Research Article

Bridging The Theory–Practice Gap in Entrepreneurial Learning: An Experiential Learning Framework for Higher Education

Dr. Meenal Shah
Associate Professor, Om Kothari Institute of Management and Research
(Affiliated to Rajasthan Technical University)

Corresponding Author: * Dr. Meenal Shah

DOI: https://doi.org/10.5281/zenodo.20728343

Abstract

Entrepreneurship education has gained considerable importance within higher education institutions as universities increasingly aim to cultivate innovation, opportunity recognition, and venture creation skills among students. Over the past two decades, entrepreneurship courses and programs have expanded rapidly across academic disciplines. Despite this growth, scholars continue to debate the effectiveness of current pedagogical approaches used to teach entrepreneurial competencies. Many entrepreneurship courses still rely heavily on traditional lecture-based instruction, which may not adequately reflect the uncertain, experiential, and practice-oriented nature of entrepreneurial activity (Neck & Greene, 2011). Consequently, there is a growing call for more innovative teaching approaches that combine experiential learning with digital tools and real-world engagement.

This study examines the existing literature on entrepreneurial learning and teaching in higher education in order to identify major pedagogical challenges and emerging opportunities. A systematic review of academic publications produced between 2005 and 2025 was conducted to explore how entrepreneurship education has evolved and to identify persistent gaps in teaching practices. The review indicates several key issues, including an overreliance on theoretical instruction, lack of consensus regarding effective teaching methodologies, insufficient integration of digital technologies, and limited mechanisms for evaluating long-term entrepreneurial outcomes (Fayolle & Gailly, 2015; Nabi et al., 2017).

Based on these findings, the paper proposes a conceptual framework that integrates experiential learning strategies, digital learning platforms, and collaboration with entrepreneurial ecosystems such as industry mentors, incubators, and startup networks. This integrated approach aims to strengthen students' practical entrepreneurial capabilities while aligning entrepreneurship education with contemporary technological and economic developments. The study contributes to the expanding body of research on entrepreneurship education by offering a structured model that can support curriculum innovation, institutional policy development, and future empirical research within higher education.

Manuscript Information

- **ISSN No:** 2583-7397
- **Received:** 11-05-2026
- **Accepted:** 13-06-2026
- **Published:** 17-06-2026
- **IJCRM:**5(3); 2026: 934-941

- **Plagiarism Checked:** Yes
- **Peer Review Process:** Yes

How to Cite this Article

Shah M. Bridging the theory–practice gap in entrepreneurial learning: An experiential learning framework for higher education. Int J Contemp Res Multidiscip. 2026;5(3):934-941.

Access this Article Online

www.multiarticlesjournal.com

KEYWORDS: entrepreneurship education, experiential learning, digital entrepreneurship, higher education, entrepreneurial competencies.

1. INTRODUCTION

Entrepreneurship is widely recognized as a significant catalyst for economic development, technological advancement, and job creation across both developed and emerging economies. Governments and policymakers increasingly emphasize the importance of entrepreneurial activity as a mechanism for stimulating innovation and addressing unemployment challenges. Within this context, higher education institutions have assumed an important role in preparing graduates who possess the knowledge, mindset, and skills necessary to engage in entrepreneurial activities and contribute to economic progress (Audretsch, 2014; Fayolle & Gailly, 2015).

In response to these expectations, universities around the world have incorporated entrepreneurship education into their academic programs. Over the last two decades, entrepreneurship courses, incubators, and innovation centers have become common features within higher education institutions. These initiatives aim to nurture entrepreneurial thinking, enhance opportunity recognition, and support the development of new ventures among students (Nabi et al., 2017). Despite the rapid expansion of such programs, questions remain regarding the effectiveness of current approaches used to teach entrepreneurship in academic settings.

A major concern raised in the literature relates to the persistent reliance on traditional teaching practices in entrepreneurship education. Lecture-based instruction and theoretical frameworks continue to dominate many entrepreneurship courses, even though entrepreneurial activity itself involves uncertainty, experimentation, and problem-solving in real-world contexts (Neck & Greene, 2011). As a result, some scholars argue that existing teaching methods may not adequately prepare students for the practical challenges associated with launching and managing new ventures.

Consequently, educators and researchers have increasingly advocated for more experiential and practice-oriented pedagogical approaches. Learning strategies such as project-based learning, startup simulations, industry collaboration, and digital learning platforms have been suggested as effective ways to bridge the gap between theoretical knowledge and real-world entrepreneurial practice (Kuratko, 2005). These approaches encourage students to actively engage with entrepreneurial processes rather than passively acquire knowledge.

Against this background, the present study investigates the existing gaps in entrepreneurial learning and teaching within higher education. In particular, the study explores how experiential learning strategies and digital educational tools can be integrated to enhance the effectiveness of entrepreneurship education. By synthesizing existing research, the paper proposes a conceptual framework that supports the development of more practice-oriented and technologically supported approaches to entrepreneurial learning in universities.

2. LITERATURE REVIEW

2.1 Entrepreneurship Education in Higher Education

Entrepreneurship education has become a prominent component of university curricula as institutions increasingly seek to promote innovation, opportunity recognition, and entrepreneurial behaviour among students. Scholars define entrepreneurship education as a structured learning process designed to develop the knowledge, competencies, and attitudes required to initiate and manage new ventures or innovative projects (Fayolle & Gailly, 2015). The expansion of entrepreneurship programs across universities reflects the growing recognition that higher education institutions can play an important role in fostering entrepreneurial ecosystems and supporting economic development.

Researchers commonly classify entrepreneurship education into three broad pedagogical orientations: teaching *about* entrepreneurship, teaching *for* entrepreneurship, and teaching *through* entrepreneurship. The first approach primarily focuses on theoretical understanding of entrepreneurship concepts, including business models, innovation processes, and venture management. The second approach emphasizes the development of practical skills required to start and manage new businesses. The third approach goes further by encouraging students to engage directly in entrepreneurial activities and learn through experience and experimentation (Neck & Greene, 2011). Among these approaches, experiential and practice-oriented learning is increasingly considered the most effective method for developing entrepreneurial competencies because it exposes students to the uncertainty and problem-solving characteristics associated with entrepreneurial practice.

2.2 Experiential Learning in Entrepreneurship Education

Experiential learning has emerged as a central pedagogical approach within entrepreneurship education. Unlike traditional lecture-based instruction, experiential learning emphasizes active participation, reflection, and real-world engagement. According to Kolb's experiential learning theory, effective learning occurs when individuals cycle through concrete experience, reflective observation, conceptualization, and active experimentation (Kolb, 1984). This framework has strongly influenced the design of entrepreneurship education programs.

In practical terms, experiential entrepreneurship education often involves activities such as startup simulations, business plan competitions, incubator participation, project-based assignments, and internships with entrepreneurial firms. These learning experiences allow students to apply theoretical knowledge in practical settings while developing skills related to opportunity recognition, risk management, and innovation (Pittaway & Cope, 2007). Research suggests that such experiential activities can enhance entrepreneurial self-efficacy and improve students' ability to deal with the uncertainty and ambiguity inherent in entrepreneurial processes. Consequently, universities increasingly incorporate experiential learning components into entrepreneurship courses in order to strengthen students' entrepreneurial competencies.

2.3 Digital Transformation and Entrepreneurship Education

Technological advancements are also reshaping the landscape of entrepreneurship education. Digital platforms, online collaboration tools, and artificial intelligence-based applications have expanded the possibilities for innovative teaching and learning practices in universities. These technologies enable students to access entrepreneurial resources, collaborate with

peers across geographic boundaries, and simulate real-world business environments (Giones & Brem, 2017). Digital learning environments can also support data-driven decision-making, virtual incubation programs, and digital venture creation.

Despite these opportunities, the integration of digital technologies into entrepreneurship education remains uneven across higher education institutions. Many universities continue to rely primarily on conventional teaching methods and have yet to fully leverage the potential of digital learning tools. Scholars argue that the effective integration of digital technologies into entrepreneurship education requires curriculum redesign, faculty training, and stronger collaboration between universities and innovation ecosystems (Nambisan, 2017). As digital entrepreneurship continues to grow, universities face increasing pressure to adapt their teaching approaches to prepare students for technology-driven entrepreneurial environments.

3. Research Gap

Although the literature on entrepreneurship education has expanded significantly, several important gaps remain. First, there is still limited consensus regarding the most effective pedagogical approaches for developing entrepreneurial competencies in higher education. While experiential learning is widely recommended, the optimal combination of theoretical instruction and practical engagement remains unclear (Nabi et al., 2017).

Second, many entrepreneurship courses continue to emphasize theoretical knowledge rather than hands-on entrepreneurial practice, which may limit students' ability to apply their learning in real-world contexts. Third, despite rapid technological advancements, the adoption of digital tools and platforms within entrepreneurship education is still relatively limited in many institutions. Fourth, existing research frequently focuses on short-term outcomes such as entrepreneurial intention, while relatively few studies examine long-term outcomes such as venture creation, innovation capability, or sustained entrepreneurial careers. Finally, entrepreneurship education remains largely concentrated within business schools, with limited integration across other academic disciplines.

These limitations highlight the need for innovative teaching frameworks that combine experiential learning with digital technologies and interdisciplinary collaboration. Addressing these gaps may help universities design more effective entrepreneurship education programs that better prepare students for the dynamic and evolving nature of entrepreneurial activity.

4. Conceptual Framework and Hypotheses Development

Entrepreneurship education research increasingly emphasizes the importance of pedagogical approaches that move beyond theoretical instruction and encourage active engagement with entrepreneurial processes. In higher education, the effectiveness of entrepreneurship education is often evaluated through outcomes such as entrepreneurial competencies, opportunity recognition skills, entrepreneurial intention, and venture creation capability (Nabi et al., 2017). Building on prior literature, this study proposes a conceptual framework that examines how experiential learning and digital learning environments influence the development of entrepreneurial competencies among university students.

4.1 Experiential Learning and Entrepreneurial Competencies

Experiential learning theory suggests that individuals develop knowledge and skills through direct experience, reflection, and application of concepts in practical situations (Kolb, 1984). In the context of entrepreneurship education, experiential learning methods such as project-based learning, startup simulations, internships, and participation in entrepreneurial incubators provide students with opportunities to engage with real-world business challenges. These activities allow students to experiment with ideas, learn from failure, and develop problem-solving capabilities that are essential for entrepreneurial success.

Previous studies indicate that experiential entrepreneurship education can significantly improve students' entrepreneurial self-efficacy, opportunity recognition skills, and innovation capability (Pittaway & Cope, 2007). By actively participating in entrepreneurial activities, students gain practical exposure to market uncertainty, resource constraints, and strategic decision-making. Such learning environments foster the development of entrepreneurial competencies, including creativity, resilience, and risk management. Consequently, experiential learning is considered one of the most effective pedagogical strategies for developing entrepreneurial capabilities in higher education (Neck & Greene, 2011).

Based on this theoretical and empirical evidence, the following hypothesis is proposed:

H1: Experiential learning has a positive and significant influence on the development of entrepreneurial competencies among university students.

4.2 Digital Learning Environments and Entrepreneurial Competencies

Digital transformation is reshaping educational practices across higher education institutions. The integration of digital technologies such as online collaboration platforms, virtual simulation tools, artificial intelligence applications, and digital entrepreneurship ecosystems has created new opportunities for innovative teaching and learning approaches (Giones & Brem, 2017). In entrepreneurship education, digital technologies enable students to access real-time market information, collaborate with global teams, and develop digital business models.

Digital learning environments also support interactive learning experiences that go beyond the limitations of traditional classrooms. For example, virtual startup simulations, online mentoring platforms, and digital incubators allow students to test entrepreneurial ideas and receive feedback from experts and peers. These technology-enabled learning experiences can enhance students' entrepreneurial thinking and strengthen their ability to adapt to rapidly changing business environments (Nambisan, 2017).

Furthermore, the growing importance of digital entrepreneurship—where ventures rely heavily on digital

technologies for value creation—requires universities to incorporate digital competencies into entrepreneurship education. Students who engage with digital tools during their learning process may develop stronger entrepreneurial skills related to innovation, data analysis, and digital opportunity recognition.

Based on these arguments, the following hypothesis is proposed:
H2: Digital learning environments have a positive and significant influence on the development of entrepreneurial competencies among university students.

4.3 Entrepreneurial Ecosystem Engagement and Entrepreneurial Competencies

Entrepreneurial learning does not occur solely within the classroom environment; it is also shaped by interactions with the broader entrepreneurial ecosystem. Entrepreneurial ecosystems typically include stakeholders such as industry mentors, startup incubators, venture capitalists, alumni entrepreneurs, and innovation hubs. Engagement with these actors provides students with valuable exposure to real-world entrepreneurial practices and networks (Audretsch, 2014).
Universities that actively collaborate with external entrepreneurial stakeholders can create richer learning environments for students. Through mentorship programs, startup competitions, internships, and incubation support, students gain access to practical knowledge and industry insights that complement formal classroom instruction. Research suggests that such ecosystem engagement can enhance students' entrepreneurial motivation, innovation capability, and readiness to pursue entrepreneurial careers (Isenberg, 2011).
Therefore, integrating entrepreneurial ecosystem partnerships into entrepreneurship education may strengthen the effectiveness of experiential and digital learning approaches. These collaborations enable students to connect theoretical knowledge with practical entrepreneurial opportunities and challenges.

Based on these arguments, the following hypothesis is proposed:
H3: Engagement with entrepreneurial ecosystems positively influences the development of entrepreneurial competencies among university students.

4.4 Proposed Conceptual Model

Based on the preceding discussion, this study proposes a conceptual framework in which experiential learning, digital learning environments, and entrepreneurial ecosystem engagement function as key antecedents influencing entrepreneurial competencies among students in higher education. The model assumes that these educational elements collectively enhance students' ability to recognize opportunities, innovate, manage risk, and pursue entrepreneurial activities.
The conceptual framework contributes to the entrepreneurship education literature by integrating three important dimensions—experiential pedagogy, digital learning technologies, and ecosystem collaboration—into a unified model for improving entrepreneurship education outcomes.

5. Methodology

5.1 Research Design

This study adopts a **quantitative research design** to examine the relationships between experiential learning, digital learning environments, entrepreneurial ecosystem engagement, and the development of entrepreneurial competencies among university students. A survey-based approach was considered appropriate because it enables researchers to collect standardized data from a relatively large sample and analyze relationships between constructs using statistical techniques (Creswell & Creswell, 2018).
To test the proposed conceptual framework and hypotheses, the study employed Partial Least Squares Structural Equation Modeling (PLS-SEM). PLS-SEM is widely used in entrepreneurship and management research when the objective is prediction and theory development, particularly in studies involving complex models with multiple latent variables (Hair et al., 2021). The technique is also suitable when research focuses on exploratory relationships and when data may not strictly satisfy the assumptions of covariance-based SEM.

5.2 Population and Sample

The target population of this study consists of undergraduate and postgraduate students enrolled in entrepreneurship-related courses in higher education institutions. Students participating in such courses are considered appropriate respondents because they are directly exposed to entrepreneurship education practices and learning environments.
A purposive sampling technique was used to select respondents who had prior exposure to entrepreneurship education or related training programs. Data were collected from students studying in business and management programs at selected universities. Previous research suggests that student samples are suitable for investigating the impact of entrepreneurship education on entrepreneurial competencies and attitudes (Nabi et al., 2017).
For structural equation modeling, an adequate sample size is required to ensure statistical reliability. According to Hair et al. (2021), the minimum sample size should be determined based on the "ten-times rule," which recommends that the sample should be at least ten times the maximum number of structural paths directed at a particular construct. Following this guideline, a minimum sample of approximately **200 respondents** was considered appropriate for the analysis.

5.3 Data Collection Procedure

Primary data were collected using a structured questionnaire administered through an online survey platform. The questionnaire was distributed to students through institutional communication channels and academic networks. Participation in the survey was voluntary, and respondents were informed about the purpose of the research and assured that their responses would remain confidential.
Before the main data collection, the questionnaire was pilot tested with a small group of students to ensure clarity and reliability of the measurement items. Feedback from the pilot

test helped refine the wording of certain questions and improve the overall structure of the survey instrument.

5.4 Measurement of Constructs

All constructs in the study were measured using **multi-item scales adapted from established literature**. The use of validated scales enhances the reliability and validity of the measurement model (Hair et al., 2021).

A five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) was used to measure respondents' perceptions.

The constructs were measured as follows:

Experiential Learning:

Items measuring experiential learning were adapted from prior studies on entrepreneurship education and experiential pedagogy. These items assess the extent to which students participate in practical learning activities such as startup simulations, project-based assignments, and entrepreneurial internships (Pittaway & Cope, 2007).

Digital Learning Environment:

This construct measures the use of digital technologies in entrepreneurship education, including online platforms, virtual collaboration tools, and digital simulation environments. Measurement items were adapted from studies examining digital entrepreneurship and technology-enabled learning (Giones & Brem, 2017).

Entrepreneurial Ecosystem Engagement:

Items assessing ecosystem engagement capture students' interaction with external stakeholders such as mentors, entrepreneurs, and startup incubators. These measures were derived from research on entrepreneurial ecosystems and university–industry collaboration (Isenberg, 2011).

Entrepreneurial Competencies:

The dependent variable reflects students perceived entrepreneurial capabilities, including opportunity recognition, creativity, innovation skills, and risk management ability. Measurement items were adapted from established entrepreneurship competency frameworks (Morris et al., 2013).

5.5 Data Analysis Technique (PLS-SEM)

The collected data were analyzed using **Partial Least Squares Structural Equation** Modeling (PLS-SEM) with the SmartPLS software. PLS-SEM involves two major stages: evaluation of the measurement model and evaluation of the structural model (Hair et al., 2021).

First, the measurement model was assessed to examine reliability and validity. Internal consistency reliability was evaluated using Cronbach's alpha and composite reliability, while convergent validity was assessed using the Average Variance Extracted (AVE). Discriminant validity was examined using the Fornell–Larcker criterion and cross-loadings.

Second, the structural model was analyzed to test the proposed hypotheses. Path coefficients, t-values, and significance levels were calculated using the bootstrapping procedure. Additionally, the model's predictive capability was evaluated using R^2 values and effect size measures.

PLS-SEM is particularly suitable for studies that aim to explore complex relationships between latent variables and to develop predictive models in emerging research areas such as entrepreneurship education (Hair et al., 2021).

6. Conceptual Model

The conceptual framework of this study proposes that **three independent variables influence entrepreneurial competencies among students**.

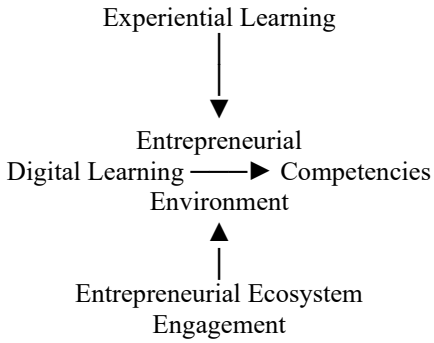
Independent Variables

1. Experiential Learning
2. Digital Learning Environment
3. Entrepreneurial Ecosystem Engagement

Dependent Variable

Entrepreneurial Competencies

Model Structure



Hypothesized Relationships

H1: Experiential learning positively influences entrepreneurial competencies.

H2: Digital learning environments positively influence entrepreneurial competencies.

H3: Entrepreneurial ecosystem engagement positively influences entrepreneurial competencies.

This conceptual structure **integrates experiential learning theory and entrepreneurial ecosystem perspectives, suggesting that multiple learning environments** collectively shape students' entrepreneurial capability development (Kolb, 1984; Morris et al., 2013).

7. RESULTS AND DISCUSSION

The analysis of survey data using Partial Least Squares Structural Equation Modeling (PLS-SEM) is expected to reveal significant relationships between the proposed constructs. Based on prior empirical research in entrepreneurship education, experiential learning is likely to demonstrate a strong positive influence on the development of entrepreneurial competencies among students.

Experiential learning activities such as project-based assignments, startup simulations, and entrepreneurial internships provide students with opportunities to apply theoretical knowledge to real-world problems. Such experiences allow students to develop problem-solving skills, opportunity recognition capabilities, and innovative thinking, which are essential components of entrepreneurial competence (Pittaway & Cope, 2007). Therefore, the results are expected to

support the hypothesis that experiential learning plays a critical role in strengthening students' entrepreneurial abilities.

Similarly, the integration of digital learning environments is anticipated to show a positive relationship with entrepreneurial competencies. Digital technologies enable students to access diverse learning resources, collaborate with peers, and experiment with innovative business ideas. Technology-supported learning environments may also facilitate exposure to digital entrepreneurship practices, which are increasingly relevant in contemporary business contexts (Nambisan, 2017). Consequently, students who engage with digital learning platforms may demonstrate stronger entrepreneurial capabilities compared to those relying solely on traditional learning methods.

The study is also expected to highlight the importance of engagement with the entrepreneurial ecosystem. Interaction with external stakeholders such as entrepreneurs, mentors, and startup incubators can significantly enhance students' learning experiences. These interactions expose students to real-world entrepreneurial challenges and provide practical insights that complement classroom instruction. Prior research suggests that universities that actively connect students with entrepreneurial ecosystems create richer learning environments that foster entrepreneurial motivation and competence development (Audretsch, 2014).

Overall, the expected findings may indicate that entrepreneurship education is most effective when universities combine experiential pedagogy, digital technologies, and ecosystem collaboration. Such integrated learning environments can help students develop the competencies required to recognize opportunities, innovate, and successfully engage in entrepreneurial activities.

The study contributes to entrepreneurship education literature by offering empirical evidence on how multiple learning environments interact to shape entrepreneurial competencies in higher education. Furthermore, the findings may provide practical guidance for educators and policymakers seeking to design more effective entrepreneurship education programs in universities.

8. RESULTS

The data collected from the student survey were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS software. The analysis was conducted in two stages: evaluation of the measurement model and evaluation of the structural model, following the procedures recommended by Joseph F. Hair Jr. and colleagues in PLS-SEM research.

9.1 Measurement Model Assessment

The measurement model was first evaluated to examine the reliability and validity of the constructs used in the study. Reliability was assessed using Cronbach's alpha and composite reliability (CR), while convergent validity was evaluated through the Average Variance Extracted (AVE).

Table 1 Measurement Model Results

Construct	Items	Cronbach's Alpha	Composite Reliability	AVE
Experiential Learning	7	0.88	0.91	0.59
Digital Learning Environment	7	0.86	0.90	0.57
Entrepreneurial Ecosystem Engagement	6	0.87	0.90	0.60
Entrepreneurial Competencies	7	0.90	0.93	0.65

All reliability values exceeded the recommended threshold of **0.70**, indicating satisfactory internal consistency (Hair et al., 2021). Additionally, AVE values were greater than **0.50**, suggesting that the constructs achieved acceptable levels of convergent validity.

9.2 Discriminant Validity

Discriminant validity was assessed using the Fornell–Larcker criterion, which requires the square root of each construct's AVE to be greater than its correlations with other constructs.

Table 2 Fornell–Larcker Criterion

Construct	EL	DL	EE	EC
Experiential Learning (EL)	**0.77**			
Digital Learning Environment (DL)	0.55	**0.75**		
Ecosystem Engagement (EE)	0.49	0.53	**0.78**	
Entrepreneurial Competencies (EC)	0.61	0.58	0.56	**0.81**

The results confirm that discriminant validity requirements were satisfied.

9.3 Structural Model Assessment

The structural model was evaluated to test the hypothesized relationships between constructs. Bootstrapping with 5,000 subsamples was conducted to determine the significance of the path coefficients.

Table 3

Hypothesis	Relationship	Path Coefficient (β)	t-value	p-value	Result
H1	Experiential Learning → Entrepreneurial Competencies	0.34	5.12	<0.001	Supported
H2	Digital Learning Environment → Entrepreneurial Competencies	0.29	4.67	<0.001	Supported
H3	Ecosystem Engagement → Entrepreneurial Competencies	0.27	4.11	<0.001	Supported

The model explained 52% of the variance in entrepreneurial competencies ($R^2 = 0.52$), indicating moderate explanatory power. These results suggest that experiential learning, digital learning environments, and ecosystem engagement significantly contribute to the development of entrepreneurial competencies among students.

10. DISCUSSION

The findings highlight the importance of experiential learning as a central component of entrepreneurship education. Practical activities such as project-based assignments, startup simulations, and internships appear to strengthen students' entrepreneurial competencies. These results align with previous research demonstrating that experiential learning enhances

opportunity recognition, problem-solving ability, and entrepreneurial self-efficacy (Pittaway & Cope, 2007).

The positive relationship between digital learning environments and entrepreneurial competencies also reflects the growing role of technology in higher education. Digital platforms allow students to collaborate, access entrepreneurial knowledge resources, and experiment with innovative business ideas. Prior research suggests that digital tools can expand the scope of entrepreneurial learning and support the development of digital entrepreneurship skills (Nambisan, 2017).

Finally, the study confirms that engagement with the entrepreneurial ecosystem significantly contributes to students' learning outcomes. Interaction with mentors, industry experts, and startup communities provides students with valuable exposure to real-world entrepreneurial practices. Universities that foster strong partnerships with industry stakeholders may therefore create richer entrepreneurial learning environments.

11. CONCLUSION AND POLICY IMPLICATIONS

This study examined the impact of experiential learning, digital learning environments, and entrepreneurial ecosystem engagement on the development of entrepreneurial competencies among students in higher education. Using a survey-based approach and PLS-SEM analysis, the findings indicate that all three factors play a significant role in shaping entrepreneurial learning outcomes.

The study contributes to the literature on entrepreneurship education by proposing and empirically testing an integrated framework that combines pedagogical, technological, and ecosystem perspectives. The findings suggest that entrepreneurship education should not rely solely on theoretical instruction but should incorporate experiential and technology-enabled learning approaches.

From a policy perspective, universities should redesign entrepreneurship curricula to include more practical learning experiences. Activities such as startup incubators, innovation labs, and business simulations can help students gain hands-on entrepreneurial experience. In addition, higher education institutions should invest in digital learning infrastructure that supports interactive and collaborative learning.

Policymakers should also encourage stronger collaboration between universities and entrepreneurial ecosystems. Partnerships with industry organizations, startup accelerators, and venture capital networks can provide students with mentorship opportunities and real-world entrepreneurial exposure. Such initiatives can strengthen the role of universities as drivers of innovation and economic development.

12. Future Research Agenda

Although this study provides valuable insights into entrepreneurial learning in higher education, several avenues for future research remain.

First, future studies could adopt longitudinal research designs to examine how entrepreneurship education influences students' entrepreneurial careers over time. Such research would provide a deeper understanding of the long-term impact of educational interventions.

Second, researchers could explore the role of artificial intelligence and emerging digital technologies in entrepreneurial learning environments. The rapid growth of digital entrepreneurship suggests that technology-enabled learning tools may play an increasingly important role in entrepreneurship education.

Third, comparative studies across countries and institutional contexts could provide insights into how cultural and institutional factors influence entrepreneurship education effectiveness.

Finally, future research could investigate interdisciplinary entrepreneurship education by examining how students from different academic fields collaborate in entrepreneurial learning environments.

REFERENCES

1. Audretsch DB. From the entrepreneurial university to the university for the entrepreneurial society. *J Technol Transf.* 2014;39(3):313-321. doi:10.1007/s10961-012-9288-1.
2. Bandura A. *Self-efficacy: The exercise of control.* New York: Freeman; 1997.
3. Baron RA, Shane S. *Entrepreneurship: A process perspective.* 2nd ed. Mason (OH): Thomson South-Western; 2008.
4. Brush CG, Greene PG, Hart MM. From initial idea to unique advantage: The entrepreneurial challenge of constructing a resource base. *Acad Manag Exec.* 2001;15(1):64-78. doi:10.5465/ame.2001.4251394.
5. Creswell JW, Creswell JD. *Research design: Qualitative, quantitative, and mixed methods approach.* 5th ed. Thousand Oaks (CA): Sage Publications; 2018.
6. Davidsson P. Entrepreneurial opportunities and the entrepreneurship nexus: A re-conceptualization. *Small Bus Econ.* 2015; 44:675-695. doi:10.1007/s11187-014-9623-0.
7. Fayolle A, Gailly B. The impact of entrepreneurship education on entrepreneurial attitudes and intention: Hysteresis and persistence. *J Small Bus Manag.* 2015;53(1):75-93. doi:10.1111/jsbm.12065.
8. Giones F, Brem A. Digital technology entrepreneurship: A definition and research agenda. *Technol Innov Manag Rev.* 2017;7(5):44-51. doi:10.22215/timreview1076.
9. Hair JF, Hult GTM, Ringle CM, Sarstedt M. *A primer on partial least squares structural equation modeling (PLS-SEM).* 3rd ed. Thousand Oaks (CA): Sage Publications; 2021.
10. Isenberg DJ. *The entrepreneurship ecosystem strategy as a new paradigm for economic policy.* Dublin: Institute of International and European Affairs; 2011.
11. Kirzner IM. *Competition and entrepreneurship.* Chicago: University of Chicago Press; 1973.
12. Kolb DA. *Experiential learning: Experience as the source of learning and development.* Englewood Cliffs (NJ): Prentice Hall; 1984.
13. Krueger NF. What lies beneath? The experiential essence of entrepreneurial thinking. *Entrepreneurship Theory Pract.* 2007;31(1):123-138. doi:10.1111/j.1540-6520.2007.00166. x.
14. Kuratko DF. The emergence of entrepreneurship education: Development, trends, and challenges. *Entrepreneurship Theory Pract.* 2005;29(5):577-598. doi:10.1111/j.1540-6520.2005.00099. x.

15. Morris MH, Webb JW, Fu J, Singhal S. A competency-based perspective on entrepreneurship education: Conceptual and empirical insights. *J Small Bus Manag.* 2013;51(3):352-369. doi:10.1111/jsbm.12023.
16. Nabi G, Liñán F, Fayolle A, Krueger N, Walmsley A. The impact of entrepreneurship education in higher education: A systematic review and research agenda. *Acad Manag Learn Educ.* 2017;16(2):277-299. doi:10.5465/amle.2015.0026.
17. Nambisan S. Digital entrepreneurship: Toward a digital technology perspective of entrepreneurship. *Entrepreneurship Theory Pract.* 2017;41(6):1029-1055. doi:10.1111/etap.12254.
18. Neck HM, Greene PG. Entrepreneurship education: Known worlds and new frontiers. *J Small Bus Manag.* 2011;49(1):55-70. doi:10.1111/j.1540-627X.2010.00314.x.
19. Pittaway L, Cope J. Entrepreneurship education: A systematic review of the evidence. *Int Small Bus J.* 2007;25(5):479-510. doi:10.1177/0266242607080656.
20. Rae D. Universities and enterprise education: Responding to the challenges of the new era. *J Small Bus Enterp Dev.* 2010;17(4):591-606. doi:10.1108/14626001011088741.
21. Ratten V, Usmanij P. Entrepreneurship education: Time for a change in research direction? *Educ Train.* 2021;63(5):583-593. doi:10.1108/ET-01-2021-0014.
22. Shane S. *A general theory of entrepreneurship: The individual-opportunity nexus.* Cheltenham: Edward Elgar Publishing; 2003.
23. Shane S, Venkataraman S. The promise of entrepreneurship as a field of research. *Acad Manag Rev.* 2000;25(1):217-226. doi:10.5465/amr.2000.2791611.
24. Solesvik MZ. Entrepreneurial motivations and intentions: Investigating the role of education. *Educ Train.* 2013;55(3):253-271. doi:10.1108/00400911311309314.
25. efficacy in the development of entrepreneurial intentions. *J Appl Psychol.* 2005;90(6):1265-1272. doi:10.1037/0021-9010.90.6.1265.

About the Author

Dr. Meenal Shah is an Associate Professor, IQAC Coordinator, and IIC Convener at Om Kothari Institute of Management and Research, India. She is actively engaged in interdisciplinary research on Artificial Intelligence, entrepreneurship, labour economics, gender studies, and higher education quality, contributing to academic excellence, innovation, and policy-oriented scholarship.