

Enhancing Entrepreneurial Activity through Advanced Entrepreneurship Courses

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How to cite: Duennebeil, S.; Wach, B.; Maisch, B.; Boettcher, A. (2025). Enhancing Entrepreneurial Activity through Advanced Entrepreneurship Courses. In: 11th International Conference on Higher Education Advances (HEAd'25). Valencia, 17-20 June 2025. <https://doi.org/10.4995/HEAd25.2025.20023>

Abstract

This study examines the role of an advanced entrepreneurship course in addressing the critical research gap in the intention-to-behavior transition within higher entrepreneurship education. Leveraging the university's robust entrepreneurship ecosystem, the course targeted students with prototypes and entrepreneurial aspirations. Four teams, comprising 14 students, engaged in an ethnographic setting featuring cross-faculty coaching and personalized mentorship. Findings highlight significant variability in participants' entrepreneurial backgrounds and intentions, with team dynamics and critical project evaluation emerging as key determinants of entrepreneurial behavior. The course effectively bridges foundational entrepreneurship education and incubation programs, facilitating the progression to advanced startup development. Challenges such as varying entrepreneurial readiness, hesitance to pivot, and credit recognition underscore the need for tailored, iterative course designs that accommodate diverse student needs. This approach enhances the pipeline from academic projects to ventures and advances university-driven innovation.

Keywords: *Advanced entrepreneurship education, entrepreneurial mindset, university startups, startup incubation, entrepreneurial readiness.*

1. Introduction

Universities play a critical role in fostering innovation and entrepreneurship, serving as incubators for startup founders through Entrepreneurship Education (EE) (e.g., Audretsch, 2014; Yu, Zheng, & He, 2024). EE equips students with the knowledge and skills needed for venture creation (Zhong et al., 2022), offering programs ranging from introductory courses to advanced initiatives to transitioning academic projects into viable businesses (Neck & Greene, 2011). These programs often leverage institutional ecosystems, including incubators,

accelerators, and entrepreneurship centers, to support students with the necessary resources and networks for startup success (Wright et al., 2017).

While EE effectively fosters entrepreneurial intent by enhancing creativity, innovation, and foundational business skills (Piperopoulos & Dimov, 2015), there remains a significant gap between intention and action. Many students with high entrepreneurial intentions fail to transition into founding a startup (e.g., Souitaris et al., 2007). This gap highlights the need for advanced, experiential learning opportunities that address real-world entrepreneurial challenges (Lack  us, 2015). Generalized curricula, limited exposure to practical problem-solving, and insufficient integration of iterative and team-based learning further hinder this transition (Kuratko, 2005; Fayolle & Gailly, 2015). In EE the Lean Startup framework (e.g., Blank & Eckhardt, 2024; Ries, 2011) is one of the most prevalent concepts to teach opportunity validation, iterative development, and self-directed learning. Given the success of the Lean Startup framework, we align with scholars such as Leatherbee and Katila (2020), who highlight its context-specific nature. However, a deeper understanding is needed despite existing insights into its effectiveness, boundary conditions, and practicality.

This study addresses the research gap concerning the intention-to-behavior transition within higher education-based EE, as Nabi et al. (2017) identified. Specifically, it investigates why some recipients of EE with high entrepreneurial intentions establish startups while others do not. It also explores the role of advanced EE in facilitating this transition by focusing on a pilot program for final-year bachelor students. Our students all had entrepreneurial intentions and had already finished a beginners' EE program. Further, we focus on teaching the most relevant aspects of the Lean Startup framework only if there is a clear demand for the skills to avoid information overload for students. The objectives of this study are twofold. First, we assess whether a specific advanced course could bridge and enhance the pipeline from EE to incubation programs. Second, we identify the specific needs of students with entrepreneurial intent.

Conducted in an ethnographic setting with cross-faculty coaching and personalized mentorship, this paper outlines the course design, methodology, and findings. We interviewed 14 participants and thereby enhanced the course design for the consecutive year. Eventually, we contribute to the debate on the intention-to-behavior transition (e.g., Souitaris et al., 2007) and offer recommendations for educators aiming to optimize advanced EE.

2. Theoretical Background

EE has emerged as a critical tool for fostering innovation and bridging the gap between entrepreneurial intentions and startup behavior. Universities worldwide integrate EE into their curricula, offering students the skills, knowledge, and resources necessary to transform ideas into ventures. The research underscores the importance of moving beyond traditional, lecture-based models to experiential, project-based approaches, pursuing the Lean Startup framework,

which emphasizes iterative development, customer validation, and agile adaptation (e.g., Ries, 2011; Leatherbee & Katila, 2020).

Theoretically, Ajzen's (1991) Theory of Planned Behavior unfolds high explanatory power in EE for the causal chain between attitudes, perceived behavioral control, and subjective norms as key drivers of entrepreneurial decision-making. While EE enhances entrepreneurial intentions and self-efficacy (Nabi et al., 2017; Nowiński et al., 2017), a persistent gap exists between the intention to become an entrepreneur and the actual founding of a startup. Souitaris et al. (2007) found that inspiration derived from entrepreneurship programs significantly raises entrepreneurial intentions but does not always translate into immediate behavior, particularly due to time lags and barriers such as insufficient interdisciplinary collaboration and limited institutional support (e.g., Blenker et al., 2011; Kuratko, 2005).

University ecosystems, comprising mentorship programs and incubation initiatives, play a vital role in supporting this transition. Wright et al. (2017) emphasize the integration of these resources into curricula to create a seamless pipeline from ideation to venture creation. Advanced courses, situated between foundational education and incubation programs, are particularly effective in fostering this transition. They allow students to refine ideas, validate markets, and develop prototypes. Effectuation principles, which encourage leveraging existing resources and embracing uncertainty, have proven valuable in such settings (Neck et al., 2014). However, the effectiveness of advanced EE depends heavily on course design. Fayolle and Gailly (2015) stress the need for a balance between structured guidance and self-directed learning. Programs that emphasize iterative learning, real-world problem-solving, and interdisciplinary collaboration are better equipped to address the intention-behavior gap and enhance university-driven innovation. These findings suggest a need for more targeted interventions that prioritize actionable outcomes over theoretical knowledge.

3. Research Method

To explore the potential of advanced EE in fostering startup creation and entrepreneurial skills, we designed and implemented a pilot course targeting bachelor students in their final year. The advanced entrepreneurship course was structured as an ethnographic study, providing students with a hands-on, self-directed learning experience. The curriculum was anchored in the Lean Startup framework, emphasizing iterative development, market validation, and reflective learning. Participants attended weekly coaching sessions led by three professors from different faculties, ensuring interdisciplinary perspectives. Lectures were offered on demand to support specific team needs, and students were encouraged to proactively request resources and guidance. The course was advertised to over 250 students across various entrepreneurship courses within the university. We were able to provide credits (ECTS) to some faculties only. Ultimately, 14 students formed four teams, with most participants being self-selected based on

their entrepreneurial interests and ongoing projects. While the course was open to all students, only students eligible for credits joined. All participants were male, and no interdisciplinary teams were formed, as most participants recruited team members from their faculties.

EE is a key pillar of our university, the institution is renowned for its entrepreneurship center, which supports students through various programs, including non-credit courses that guide participants from ideation to startup creation, and a highly regarded incubation program for nascent ventures (Etzkowitz & Zhou, 2017). Additionally, the university offers numerous intra-faculty and inter-faculty entrepreneurship courses tailored to undergraduate students. Many students engage in project-based assignments during their studies, particularly in technical disciplines, which often serve as a springboard for entrepreneurial ideas (Rasmussen & Sørheim, 2006). To gain insights into the effectiveness of the course and the needs of students with entrepreneurial intent, we build on the following data collection approach:

- **Interviews:** Semi-structured interviews were conducted with each participant at the end of the course. These interviews explored their experiences, challenges, and perceptions of their entrepreneurial development.
- **Self-Reflection Reports:** Teams documented their personal and venture-related progress in weekly reflection
- **Observation:** The teams underwent weekly coaching and kept close contact with professors with multiple touchpoints

The data was analyzed qualitatively to identify themes related to entrepreneurial skill development, team dynamics, and the effectiveness of the course structure. Interview transcripts and self-reflection reports were coded to extract insights into participants' needs, challenges, and intentions.

4. Results

4.1. Participant Characteristics

The course attracted students with diverse entrepreneurial backgrounds, ranging from those with no prior experience to individuals who already started their first ventures prior to the course. Despite the course's open nature, all participants were male, and teams lacked interdisciplinary composition, as students primarily recruited peers from their faculties. None of the team participated with the same group of team members as in their initial EE course. Team building was conducted without the intervention of the teachers. This homogeneity in team formation highlights a potential barrier to fostering cross-disciplinary innovation in university when there are few interdisciplinary courses as in our case. Additionally, many participants expressed uncertainty about their future entrepreneurial pathways, often deliberating between pursuing a

startup, advancing their academic studies, or entering the job market (see Team-specific Findings in Table 1).

4.2. Motivations and Intentions

Students' motivations were often tied to their experiences with project-based assignments during their studies, particularly in technical disciplines. These assignments provided an initial spark of entrepreneurial interest, as students recognized the potential for further development of their projects. However, entrepreneurial intentions were not static; they fluctuated throughout the course as participants encountered market feedback, team dynamics and difficulties, and personal reflections on the feasibility of their projects. For some, these experiences reinforced their entrepreneurial drive, while for others, they prompted reconsideration of their career paths after considering the risk and associated workload. Most teams derived the problem for their activity from their close private environment, as they lacked in-depth industry experience.

4.3. Skill Development

Participants demonstrated notable growth in entrepreneurial skills, particularly in areas such as presentation, prototyping, marketing, and application of entrepreneurial frameworks like the Lean Startup methodology. Interestingly, skills introduced in earlier entrepreneurship courses often became clearer and were more effectively applied when revisited in this advanced setting, especially after the need was experienced by the team. This finding underscores the value of reinforcing foundational concepts through iterative learning experiences.

4.4. Challenges

The study also revealed several challenges. Students were generally hesitant to pivot their projects in response to market feedback, as it causes uncertainty. As the course was graded, high flexibility was not included in the grading scheme from the very beginning. A greater emphasis on flexibility and adaptability in grading is essential. We experienced a passive engagement with on-demand lectures further highlighted the necessity for a more agile and problem-oriented coaching approach. Moreover, students were not engaging actively enough with their customer segment.

Table 1: Team-Specific Findings

Team	Project Description	Strengths	Challenges
1	AI-driven application for midwife documentation	Real-world problem identified; solid progress in prototype design; significant improvement in presentation skills; validated concept through target group interviews.	The initial prototype lacked modern design; needed external design expertise; limited ambition in project framing; and had low self-efficacy.
2	Ticketing system for clubs with age verification features	Experienced members brought entrepreneurial backgrounds, iterative prototype design and good initial concept. Realistic risk assessment.	Lack of team cohesion; mixed entrepreneurial intentions; insufficient field experiments; team hesitant about project relevance.
3	Platform for trading unused parking spaces	Strong entrepreneurial drive; high-quality pitch deck and interviews from the outset; utilized university resources effectively; quickly ran first experimental POC.	Slower learning curve after initial motivational surge; disappointment due to slow project progression; high expectations to the university and ecosystem.
4	Service to purchase cars with low residual value	Practical market experience; strong hands-on approach; significant improvement in presentation and entrepreneurial skills.	Limited entrepreneurial mindset; trader mentality dominated over startup mindset; insufficient digital and business expertise.

5. Conclusions, Limitations, and Future Work

5.1. Implications

The findings of this study underscore the potential of advanced entrepreneurship courses to support turning slight entrepreneurial intention into action. (e.g., Souitaris et al., 2007). However, more realistic efforts or risk assessment can reduce entrepreneurial activity in complex founding endeavors. Slightly naive and very enthusiastic founding endeavors should not be the objective of venture development in universities.

Advanced entrepreneurship courses can serve as a bridge by fostering entrepreneurial skills, validating business concepts, and improving self-efficacy. Especially the exchange between teams who progress in problem-based learning approaches helped to provide a clear picture of

risks and opportunities related to the venture. This study contributes to the intention-behavior debate by highlighting challenges occurring during the transition of students from the ideation phase into actionable startup activities. Nabi et al. (2017) emphasize the need for learning experiences, and our findings align with this, demonstrating that structured, hands-on courses foster teamwork, and iterative problem-solving skills—factors critical for translating intentions into behavior.

For these courses to maximize their impact and further contribute to the intention-behavior transition, universities should implement the following strategies: First, allocate academic credits to advanced courses, while leaving a high level of freedom to act and pivot for the teams. Providing academic credit for advanced entrepreneurship courses can attract teams that are too early to decide to act. Teams normally restructure after the first EE courses, normally one driver attracts other students from their faculty. Advanced courses must support this action. Team pivots have been shown to occur before opportunity pivots. Second, it is essential to offer structured guidance for relevant entrepreneurial learning and testing, omitting irrelevant educational deliverables. While self-directed learning fosters autonomy and an entrepreneurial mindset, it must be complemented with guidance to ensure students stay focused and achieve meaningful progress. Student teams often progress at varying speeds and stages of maturity with their start-up ideas, resulting in diverse needs regarding the content and support provided. To address this, regular feedback sessions, tailored mentorship, and milestone-based evaluations can offer the necessary scaffolding without compromising the experiential nature of these courses.

However, beyond offering guidance, it is crucial to communicate the unique opportunity that advanced entrepreneurship courses represent for students. These programs serve as a launchpad for real-world impact and professional growth. By participating, students gain valuable skills, explore their entrepreneurial potential, and engage in a low-risk environment where failure is a steppingstone, not a setback. Framing these courses as a rare chance to experiment, learn, and possibly transform their career trajectory can motivate students to fully embrace the experience. By aligning course structures with both the intention-behavior literature and this empowering perspective, universities can enhance their role as catalysts for startup formation and personal development.

5.2. Limitations

This study is limited by its small sample size and the homogeneity of participants, as all were male, primarily from computer science and business departments, and the teams were not interdisciplinary. These factors restrict the generalizability of the findings to broader student populations.

5.3. Future Work

Future research should expand on these findings by exploring the impact of interdisciplinary team formation and including a more diverse participant pool. Longitudinal studies could assess the long-term entrepreneurial outcomes of participants and their ventures. Further, comparative analyses of different teaching approaches, such as structured curricula versus self-directed learning, could provide deeper insights into optimizing advanced EE. Further, more longitudinal in-depth research could tackle the emotional journey and self-perception as well as the team dynamics as determinants of entrepreneurial activity.

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