

Forget Brainstorming – Use Technology: A Case for Agile, AI-Enabled Entrepreneurship Education

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ABSTRACT

Traditional entrepreneurship education has long emphasized ideation, theoretical instruction, and staged business planning. Yet, in the age of artificial intelligence (AI) and rapid technological development, such approaches often fall short of preparing students for real-world entrepreneurial dynamics. This paper presents a case study of the BuildUP program at the University of Potsdam (Germany), a ten-week Master-level course that deliberately abandons brainstorming and prolonged ideation in favor of anchoring entrepreneurship education in three key design principles: (1) starting from existing university technologies rather than abstract ideas, (2) embedding AI tools to lower barriers to execution, and (3) structuring the course in short, sprint-based cycles with agile adaptation by faculty. Data was drawn from observation, student logbooks, end-of-program feedback, and lecturer reflections. Findings reveal that students progressed from initial exposure to patents to validated prototypes and symbolic revenue attempts within weeks—outcomes rarely achieved in conventional courses. Five central insights emerged: speed and iteration as primary learning drivers, technology anchors as accelerators of focus, AI as an execution enabler, authentic market feedback as a superior learning tool, and agile teaching as a co-learning process. The study contributes to the growing literature on practice-first, technology-integrated entrepreneurship education, offering a model that can be adapted in diverse higher education contexts.

Keywords: Entrepreneurship education, artificial intelligence, sprint-based learning, technology transfer, agile teaching

INTRODUCTION

Entrepreneurship education faces a critical paradox. While universities worldwide promote entrepreneurial thinking, many curricula still rely on lengthy ideation phases, business plan writing, and theory-driven lectures [15]. Such models often fail to reflect the reality of modern startups, where speed, iteration, and market engagement are decisive [9, 1]. Meanwhile, technological disruption—especially generative AI—has fundamentally lowered the barriers to entrepreneurial experimentation [15].

This paper argues that entrepreneurship education must evolve by combining three levers: existing technologies, AI tools, and sprint-based learning formats. In contrast to traditional brainstorming, starting with real technologies (e.g., patents, prototypes) anchors students in tangible opportunities. AI tools such as ChatGPT and Lovable provide immediate access to market analysis, communication, and prototyping capabilities that once required significant time and resources. Sprint formats compress learning cycles and replicate startup velocity. Finally, instructors themselves must adopt an agile mindset, adapting daily objectives in response to student progress.

We explore this model through the BuildUP program at the University of Potsdam in Germany. Within a ten-week Master course, students advanced from raw patents to validated prototypes and symbolic revenue

generation—outcomes that challenge the conventional boundaries of what classroom-based entrepreneurship education can achieve.

The central claim of this paper is simple yet provocative: Forget brainstorming—use technology. By reframing entrepreneurship education around technologies, AI, and sprints, we can better prepare students for entrepreneurial practice in the age of AI.

METHODS

This study employed a qualitative case study design [18] to investigate the BuildUP program at the University of Potsdam. The program ran over ten weeks in the summer semester of 2025 and involved 25 international Master students, primarily from business administration and business informatics, who were organized into seven teams.

Program Design

Students were assigned university-owned patents or technology prototypes rather than beginning with brainstorming. This ensured entrepreneurial work started from tangible technologies. The course was structured into four sprint blocks: (1) team formation and technology selection, (2) prototyping and early validation, (3) traction building, and (4) pitching to practitioners. Minimal theoretical inputs were introduced, immediately followed by practice-oriented assignments. Students also made extensive use of AI tools such as ChatGPT, Claude, and Lovable.

Data Collection

Three sources of data were used: (1) bi-weekly student logbooks documenting activities and reflections, (2) end-of-course surveys combining Likert-scale and open questions, and (3) lecturer teaching notes and reflective reports.

Data Analysis

Data were analyzed using qualitative content analysis [7]. An inductive coding process identified recurring themes, and triangulation across sources ensured validity.

RESULTS

Analysis of the data revealed five key findings that challenge conventional approaches to entrepreneurship education. The academic discourse on entrepreneurship education has been shaped by models such as incubators and accelerators, which have also influenced classroom pedagogy. Incubators provide protected environments where ideas are nurtured over extended periods of time, with limited exposure to market forces. While this can lower the risk of early failure and foster creativity, it often results in solutions that lack market relevance [12]. Accelerators, on the other hand, emphasize speed and competitive pressure, pushing startups to achieve market entry in a condensed timeframe. This approach creates momentum but can also lead to burnout and short-term thinking [17].

Sprint-based learning formats, inspired by agile and design thinking methodologies, emphasize short, iterative cycles of ideation, prototyping, and feedback [5]. These approaches encourage students to learn through doing rather than prolonged analysis, helping overcome the "analysis paralysis" often observed in theory-driven settings and mirroring the velocity of real-world startup environments [6, 14].

The rise of AI tools has further expanded possibilities for entrepreneurship education. AI enables non-technical students to conduct tasks such as prototyping, coding, and market analysis, which previously required extensive expertise [2, 8]. However, empirical research exploring the integration of AI into entrepreneurship curricula remains scarce [10, 15].

The findings from this study suggest that these conventional models—whether incubator-based nurturing or accelerator-driven intensity—may be incomplete without addressing the interplay between speed, technological enablers, and authentic market validation.

First, speed and iteration emerged as primary drivers. Students reported that rapid prototyping and immediate customer feedback generated deeper insights than extended theoretical preparation. Imperfect outputs, such as simple websites, nonetheless provided valuable traction.

Second, technology anchors accelerated focus. Teams starting from patents or technologies progressed faster and more effectively than those working with self-generated ideas. Tangible technologies provided credibility in approaching customers.

Third, AI tools enabled execution. Students without technical expertise produced functional prototypes and marketing materials quickly. The integration of multiple AI platforms significantly reduced execution time.

Fourth, authentic market feedback proved decisive. Requiring symbolic payments (€1 and €5) pushed students beyond polite interest to confront genuine customer commitment, providing more reliable validation.

Finally, agile teaching fostered co-learning. Faculty adapted sprint objectives based on student progress, mirroring entrepreneurial uncertainty. Students recognized this flexibility as motivating and realistic.

DISCUSSION

The findings of this case study illustrate how the integration of AI tools, technology anchors, and sprint formats can generate a distinct model for entrepreneurship education. These results not only extend established frameworks but also raise important questions about their broader application.

The emphasis on speed and iteration strongly resonates with the Lean Startup methodology [11], yet in our case AI significantly accelerates the Build-Measure-Learn cycle by lowering technical barriers. Similarly, the requirement of symbolic payments aligns with Effectuation theory [13] and demonstrates that even small, symbolic commitments can sharpen opportunity development. Students' rapid transition from theorizing to experimenting reflects Kolb's experiential learning cycle [6], confirming that practice-based learning fosters deep engagement. Finally, the use of digital tools illustrates Nambisan's argument [8] that technology fundamentally reshapes entrepreneurial processes.

At the same time, the study's limitations must be acknowledged. The research is based on a single case study within one ten-week Master's program and involves a relatively small group of students. The dataset, while triangulated from logbooks, feedback forms, and lecturer reflections, is qualitative in nature and cannot offer statistical generalizability. Moreover, the focus on speed and tangible outputs raises questions about the balance between fast execution and deeper conceptual reflection. While students gained momentum through rapid prototyping, there remains a risk that critical thinking and theoretical grounding may be underdeveloped in such compressed formats. Similarly, barriers such as digital literacy gaps, unequal access to AI tools, or the cognitive load of sprint structures were not systematically examined in this study and merit further investigation.

These limitations open fruitful avenues for future research. Comparative studies across multiple institutions and courses could test whether technology-anchored, AI-enabled sprint models consistently outperform traditional ideation-based formats. Longitudinal research could explore whether the skills and entrepreneurial activities initiated during the course are sustained beyond the classroom. Further, focused work is needed to analyze potential challenges, including the accessibility of AI platforms, team dynamics under sprint pressure, and the impact of speed on reflective learning and critical evaluation.

Overall, the findings affirm the promise of combining AI, technology anchors, and sprint structures, but also highlight the necessity of contextual sensitivity and a balanced approach that values both rapid action and reflective depth.

CONCLUSION

This study advances the proposition: Forget brainstorming—use technology. By reframing entrepreneurship education around technologies, AI tools, and sprint-based formats, students achieved tangible outcomes—validated prototypes, symbolic revenue, and authentic customer engagement—within a ten-week course. The results illustrate how practice-first models can accelerate entrepreneurial learning and bring students closer to real-world startup dynamics.

Implications for practice include rethinking curriculum design by minimizing open-ended brainstorming, embedding real technologies as anchors, and encouraging agile teaching methods that mirror entrepreneurial uncertainty. AI literacy should be integrated into entrepreneurship programs, not as an optional skill but as a foundational competency. At the same time, educators must remain attentive to student workload and ensure that opportunities for reflection and critical discussion are preserved.

Future research should pursue comparative studies across institutions to test whether this approach consistently outperforms traditional ideation-driven courses. Longitudinal studies could track whether students continue entrepreneurial activity beyond the classroom. Finally, careful analysis of barriers—access, literacy, cognitive load—will be essential to ensure inclusive and sustainable adoption of AI-enabled, sprint-based entrepreneurship education.

Ethical Considerations

Ethical approval was not required for this study as it did not involve human participants beyond voluntary classroom learning activities. All participants gave informed consent to the use of anonymized reflections and feedback for research purposes.

Conflict Of Interest

The authors declare no conflict of interest.

Data Availability

Data supporting the findings of this study (student logbooks and anonymized feedback) are available from the corresponding author upon reasonable request.

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