneurship. The entrepreneurial path and research commercialization processes are further supported by internal guidelines and instructions that help assess, protect, and commercialize innovations, expertise, and skills within UTU.

As a result, the UTU has been able to ensure that students from all faculties can attend at least some entrepreneurship courses. The participation in EE is mainly based on the interest of the students. The majority of the students still come from the School of Economics or other fields where entrepreneurship is incorporated into the degree program. Furthermore, students increasingly participate in student-led extracurricular activities such as Boost, an entrepreneurship society, which are impactful forums for students to acquire practical entrepreneurial skills.

University-level support is important in gaining legitimacy for EE and related activities. Despite its long history in entrepreneurship research and education in the School of Economics and the demand from outside the School of Economics, the incorporation of EE and related activities is challenging. Members from different faculties perceive entrepreneurship differently. We have noticed that, for example, the Faculty of Medicine and Faculty of Science and Technology are more focused on developing business ideas and the commercialization of research findings, whereas the Faculty of Humanities is interested in students' employability. It is understandable that despite university-level strategies in entrepreneurship, the core emphasis of faculty

activities is in their respective subject areas and entrepreneurship is considered as complementary. Therefore, the individual's interest defines the level of dedication to entrepreneurship during studies and at work. Furthermore, the strategic interest of UTU in entrepreneurship changes over time, shaping the course offerings and individual interests.

UTU's example of an entrepreneurial university showcases many features that characterize EE in Finnish universities. Students have become increasingly interested in EE: their participation in different types of entrepreneurship programs and courses as well as extracurricular activities has grown. This also motivates faculty members and educators to further develop their EE competences and offerings as highlighted by researchers (Béchar & Grégoire, 2005; Ilonen, 2021; Neck & Corbett, 2018). Student-led entrepreneurship societies seem to be active in all cities with university campuses, with inspiring learning experiences and numerous startups created to encourage students and businesses to engage in these activities (Brush, 2014; Pittaway et al., 2010). Indeed, businesses are also becoming more interested in collaborating with universities and different programs to enhance such collaborations, such as UTU's Entrepreneurs in Residence. EE is also closely connected to the entrepreneurial ecosystem, including governmental support agencies, associations, businesses, etc. Hence, EE does not flourish in a vacuum but in close collaboration with other entrepreneurial-minded actors. Furthermore, entrepreneurship studies reflects societal changes: topical themes such as responsibility and sustainability have become integrated into many entrepreneurship courses and programs (Lourenço et al., 2013). Some of the programs and courses may also be targeted at and accommodated for special groups or disciplines such as entrepreneurship for the life-sciences or humanities.

There is a variety of challenges for universities to tackle in order to perform better in terms of EE. The perennial shortage of resources and competences of faculty members is one of them (Liguori & Winkler, 2020). There are some very competent and enthusiastic pioneers in the field of EE, but the numbers are still quite modest. Overall, the skills and competences of faculty members vary significantly. Furthermore, the organization of entrepreneurship programs is spread across universities and faculties without coordination, which makes it difficult to benchmark and learn from others. There are some national and regional competence or

⁴ Both of the authors have been involved in developing the University of Turku (UTU) as an "entrepreneurial university." The first author chaired the initial entrepreneurship strategy in 2015, the outcome of which was UTU's Entrepreneurial University Strategy. In addition, descriptions of the practices are based on the confidential self-evaluation report of the university prepared for the Entrepreneurial University Accreditation, which the university received in 2022.

⁵ Areas to be covered according to the framework are: (1) leadership and governance, (2) organizational capacity, people, and incentives, (3) entrepreneurship development through teaching and learning, (4) pathways for entrepreneurs (5) university's business/external relationships for knowledge exchange, and (6) the entrepreneurial university as an international institution (OECD and European Commission, 2012).

support centers that provide advice for those interested. Many universities also have dedicated entrepreneurship support services as well as training for staff and potential entrepreneurs. It seems that interested parties have access to such services, but the main challenge is still their limited number, and thus raising entrepreneurship awareness across faculties is required.

EE suffers from some misconceptions and assumptions, which creates challenges. For some, entrepreneurship refers to profit making businesses and therefore they wish to distance themselves from it. Similarly, for some, entrepreneurship evokes negative memories of the great depression in the 1990s when entrepreneurship was introduced as a remedy to a poor employment situation. Later, the notion of opportunity-driven entrepreneurship encouraged universities to support knowledge-based, academic entrepreneurship that relies on one's competences, expertise, and scientific research. On the other hand, some may understand entrepreneurship as the skills and competences needed in working life; they see entrepreneurship to be synonymous with employability. To put it bluntly, entrepreneurship can be narrowly understood as a moneymaking machine or broadly as anything related to working life skills. This demonstrates the need to critically discuss and understand how EE is understood and what EE needs to deliver in different university settings. Also, the downsides need to be discussed and considered (Bandera et al., 2021; Berglund et al., 2020; Shepherd, 2019). All these assumptions, good or bad, influence the ways in which entrepreneurship is understood and appreciated as well as the ways in which it becomes accepted as a part of university curricula and other activities.

5.5 Toward a Higher-Quality EE

EE in Finland has evolved over time, reflecting economic and societal changes. Its early roots are found in business schools with the focus on the education of economic issues. Later, EE expanded in the 1990s and 2000s when the concept of enterprise education emerged. In the university setting, the development of EE has evolved from raising early awareness to expansion, when an increasing number of universities introduced EE courses for students to be familiarized with entrepreneurship. Currently, all universities offer courses on entrepreneurship, but it seems that a shift in their present and future offerings is already taking place. Based on the information aforementioned, we anticipate at least three alternative futures for EE in Finnish universities. We identify the steps to these alternative futures, and suggest that different universities may diversify in terms of EE and follow different paths.

Running Down Dedicated Entrepreneurship Programs

Some universities run down dedicated entrepreneurship programs and integrate resources with other related disciplines. This may be particularly relevant in business schools, where collaboration with other business studies (e.g., marketing and management, and organization) is evident and a joint playing field may be easily found in the field of innovation, for example. However, this may risk the core of

entrepreneurship research gradually deteriorating and fading away, which would pose challenges to EE.

Integrating Entrepreneurship to New Topical Themes and Societal Challenges

Some universities introduce topical themes and phenomenon such as responsibility, sustainability, and digitalization to EE. This is done to bring new flavors to EE and entrepreneurship research. Such phenomenon-based approach may be more impactful in addressing the great challenges in society, but may lose some focus on entrepreneurship.

Strengthening Entrepreneurship Studies with a Multidisciplinary Approach

Some universities continue to invest in the core of EE and integrate the core with other disciplines, so that more students can access entrepreneurship studies. This implies that EE endeavors need to be applied to different disciplinary needs, which requires multidisciplinary collaboration. This poses both challenges and opportunities for actors involved. The approach broadens the understanding of entrepreneurship and provides new avenues for entrepreneurship research and related endeavors.

There may also be other future alternatives that we are not yet able to identify for the Finnish context. We are not suggesting that any of these alternatives are better or worse than the others: they are different. Universities create their own strategies and critically assess how entrepreneurship fits into their overall strategies. We do suggest, however, that it is hard to enhance EE in universities if it is not supported by university-level strategies and top management. Even if these basic requirements—strategy and management—were in place, it takes joint efforts and enthusiasm to implement EE in the university setting. The examples presented in this chapter demonstrate that EE has space and a role to play in the Finnish university sector, although critical assessment is always needed. Indeed, educators need to bring critical and alternative perspectives to EE and not only teach entrepreneurship without pushing students toward criticality and reflexivity (Berglund & Verduijn, 2018). In order to be viable, EE needs to evolve and find new ways of thinking and gaining access to wider audiences. It is a joint and multidisciplinary effort toward a more sustainable and inclusive future for EE.

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Web-Pages (Accessed in August/September 2021)

Universities in Finland:

Aalto University, <https://www.aalto.fi/en>
University of Helsinki, <https://www.helsinki.fi/en>
University of Eastern Finland, <https://www.uef.fi/en>
University of Jyväskylä, <https://www.jyu.fi/en>
University of Lapland, <https://www.ulapland.fi/en>
Lappeenranta University of Technology, <https://www.lut.fi/web/en/>
University of Oulu, <https://www.oulu.fi/en>
Hanken School of Economics, <https://www.hanken.fi/en>
University of Arts, <https://www.uniarts.fi/en/>
Tampere University, <https://www.tuni.fi/en/about-us/tampere-university>
University of Turku, <https://www.utu.fi/en>
University of Vaasa, <https://www.uwasa.fi/en>
Åbo Akademi University, <https://www.abo.fi/en/>

Student-led entrepreneurship societies mentioned:

AaltoES, <https://www.aaltoes.com/>
KuopioES, <https://www.facebook.com/KuopioES>
JoES, <https://joensuues.fi/>
JES, <https://www.jkles.fi/>
LaplandES, <https://www.laplandes.fi>
LUTES, <https://lutes.fi/>
OuluES, <https://oulues.com/>
HankenES, <https://www.hanken.es.org/>
TampereES, <https://www.facebook.com/TampereES/>
Boost-Turku, <https://boostturku.com>

Other organisations mentioned:

VaasaES, <https://www.ves.fi/>
Federation of Finnish Enterprises, <https://www.yrittajat.fi/en>
Junior Achievement Finland, <https://nuoriyrittajyys.fi/en/info/>
SparkUp, <http://www.sparkup.fi/en>
TAT, <https://www.tat.fi/>
Turku Science Park Ltd <https://turkubusinessregion.com/en/>
YES Network, <https://yesverkosto.fi/en>