THE FUTURE OF ENTREPRENEURSHIP EDUCATION: START-UP CONTENT DESIGN RESEARCH

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Abstract

Start-up training and entrepreneurship development programs help start-ups improve their chances of success, allowing them to graduate with more financial stability and a growth plan. Start-up businesses have different needs and many programs are offered to help entrepreneurs learn how to operate and grow their businesses. However, there is a knowledge gap regarding how entrepreneurship development programs help start-up businesses sustain themselves.

The research question of this study is: What topics should be included in start-up training? The study aims to determine which topics should be included in start-up training content using scientific methods. With the correct design of start-up training content, specific and effective knowledge can be transferred to entrepreneurs. The lack of previous research on this topic highlights the importance of this study.

For this study, data was collected through semi-structured interviews with 23 participants from the start-up ecosystem in the Eskisehir region: 11 co-founders, two investors, two technology transfer office specialists, two consultants, and six trainers. The interviews were conducted from June to July of 2025. The average interview duration was 26 minutes. The interview recordings were evaluated using thematic analysis. First, the study examined which topics should be included in start-up training. Then, it examined how these topics should be conveyed to entrepreneurs. The findings reveal that specific topics, such as Minimum Viable Product (MVP), Business Model Canvas (BMC), and Unit Economics, which are not included in traditional entrepreneurship training, should be included in start-up training. According to the thematic analysis, start-up training topics can be grouped as follows: management and strategy, organization and decision-making, fundraising methods, marketing methods, key performance indicators (KPIs) and other topics.

Due to changes in business methods, a new division of labor has reportedly emerged in start-ups. This new division of labor has led to new positions: Participants emphasized the lack of information regarding the duties, authorities, and responsibilities of positions such as Product Manager (PM) and Chief Technology Officer (CTO). They stated that this information gap must be addressed in the training. Participants stated that qualified "educational institutions" are necessary for successful training and that these institutions must offer "specific entrepreneurship training." Finally, participants emphasized that the training also offered intangible benefits to start-up businesses. These benefits include "relationships" and "business strategy recommendations." While relationships may initially appear to be an intangible benefit, they can later result in financing or other tangible benefits.

Based on the research findings, the start-up training content provided at Anadolu University in Eskisehir is planned to be updated. Anadolu University is well known for providing educational services to over 1 million students through distance learning methods. Additionally, the findings will be shared with KOSGEB, the public institution established to support entrepreneurship in Turkey. The institution is expected to update its start-up training content in line with the research findings. Subsequent research could examine designing specific training content tailored to start-ups' needs based on their sector.

Keywords: Entrepreneurship Education, Start Ups, Content Design, Technology.

1 INTRODUCTION

Start-ups are vitally important institutions for national economies. They are defined as innovative, technology-focused companies established within the last decade with technology at the core of their business model. Countries are working to establish, sustain, and grow start-ups with the potential to generate billions of dollars in revenue in a short period. This study was conducted to determine the specific knowledge that start-up founders need in entrepreneurship.

However, half of these entrepreneurs will fail within the first few years of starting and operating their businesses. These failures are partly due to a lack of support for these ventures, including funding,

advisory services, and business networks that provide consistent mentorship and real value through entrepreneurship development programs.

The start-up ecosystem is an open and constantly evolving system consisting primarily of start-ups, which are its raison d'être, the elements with which start-ups interact, and the actors involved in each of these elements. Various studies have been conducted on the scope, dimensions, and models of the ecosystem. According to the Triple Helix Model, which consists of the "academia, government, industry" triad (Bala, Subrahmanya 2022), clusters in the ecosystem, academic developments, and the presence of government authority enter into a mutual interaction, each striving to enhance the performance of the others. Over time, the Triple Helix Model has given rise to hybrid organizations such as technology parks and incubators. Ziakis et al. (2022) analyzed education and research, human resources, networks, government interventions, and funding opportunities provided by four units -academy, industry, government, and civil society- in their model, which they developed by adding "civil society" to the Triple Helix Model for the Greek start-up ecosystem. The research revealed that the most important factors affecting the successful growth of start-ups are government tax incentives and accelerated business start-up procedures, the availability of funding opportunities, stakeholder connections, entrepreneurship education, past start-up experience, incubator support, and mentoring. Ziakis et al. (2022) found in their work that the relationship between start-up education and start-up success is influenced by the right human resources, past work experience, team skills and success.

According to the "Domains of the Entrepreneurship Ecosystem Model" (Isenberg, 2010, 2016; Isenberg & Onyemah, 2016), the ecosystem consists of six working areas comprising 12 sub-dimensions. "Educational Institutions" is one of the sub-dimensions of this ecosystem. Educational institutions represent a critical component of the ecosystem. Two forms of entrepreneurship education are currently available through educational institutions: The two types of entrepreneurship education are "general entrepreneurship education" and "specific entrepreneurship education." Entrepreneurship education is a type of educational program that has been widely offered worldwide since the 1940s. However, a consensus on the specific topics to be covered under the umbrella of "specific entrepreneurship education" remains elusive. A survey of current examples reveals a preponderance of technical topics. The objective of this research is to determine the specific topics to be incorporated into entrepreneurship education

Research evidence suggests that there is a link between entrepreneurship development programs and several outcomes such as entrepreneurial knowledge, perceptions of entrepreneurship and intentions to start a new business (Souitaris et al., 2007, Martin et al., 2013).

A substantial amount of discourse exists within the extant literature regarding the future of entrepreneurship education. The debate surrounding the question of "teachability" persists. On one side, some authors argue that entrepreneurship is based on innate characteristics (Gartner, 1989). On the other hand, there are those who contend that entrepreneurial skills can be cultivated through education.

2 METHODOLOGY

Studies on the Turkish start-up ecosystem generally focus on Istanbul and do not adequately represent technology entrepreneurship in other cities. Eskisehir's developing start-up ecosystem includes two incubators and accelerators, a techno park, and two technology transfer offices. In 2024, Anadolu University in Eskisehir was ranked fifth among Turkish universities whose founding partners received investments. Despite the lack of adequate support mechanisms in Eskisehir, these data show that start-up entrepreneurs have high innovation potential. Therefore, evaluating the experiences of founders in the Eskisehir start-up ecosystem is meaningful.

For this study, data was collected through semi-structured interviews with 23 participants from the start-up ecosystem in the Eskisehir region: 11 co-founders, two investors, two technology transfer office specialists, two consultants, and six trainers. The interviews were conducted from June to July of 2025. The average interview duration was 26 minutes. The interview recordings were evaluated using thematic analysis. This study, in its current form, serves as a preliminary investigation that will emphasize the discrepancies in the subject and direct subsequent in-depth research.

3 RESULTS

The discourse was predominantly oriented towards the "knowledge base required by start-up entrepreneurs". An analysis was conducted on which competencies are most salient for founders at

each stage of a start-up, such as “Pre-Seed, Seed, Growth, Exit” etc. The subjects identified as a result of the analysis are enumerated in Table 1. As the opinions of the co-Founders were not aligned with those of the other participants, they have been grouped and presented accordingly.

3.1 Start-Up Training Topics

According to the thematic analysis, start-up training topics can be grouped as follows: management and strategy, key performance indicators (KPI’s), fundraising methods, marketing methods, organization and decision-making and other topics (Table 1). The contents under the heading “Other topics” are as follows: green and sustainable entrepreneurship, and the inclusion of underrepresented groups such as women and youth, legislation, effective presentation techniques, business plan preparation methods, case analysis, virtual entrepreneurship simulations, role-playing and problem-based learning, gamification.

Table 1. Start-Up Training Topics

	Management-Strategy	***Organization-Decision Making***	***Fundraising Methods***	***Marketing Methods***	***KPI’s***	***Other Topics***
Co-Founders (11)	10	7	7	6	6	6
Others (12)	9	5	10	8	11	12
Total (23)	19	12	17	14	17	18

3.2 Specific Training

A further point of divergence among the participants' opinions was the customization of training. All co-founders anticipate that the training program for new entrepreneurs will be meticulously designed and implemented. For example: It is imperative that distinct training programs be developed for FinTech, Health Tech, and other sectors with unique needs. Approximately half of the other participants (7/12), including consultants and trainers, emphasized the necessity for sector-specific training. The extent to which students are familiar with the concept of entrepreneurship is also associated with their expectations for "specific training." The majority of participants (20 out of 23) indicated that the training content should differ depending on whether the recipient is a newly graduated aspiring entrepreneur or an entrepreneur who has already established their business.

3.3 Educational Method

The study examined which topics should be included in start-up training. Then, it examined how these topics should be conveyed to entrepreneurs. Participants stated that start-up training should be delivered face-to-face. However, they expect examples related to the training topics, as well as videos and supporting resources, to be shared online. Many participants suggest the use of new teaching methodologies in start-up courses.

The participants indicated that the training, which was application-oriented, was beneficial. Seventeen participants (17/23) specifically mentioned the importance of the Canvas Business Model and how it should be used: The Canvas Business Model should be completed in its current state (AS IS) and in its future state (TO BE) to ensure that entrepreneurs have a comprehensive understanding of the entire business model.

3.4 New Positions and Division of Labor

Due to changes in business methods, a new division of labor has reportedly emerged in start-ups. This new division of labor has led to new positions: Participants emphasized the lack of information regarding the duties, authorities, and responsibilities of positions such as Product Manager (PM) and Chief Technology Officer (CTO). They stated that this information gap must be addressed in the training. Furthermore, participants indicated a lack of awareness regarding the competencies necessary for roles such as Project Manager and Chief Technology Officer.

3.5 The Establishment of JEs

A Junior Enterprise (JE) is a non-profit civil society organization, formed and managed exclusively by undergraduate and postgraduate higher education students. JEs provide services for companies, institutions and society, under the guidance of teachers and professionals, aiming to consolidate and enhance the knowledge and skills of their members. By doing so, those organization support learning-by-doing experiences which enable the consolidation of theoretical knowledge, fostering an entrepreneurial spirit and enhancing the employability of their members.

According to JADE (2017), the main benefit of JEs is their capacity to promote a business-education approach through a learning-by-doing philosophy where students learn how to strategically manage and develop a company by working in one. Also, JEs contribute to the development of specific skills, such as the ability to recognize opportunities, to plan and implement actions, and, in the end, to measure results. Thus, JEs are considered labs that enhance students' employability, and, at the same time, create an impact in society by fostering the growth of local SMEs that benefit from JEs' services (Almeida et al., 2021).

Participants in the study, particularly trainers and consultants, emphasized the need to establish JADE-like networks in Turkey. This would allow young entrepreneurs and start-up co-founders to gain practical business experience by establishing "mini start-ups." The knowledge and skills imparted in training could then be applied in the actual business world. The establishment of JEs would prove to be a pivotal element in the internalization of entrepreneurial knowledge.

4 CONCLUSIONS

A substantial body of research has demonstrated that education in entrepreneurship exerts a considerable influence on intentions. However, this influence does not invariably translate into entrepreneurial behavior. This underscores the significance of culture, policy, ecosystem support, and content design.

The question of how entrepreneurship education should be designed is a matter of significant importance for any society, as it pertains to the evaluation of its impact on employment and the achievement of development goals. A review of the extant research indicates that entrepreneurship education will become more interactive and personalized in the future. Education content must be meticulously tailored to suit the unique qualities, knowledge base, and experience of participants, ensuring that it meets their needs. This delivery of education must be supported by the integration of new technologies.

The utilization of "business plan writing" and "case studies" as predominant methodologies in entrepreneurship education has been a subject of considerable debate, particularly with regard to their efficacy in nurturing entrepreneurial success. In the contemporary educational landscape, technology-focused methodologies such as "virtual entrepreneurship simulations, role-playing, problem-based learning, gamification," among others, have emerged as instrumental tools in cultivating students' entrepreneurial thinking skills.

Start-up training is not solely based on classroom instruction but is supported by “learning-by-doing or experience-based learning methodologies.”

Furthermore, experiential learning methodologies, including mentoring, company visits, and start-up accelerator programs, are prominent. Digitalization, online platforms, game-based learning, and AI-powered tools have emerged as novel components of entrepreneurship education.

Participants stated that qualified "educational institutions" are necessary for successful training and that these institutions must offer "specific entrepreneurship training." Finally, participants emphasized that the training also offered intangible benefits to start-up businesses. These benefits include "relationships" and "business strategy recommendations." While relationships may initially appear to be an intangible benefit, they can later result in financing or other tangible benefits.

The future of entrepreneurship education is anticipated to prioritize the following domains:

- Digital entrepreneurship education: integrating AI, blockchain, and platform-based business models into curricula.
- Sustainable and green entrepreneurship: embedding environmental and climate-conscious content in start-up education.

- Inclusive entrepreneurship: addressing gender gaps, youth entrepreneurship, and disadvantaged groups' participation
- Adaptive content design: developing personalized and data-driven curricula that evolve with learner needs and dynamic start-up environments.

In this context, the structure of future entrepreneurship education is evolving to become more interdisciplinary, digitally supported, sustainability-focused, and inclusive.

Based on the research findings, the start-up training content provided at Anadolu University in Eskişehir is planned to be updated. Anadolu University is well known for providing educational services to over 1 million students through distance learning methods.

Additionally, the findings will be shared with KOSGEB, the public institution established to support entrepreneurship in Turkey. The institution is expected to update its start-up training content in line with the research findings. Subsequent research could examine designing specific training content tailored to start-ups' needs based on their sector.

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