

The Role of Entrepreneurship Education in Cultivating Entrepreneurial Intentions Among Students: Evidence from the University Context

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Abstract

This study aims to explore the effect of Entrepreneurship Education on Entrepreneurial Intentions of university students with the perspective of three components namely: Entrepreneurial Knowledge, Entrepreneurial Skills Development and Experiential Entrepreneurial Learning. The main goal was to examine the relationships and prediction of these dimensions' effects on students' entrepreneurial intentions. The method used was quantitative research with the number of respondents in the study which was 353 students of the University who were interviewed using a structured questionnaire. The reliability and validity of the measurement scales were evaluated by the Cronbach's Alpha (α) and Kaiser-Meyer-Olkin (KMO) measure. The results showed satisfactory reliability and sampling adequacy for all variables. The correlation results showed the strong positive and statistically significant relationships between Entrepreneurial Knowledge ($r = .847, p < .001$), Entrepreneurial Skills Development ($r = .864, p < .001$), Experiential Entrepreneurial Learning ($r = .699, p < .001$) and Entrepreneurial Intentions. Also, multiple regression analysis showed that all three dimensions were significant in predicting Entrepreneurial Intentions. Entrepreneurial Skills Development was the biggest predictor ($\beta = .486, p < .001$), next was Entrepreneurial Knowledge ($\beta = .247, p < .001$), and Experiential Entrepreneurial Learning was the third ($\beta = .245, p < .001$). The overall regression model was highly significant ($F = 466.659, p < .001$) with an R^2 of .800 which indicates that 80% of the variance in Entrepreneurial Intentions was explained. The results indicate that the role

of entrepreneurship education in the entrepreneurial intentions among students is significant. The study finds that increased entrepreneurial knowledge, building of entrepreneurial skills and experiential learning opportunities can greatly stimulate students to choose entrepreneurship as a career. The findings have important implications for educational institutions, policy makers, and entrepreneurship educators who wish to foster future entrepreneurs and enhance economic development.

Keywords: Entrepreneurship Education, Entrepreneurial Knowledge, Entrepreneurial Skills Development, Experiential Entrepreneurial Learning, Entrepreneurial Intentions, University Students.

Introduction

Entrepreneurship has become a major factor in the global process of economic growth, innovation, employment generation and social development (Abaddi, 2024). Entrepreneurship plays a significant role in a nation's development and success in a competitive and dynamic business world through employment creation and economic diversification. Entrepreneurship has been identified as a key means of solving the problem of unemployment among the youth and addressing issues like economic instability by governments, policy makers and educational institutions (Abbes, 2024). This has resulted in a more comprehensive understanding of entrepreneurship as a skill, knowledge and competence that can be taught and learnt through a structured education and training (Adeel et al., 2023). In particular, universities have become very important in the promotion of entrepreneurial thinking through the inclusion of entrepreneurship education in their curricula, as well as in their extra-curricular activities.

Entrepreneurship education is the process of imparting knowledge, skills, attitudes and competencies to an individual to recognize an opportunity, generate innovative ideas, and launch a new business venture (Aga, 2023). In recent years, universities have more and more added entrepreneurship-related courses, workshops, business incubators and mentoring programs to promote entrepreneurial careers among students (Al-Omar et al., 2024). The educational activities are designed to improve students' knowledge and understanding of the process of enterprise formation, and to build the competencies of entrepreneurship (including creativity, risk taking tendency, self-confidence, leadership and opportunity awareness). As such, entrepreneurship education is now viewed as a strategic approach in developing entrepreneurial mindsets and equipping people to be a major contributor to economic growth (Al-Qadasi et al., 2024).

It is generally recognized that the entrepreneurial intention, which is a state of conscious mind or mental disposition of an individual to focus his attention and efforts towards a new business venture, is a good predictor of entrepreneurial behavior (Al-Qadasi et al., 2024). Theories of intentions, in particular the theory of planned behaviour, suggest that attitudes, perceived social norms and perceived behavioural control are determinants of entrepreneurial intentions. The students of the University are a key population for entrepreneurship research, as they are in the process of shaping their career aspirations and professional identities. Students' exposure to entrepreneurship-related experiences in their college years may play a significant role in shaping their

attitudes towards entrepreneurship as a career choice (Alakaleek et al., 2023). Thus, the factors influencing entrepreneurial intentions of the individuals, especially students, are of greater importance and academic interest.

Entrepreneurship education has proven to have a positive effect on entrepreneurial intentions through the acquisition of entrepreneurial knowledge, entrepreneurial self-efficacy, entrepreneurial opportunity recognition and entrepreneurial business creation confidence, as indicated in a growing body of literature (Almeida and Garrod, 2024). Entrepreneurial learning experiences provide students with hands-on experience in the areas of venture development, business planning, mobilization of resources and market analysis (Anjum et al., 2024). In addition, the exposure to successful entrepreneurs, attending business simulations and engaging in entrepreneurial activities can boost students' entrepreneurial motivation (Amani et al., 2024). The results of the empirical studies, however, are not consistent across all levels of education, culture and institutions, and therefore provide a need to further investigate the effectiveness of entrepreneurship education in promoting entrepreneurial intentions among university students.

Considering this, the current study aims to explore the role of entrepreneurship education in developing entrepreneurial intentions of students in the university environment. Specifically, the study aims to explore how entrepreneurial learning experiences contribute to students' willingness and preparedness to engage in entrepreneurial activities in the future. This study adds to the existing literature on entrepreneurship education, and gives insights that can be of assistance to entrepreneurship educators, policy makers and university administrators developing effective strategies to encourage entrepreneurship.

LITERATURE REVIEW

Entrepreneurship Education

The study of entrepreneurship education is a growing field in higher education, as it can help promote innovation, self-employment, and economic development (Anubhav et al., 2024). It is the process of systematically imparting knowledge, skills, attitudes and competencies in order to enable people to recognize opportunities and undertake successful business enterprises (Anwar et al., 2023). The emphasis of universities was mainly on training students for jobs in existing companies, but with increasing difficulties in finding jobs and economic concerns, entrepreneurial avenues have become a point of focus (Atmono et al., 2023). Consequently, entrepreneurial courses, training programmes and hands-on activities are incorporated into the curricula of educational institutions all over the world. Entrepreneurship education is an attempt to educate the students not only about how to start a business, but also to instill in them an entrepreneurial attitude with elements of creativity, innovation, and the ability to face difficulties proactively (Atrup et al., 2023). Universities have an important role to prepare the graduates to become job creators, not job seekers, by introducing them to the concepts and practices of entrepreneurship. This has led to entrepreneurship education becoming a strategic approach for sustainable economic development and a boost to the competitiveness of the nation (Baber et al., 2024).

There is a theory behind entrepreneurship education that believes entrepreneurial skills can be taught and nurtured through formal education and training. Entrepreneurship was traditionally seen as a personality characteristic of a small number of people, but recent studies indicate that entrepreneurial behaviors may be developed through the use of educational interventions (Bahaw et al., 2024). Entrepreneurship education gives students information about business planning, opportunity recognition, innovation management, marketing strategies, financial management and risk assessment (Boutaky and Sahib Eddine, 2023). Students gain knowledge of these concepts, which will enhance their entrepreneurial process and improve their ability to assess business opportunities. Furthermore, entrepreneurship education increases students' confidence in their capacity to deal with the challenges of entrepreneurship, thus boosting their entrepreneurial self-efficacy. Researchers conclude that learning experiences play a significant role in shaping students' attitudes to entrepreneurship and the likelihood of entrepreneurship being a viable and attractive career option (Chahal et al., 2024). Thus, entrepreneurship education is a stepping stone to the creation and cultivation of entrepreneurs who are able to contribute to economic and social development in the future.

In the last few years, universities have taken a variety of different stances on entrepreneurship education, trying to make sure that students not only have a theoretical education, but also a real one (Dabbous and Boustani, 2023). This includes classroom lectures, case studies, business simulations, mentoring initiatives, start-up competitions, incubators, partnerships with industry, etc. These activities provide students with opportunities for hands-on involvement with entrepreneurial activities, as well as with business people and entrepreneurs (de Sousa et al., 2024). The best kinds of learning experiences are experiential learning approaches, which allow students to put theoretical concepts into practice. Students are involved in entrepreneurial projects and problem-solving activities to build critical skills like leadership, communication, teamwork, creativity and decision making (Deng and Wang, 2023). These skills are crucial to help him or her deal with the risks and challenges of business ownership and ensure the long-term viability of the company. Today, entrepreneurship education has become more than a teaching subject; it has become a developmental process that encompasses learning and skill building (Diepolder et al., 2025).

There is a significant amount of empirical research that has established the positive linkages between entrepreneurship education and entrepreneurial attitudes, self-efficacy and intentions of students (Do Nguyen and Nguyen, 2023). Globally, research in various educational settings shows that students who engage in entrepreneurship education are more inclined to have entrepreneurial intentions than students without entrepreneurship education (Fan et al., 2024). Entrepreneurship education has the potential to increase awareness of business opportunities, decrease perceived barriers to creating a business and build confidence in entrepreneurial skills. In addition, training programmes promote innovative thinking and instill positive attitudes towards risk taking and entrepreneurship (Ganefri et al., 2024). While these are positive outcomes, some researchers have suggested that the success of entrepreneurship education could be contingent on program design, pedagogical approaches, institutional

support and cultural context. Thus, it is essential to evaluate and upgrade entrepreneurship education programmes continuously to achieve a greater impact on entrepreneurship outcomes (Gazi et al., 2024). However, the findings of the current literature mainly confirm the importance of entrepreneurship education as an enabler of entrepreneurial intentions and as an action towards student readiness for an entrepreneurial career in a dynamic and competitive global environment.

Entrepreneurial Knowledge

Entrepreneurial knowledge is the knowledge and understanding and comprehension of concepts, principles and processes related to entrepreneurship and the creation of a business (Haddoud et al., 2024). It covers the knowledge of opportunity identification, business planning, innovation, marketing, finance management, risk management, and strategies for business growth. Entrepreneurial knowledge is a basic resource in the field of entrepreneurship education, which is needed to recognize and successfully use entrepreneurial opportunities (Harisandi et al., 2024). Universities and educational institutions are important institutions in imparting entrepreneurial knowledge, as they give students theoretical and practical knowledge about the entrepreneurial process. Students develop an awareness of the issues and opportunities that face a business venture through coursework, seminars, workshops and case studies (Hoang and Trong Luu, 2025). This information can assist people to gain a holistic view of the entrepreneurial context and to supply the information they need to make informed business decisions.

Entrepreneurial knowledge will help students grasp the challenges involved in starting and running a business (Hou et al., 2023)s. Entrepreneurship is not considered for many potential entrepreneurs because of lack of confidence and knowledge about the functioning of a business. Entrepreneurship education tackles these concerns by offering knowledge about market analysis, customer needs assessment, competitive strategies, legal regulations and financial planning (Hutasuhut et al., 2024). If students have a good amount of entrepreneurial knowledge, they can assess the feasibility of business ideas, and get involved in recognizing the risks and opportunities that arise within a business. Moreover, entrepreneurial knowledge helps people to comprehend the value creation, revenue generation, and competitive advantage processes of businesses in dynamic markets (Jabid et al., 2023). They maintain that higher entrepreneurial knowledge will decrease uncertainty and improve the confidence of people about their capacity to deal with entrepreneurial problems in an efficient way. In turn, informed students find entrepreneurship to be a realistic and possible choice for a career (Joshi et al., 2024).

Other factors that also play a significant role in enhancing entrepreneurial self-efficacy, which involves a person's confidence in his or her ability to engage in entrepreneurial activities, are entrepreneurial knowledge and skills (Kaur and Chawla, 2023). According to social cognitive theory, knowledge acquisition enhances confidence by increasing individuals' understanding of how to perform specific activities and achieve desired outcomes (Khalil et al., 2024). Entrepreneurial processes and good practice in business gives students a boost in confidence to start and run new businesses (Kolade et al., 2023). Entrepreneurial knowledge based educational programs give students

examples of successful entrepreneurs, business models and strategies of developing ventures, which increase their confidence and motivation (Khalili Khezrabadi and Hassani, 2023). Research has consistently shown that students' entrepreneurial knowledge is significantly related to their entrepreneurial intentions, as they are less likely to see obstacles to entrepreneurial business creation (Le et al., 2023b). It has been established that students with higher entrepreneurial knowledge scores have higher entrepreneurial intentions as they do not see entrepreneurial business creation as being more difficult (Le et al., 2023a). Hence, entrepreneurial knowledge is not only assumed to improve understanding but it is also considered to be a psychological mechanism which fosters entrepreneurial aspirations of university students.

Another critical part of entrepreneurial knowledge is the opportunity recognition and innovation (Lesinskis et al., 2023). The core of entrepreneurship is to recognize a need in the market and create a solution to that need. Entrepreneurs who have a broad understanding of the business world are more likely to spot trends, assess market needs and turn concepts into potential business opportunities (Liao et al., 2023). Awareness about consumer behaviour, technological developments and the industry dynamics helps future entrepreneurs to make strategic decisions and take advantage of entrepreneurial opportunities (Lin et al., 2023). Opportunity recognition is promoted through educating students about real-world business problems, entrepreneurial case studies, and learning activities focused on opportunity. Students gain insights into analyzing market conditions and how to think creatively and creatively, to generate economic value (Liu et al., 2025). Entrepreneurial knowledge is therefore a catalyst for innovation and entrepreneurial action, enabling students to take theoretical concepts to concrete business opportunities.

There is a large amount of empirical evidence that shows a positive correlation between entrepreneurial knowledge and entrepreneurial intention (Makuya and Chagalima, 2024). Student entrepreneurial knowledge has been consistently shown to be positively associated with entrepreneurial intentions in previous studies (Malebana and Mothibi, 2023). They believe that entrepreneurial knowledge affects entrepreneurial intentions through its effect on attitudes toward entrepreneurship, the perceived entrepreneurial control, and increased confidence in entrepreneurial capabilities (Mambali et al., 2024). Moreover, there is a positive relationship between the students' willingness to participate in entrepreneurial activities and educational interventions designed to enhance the entrepreneurial knowledge of students (Manoj Kumar et al., 2023). However, the strength of this relationship can differ across cultural and institutional settings, but the available evidence suggests that entrepreneurial knowledge is a strong predictor of entrepreneurial intention (Montes et al., 2023). Therefore, universities should continue to invest in strengthening the entrepreneurial knowledge of their students and promote entrepreneurial activity among them through effective educational programmes is an important measure.

Entrepreneurial Skills Development

Entrepreneurial skills development is the learning and improvement of practical skills, skills and characteristics that help people to spot an opportunity, develop innovative products and services, and run a business effectively (Motta and Galina, 2023).

Entrepreneurial knowledge gives the individual the theoretical understanding but the entrepreneurial skills help in real life applications (Munir et al., 2024). They are leadership skills, communication, problem solving, critical thinking, creativity and innovation, decision making, negotiation, networking and resource management skills (Nayak et al., 2024). Entrepreneurship programs in the higher education field aim at not only providing knowledge, but also building entrepreneurial skill of students through experiential and interactive learning. Universities are better attuned to the importance of a blend of knowledge and hands-on skills for entrepreneurial success, enabling them to cope with the volatile and competitive landscape of business (Nguyen and Nguyen, 2024). Hence, the preparation of entrepreneurs for entrepreneurial careers has made entrepreneurial skills development a focus of entrepreneurship education.

Entrepreneurship education has one of the most crucial entrepreneurial skills that is learnt is opportunity recognition (Ntshangase and Ezeuduji, 2023). Opportunity recognition involves the capability to recognize unmet market demands, new trends and new business opportunities. Entrepreneurs with good opportunity recognition ability can have a better ability to identify profitable opportunities and change course when needed (Otache et al., 2024). It is highlighted in education via case studies, market analysis exercises, business simulations and project based learning. These activities help students understand the market demands, customer preferences and identify opportunities that can be turned into business opportunities (Oulhou and Ibourk, 2023). The importance of ORS skills on entrepreneurial intentions is well established as per the researchers because the people who can recognize the opportunity are more likely to consider entrepreneurship as a career (Ouni and Boujelbene, 2023). Hence, entrepreneurship education is an important dimension in strengthening students' entrepreneurial capabilities to identify and exploit entrepreneurial opportunities.

Leadership and communication skills are also considered to be key areas in the development of entrepreneurial skills (Ouragini and Lakhal, 2023). Entrepreneurs need to be able to lead teams, motivate employees, engage in business negotiations with stakeholders, and effectively communicate their business concepts to investors, customers, and partners (Overwien et al., 2024). These competencies are taught to students through entrepreneurship education activities such as group projects, presentations, teamwork activities, and other leadership activities. Communication helps aspiring entrepreneurs express their vision, foster relationships and secure support for their business plans (Perez et al., 2024). Likewise, leadership abilities enable people to control resources, organize activities and direct organizations to reach strategic goals. Research indicates that learners with good leadership and communication skills will have higher entrepreneurial self-confidence and entrepreneurial career intentions (Pham and Le, 2023). In this context, the acquisition of such an interpersonal competence is viewed as being essential to the entrepreneurial success and an important part of entrepreneurial education.

Developing problem solving and decision making and risk management skills are also important elements of entrepreneurial skills development (Pham et al., 2023). Entrepreneurship is a way of working in conditions of uncertainty, complexity and constant change. For these reasons, entrepreneurs need to be able to evaluate

alternatives and make decisions in the presence of risk (Porfirio et al., 2023). Entrepreneurship education offers students the opportunity to participate in business simulation projects, entrepreneurial projects, and real-life problem solving exercises that enhance these skills (Porkodi and Saranya, 2023). All this helps students develop in their assessment of risk, dealing with uncertainty, efficient allocation of resources and reacting to business challenges (Rajpal and Singh, 2024). People who have a high ability for problem-solving and decision making are likely to have high entrepreneurial self-efficacy. This can positively influence students' entrepreneurial self-efficacy, which in turn improves their entrepreneurial intentions.

Creativity and innovation skills are also the vital components of entrepreneurial skills development (Rauf et al., 2024). Entrepreneurial success in the changing business world often requires the capability of generating new ideas, creating new products and services, and being able to adjust to new market demands (Rakicevic et al., 2023). Creativity is fostered through entrepreneurship education via brainstorming sessions, design thinking techniques, innovation workshops, and team-based learning. Students are challenged to think critically and come up with innovative answers to challenging problems in these activities (Ronaghi and Forouharfar, 2024). Innovation-oriented learning environments also cultivate an attitude of experimentation and continuous improvement, key traits of successful entrepreneurs (Ripollés and Blesa, 2023). The results of the research revealed that students with greater levels of creativity and innovation are more likely to express entrepreneurial intentions due to their belief that they are able to create value through entrepreneurial activities. Thus, entrepreneurship education plays a crucial role in cultivating entrepreneurial aspirations and innovative thinking among the university students (Sahputri et al., 2023).

There is ample empirical evidence for the positive link between entrepreneurial skills development and entrepreneurial intention. Research has shown that entrepreneurial education programs are able to increase students' entrepreneurial intentions and entrepreneurial activities (Saoula et al., 2025). The entrepreneurial skills increase students' confidence, which increases their awareness of their ability to carry out entrepreneurial activities, and which increases their motivation for pursuing entrepreneurial opportunities (Saoula et al., 2023). Additionally, the learning of entrepreneurial skills makes students more confident in their ability to face the problems that apply to creating a new business venture and less afraid of failure (Shofwan et al., 2023). The findings from various studies support the premise that entrepreneurial skills is one of the most influential factors in entrepreneurial intention, although the effectiveness of the education of entrepreneurial skills is different depending on the methods and institutions in which it was taught (Setiawan et al., 2024). Thus, universities need to further invest in skill-based entrepreneurship education programmes to enable students to acquire the skills they need for entrepreneurial success and economic contribution.

Experiential Entrepreneurial Learning

Experiential Entrepreneurial learning is a way of learning entrepreneurial knowledge, skills and competencies through experience, participation and reflection on actual or simulated entrepreneurial activities (Sun et al., 2023). Unlike the traditional teaching

process based on lectures that pays attention to theoretical teaching, experiential learning emphasizes “learning by doing”, that is, students combine business ideas, business plans, business startup competitions, business internships and dialogues with real entrepreneurs, etc. to complete various business startup tasks, and is also implemented by the school (Sutrisno et al., 2024). Experiential learning is a key aspect of entrepreneurship education, particularly for connecting theory with practice, enabling students to practice what they learn in real or simulated business contexts (Tannady, 2023). Experiential learning approaches are increasingly gaining traction in universities to improve student entrepreneurial readiness, and to develop a greater understanding of the entrepreneurial process (Sutrisno et al., 2023). Due to this, experiential entrepreneurial learning has been incorporated as an essential part of the frameworks for entrepreneurial education to promote entrepreneurial intention among students.

Active engagement and participation is one of the important aspects of experiential entrepreneurial learning. Students are not just recipients of information but are active in entrepreneurial activities where they need to identify problems, evaluate opportunities and develop solutions (Tran et al., 2024). Students are introduced to real-world entrepreneurial challenges through activities like business plan competitions, start-up simulations, and programs that give students an opportunity to get hands-on experience in an incubator environment where they must make decisions and engage in critical thinking in the face of uncertainty (Tsaknis et al., 2024). Through this practical experience, the learner will become more aware of the intricacies and dynamism of entrepreneurship in a more practical and meaningful manner. It is argued that this engagement improves cognitive learning and students' understanding of applying theoretical knowledge and concepts to practical situations (Udekwe and Iwu, 2024). As such, students who experience experiential entrepreneurial learning tend to have a realistic perception of entrepreneurship and greater intentions to pursue entrepreneurial careers.

Another important ingredient of experiential entrepreneurial learning is reflection, a process which plays an important role in the entrepreneurial intention formation (Utami et al., 2025). In experiential learning theory, reflection is a necessary component of learning, consisting of the analysis and evaluation of experiences to gain meaning (Vesci et al., 2024). In entrepreneurship education, reflection enables students to evaluate their performance in entrepreneurial activities, identify their strengths and weaknesses, and enhance their decision-making skills for future entrepreneurship endeavors (Uzkurt et al., 2025). For instance, when students are involved in a startup simulation or business project, they give it some thought afterwards, on what challenges they encountered, how they addressed them and their results. This reflective process aids in learning retention, critical thinking and self-awareness (Vivekananth et al., 2023). Research indicates that reflective learning experiences build entrepreneurial self-efficacy and lead students to have a more self-confident and reflective attitude towards entrepreneurship. Thus, reflection is one of the mechanisms that mediate experiential learning on entrepreneurial intention (Vinogradova et al., 2023).

Experiential entrepreneurial learning also involves mentorship and contact with real entrepreneurs. A number of universities are partnering with industry practitioners, entrepreneurs and business mentors to offer guidance and advice to students and to give them insights into entrepreneurial practice. Students are provided with real life experiences related to entrepreneurship, such as successes, failures, risk management and growth issues. Mentorship allows students to build real world experience that wouldn't be taught in school and learn more about the entrepreneurial ecosystem (Wibowo et al., 2023a). Furthermore, direct interaction with entrepreneurs encourages students and boosts their motivation to enter into entrepreneurial activities. It has been discovered that mentorships (experiential learning) have an incredible impact on improving entrepreneurial self-confidence and lowering perceived barriers to entrepreneurship (Wibowo et al., 2023b). Entrepreneurial students are as a consequence more likely to have strong entrepreneurial intentions after entrepreneurial mentorship programs.

Internships, incubators and actual business projects are also important pieces of experiential entrepreneurial learning (Woraphiphat and Roopsuwankun, 2023). Students can obtain hands-on experience in areas of business activity, customer interaction, finances and market analysis through these opportunities (Xanthopoulou and Sahinidis, 2025). Students may also undertake internships with a startup company or an entrepreneurial business to get exposure to real business environments to watch the entrepreneurial decision making process (Xin and Ma, 2023). In the same way, university incubators help students take their ideas to fruition by offering them resources, training and technical assistance to help them become viable business ventures (Xie and Wang, 2025). Engaging in these programmes deepens students' entrepreneurial knowledge and skills, and boosts their self-assurance in running actual start-ups. Empirical research has revealed that there is a positive effect of students' participation in EEI or incubator programs on their entrepreneurial intention compared to their participation in classroom-based learning alone.

Empirical studies have shed light on the strong positive association between experiential entrepreneurial learning and entrepreneurial intention (Yan et al., 2023). For entrepreneurship, consistently, students who participated in experiential learning activities have been found to have entrepreneurial attitudes, entrepreneurial self-efficacy and stronger entrepreneurial motivation than those who did not (Ye and Kang, 2025). Experiential learning helps students overcome the fear of failure by giving them a glimpse of real-life problems in a controlled setting, thereby boosting their entrepreneurial confidence to make more risks (Zhang and Chen, 2024). In addition, it allows students to identify opportunities and implement creative solutions to business related problems. Experiential learning can influence entrepreneurial intentions; however, the quality of program may affect its effectiveness, the overall literature suggests that experiential learning plays an important role in entrepreneurial intentions (Zhuang and Sun, 2023). The importance of experiential entrepreneurial learning is, therefore, emphasized and it has been concluded that experiential entrepreneurship learning has a significant contribution in the development of future entrepreneurs in the University environment (Abaddi, 2024).

Theoretical Support of the Research Model

The present study is based on the following well known theories explaining the impact of entrepreneurship education on entrepreneurial intentions of university students. The main theoretical framework used in this research is the Theory of Planned Behavior (TPB) of (Ajzen, 1991) suggesting that the immediate predictor of individual behavior is their intention to act. TPB suggests that intentions are determined by three factors: attitude towards the behavior, subjective norm, and perceived behavioral control. Entrepreneurship education is considered a key pillar in forming positive attitudes towards entrepreneurship, perceived social support and perceived ability to become an entrepreneur among students in the field of entrepreneurship (Al-Qadasi et al., 2024). Therefore, the three facets of entrepreneurship education (entrepreneurial knowledge, entrepreneurial skills development and experiential entrepreneurial learning) can help to reinforce entrepreneurial intentions through enhancing students' cognitive and behavioral readiness.

Social Cognitive Theory (SCT) proposed by (Bandura, 1986) is also very important as a theory that emphasizes the importance of the observation learning process, self-efficacy, and surrounding environment in determining the actions of humans. People tend to perform a behavior if they think they can do it well, SCT says. Entrepreneurial education boosts entrepreneurial self-efficacy through the acquisition of knowledge, real entrepreneurial experiences and practical skills. Knowledge expands as an entrepreneur learns more about business processes, skills grow as an entrepreneur learns to do more, and mastery experiences occur as an entrepreneur practices. These aspects help to create confidence in the entrepreneurial skills of students and consequently, enhance their entrepreneurial intentions.

The model is also backed by Kolb's Experiential Learning Theory (1984) which states that learning is an ongoing process based on experience, reflection, conceptualization and experimentation (Morris, 2020). The theory is consistent with experiential entrepreneurial learning which states that the learning of entrepreneurship is maximized when the students participate actively in a real or simulated business environment. Entrepreneurial learning, business simulations, internships, start-up activities, etc., help students turn entrepreneurial ideas into real knowledge. These experiences further serve to reinforce the understanding and aid in future entrepreneurial decision-making. Thus, experiential learning serves as an important process that connects entrepreneurship education to increased entrepreneurial intentions.

Moreover, there is the Human Capital theory which states that education and training investments enhance the productivity, knowledge and economic value of the individual. Entrepreneurship education can be seen as an investment in human capital which improves students' entrepreneurial skills. Entrepreneurial knowledge gives students information they need to create a business; skills development builds their operational skills and experiential learning gives them applied experience that builds their effectiveness as prospective entrepreneurs. The more entrepreneurial human capital that students acquire, the more confident they are and it helps to improve their entrepreneurial intentions.

TPB, SCT, ELT and HCT are all very good theories to support the proposed research model. The theories help to provide a conceptual understanding of the effect of Entrepreneurship education on entrepreneurial intentions of university students from three aspects. They provide the cognitive, behavioural, experiential and resource-based processes by which entrepreneurial intention is formed, and thus support the hypothesized relations in the study.

Research Hypotheses

H1: There is a significant positive relationship between Entrepreneurship Education and Entrepreneurial Intentions among university students.

H1a: There is a significant positive relationship between Entrepreneurial Knowledge and Entrepreneurial Intentions among university students.

H1b: There is a significant positive relationship between Entrepreneurial Skills Development and Entrepreneurial Intentions among university students.

H1c: There is a significant positive relationship between Experiential Entrepreneurial Learning and Entrepreneurial Intentions among university students.

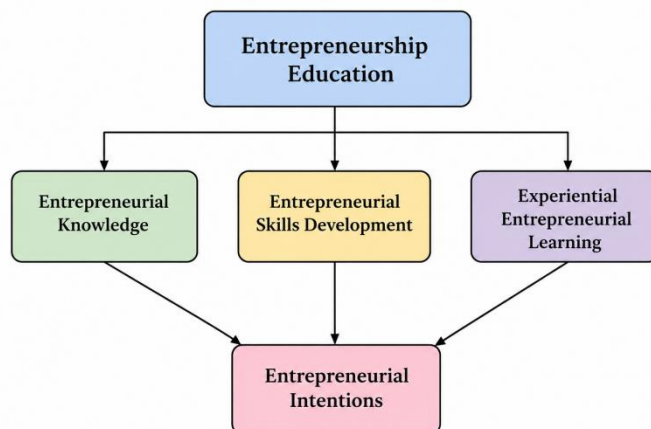
H2: Entrepreneurship Education has a significant positive effect on Entrepreneurial Intentions among university students.

H2a: Entrepreneurial Knowledge has a significant positive effect on Entrepreneurial Intentions among university students.

H2b: Entrepreneurial Skills Development has a significant positive effect on Entrepreneurial Intentions among university students.

H2c: Experiential Entrepreneurial Learning has a significant positive effect on Entrepreneurial Intentions among university students.

Theoretical Framework



RESEARCH METHODOLOGY

3.1 Research Design

This study adopts a quantitative research approach to examine the relationship between entrepreneurship education and entrepreneurial intentions among university students. A cross-sectional survey design is used to collect data at a single point in time. This design is appropriate because it allows the researcher to analyze relationships among

variables and test hypotheses efficiently without manipulating any study variables. The study specifically focuses on measuring the impact of three dimensions of entrepreneurship education (entrepreneurial knowledge, entrepreneurial skills development, and experiential entrepreneurial learning) on entrepreneurial intentions.

3.2 Population of the Study

The population of this study consists of university students enrolled in public and private sector universities. These students are considered suitable respondents because they are actively engaged in academic learning and are at a critical stage of career decision-making. University students are more likely to be influenced by entrepreneurship education programs, making them an appropriate population for analyzing entrepreneurial intentions.

3.3 Sampling Technique and Sample Size

A non-probability sampling technique, specifically convenience sampling, is used in this study due to accessibility and time constraints. Students who are readily available and willing to participate are included in the sample. The sample size is determined based on standard research recommendations for regression analysis, ensuring sufficient responses for reliable statistical testing. Typically, a sample size of 200–400 respondents is considered adequate for such studies; therefore, an appropriate number of questionnaires were distributed to ensure valid and generalizable results.

3.4 Data Collection Method

Primary data is collected through a structured questionnaire. The questionnaire is designed using previously validated scales adapted from relevant entrepreneurship education literature. The instrument consists of two main sections: the first section includes demographic information such as age, gender, education level, and academic discipline; the second section includes items measuring entrepreneurship education dimensions and entrepreneurial intentions. Responses are recorded using a five-point Likert scale ranging from “strongly disagree” to “strongly agree.”

3.5 Measurement of Variables

The entrepreneurship education as the independent variable is measured using three sub-dimensions as following: entrepreneurial knowledge, entrepreneurial skills development, and experiential entrepreneurial learning. Multiple items are used from existing studies to assess each dimension. The dependent variable is entrepreneurial intention which is operationalized through items that measure the willingness, motivation, and readiness of students to start a business in the future. Responses are both consistent and comparable by all items using a Likert scale.

3.6 Data Analysis Techniques

Data collected is analyzed with the help of statistical software like SPSS. Descriptive statistics are used to describe certain demographic characteristics and variables. Relationships between the entrepreneurship education dimensions and entrepreneurial intentions are analysed using Pearson correlation analysis. Moreover, multiple regression analysis is used to check the effect of entrepreneurial knowledge, entrepreneurial skills development and experiential entrepreneurial learning on the entrepreneurial intentions. These techniques assist in the testing of the proposed hypotheses and the extent and direction of the relationships between variables.

Results and Discussion

Table 1 Reliability and KMO

| Research Variable | Cronbach's Alpha | Kaiser-Meyer-Olkin Measure of Sampling Adequacy. |
|---------------------------------------|------------------|--|
| Entrepreneurial Knowledge | .672 | .821 |
| Entrepreneurial Skills Development | .711 | .845 |
| Experiential Entrepreneurial Learning | .575 | .646 |
| Entrepreneurial Intentions | .622 | .749 |

The table evaluates the internal consistency and sampling adequacy of four research variables using Cronbach's Alpha and the Kaiser-Meyer-Olkin (KMO) measure. For reliability, a Cronbach's Alpha above .70 indicates good internal consistency, while values between .60 and .70 are generally acceptable in exploratory research. "Entrepreneurial Skills Development" demonstrates the highest reliability (alpha = .711), followed by acceptable reliability for "Entrepreneurial Knowledge" (alpha = .672) and "Entrepreneurial Intentions" (alpha = .622). However, "Experiential Entrepreneurial Learning" falls below the standard threshold (alpha = .575), suggesting that its underlying survey items may require refinement to improve measurement consistency.

Regarding sampling adequacy, all variables surpass the standard KMO threshold of .50, indicating the data is suitable for factor analysis. "Entrepreneurial Skills Development" (.845) and "Entrepreneurial Knowledge" (.821) yield meritorious KMO values, reflecting strong structural relationships among their items. "Entrepreneurial Intentions" shows a middling but good score (.749), while "Experiential Entrepreneurial Learning" presents the lowest adequacy (.646). Overall, despite the slightly weak reliability for the experiential learning construct, the data demonstrates sufficient sampling adequacy and acceptable consistency to proceed with further statistical analysis.

Table 2 Correlation Analysis

| | | Entrepreneurial Knowledge | Entrepreneurial Skills Development | Experiential Entrepreneurial Learning | Entrepreneurial Intentions |
|----------------------------|---------------------|---------------------------|------------------------------------|---------------------------------------|----------------------------|
| Entrepreneurial Intentions | Pearson Correlation | .847** | .864** | .699** | 1 |

| | | | | |
|-----------------|------|------|------|-----|
| Sig. (2-tailed) | .000 | .000 | .000 | |
| N | 353 | 353 | 353 | 353 |

***. Correlation is significant at the 0.01 level (2-tailed).*

H1a: Entrepreneurial Knowledge and Entrepreneurial Intentions

There is a strong, positive, and statistically highly significant relationship between Entrepreneurial Knowledge and Entrepreneurial Intentions ($r = .847$), ($p < .001$), ($N = 353$). As entrepreneurial knowledge increases, students' intentions to start a business increase substantially.

H1b: Entrepreneurial Skills Development and Entrepreneurial Intentions

There is a strong, positive, and statistically highly significant relationship between Entrepreneurial Skills Development and Entrepreneurial Intentions ($r = .864$), ($p < .001$), ($N = 353$). This variable shows the strongest association with intentions among all factors analyzed.

H1c: Experiential Entrepreneurial Learning and Entrepreneurial Intentions

There is a moderate-to-strong, positive, and statistically highly significant relationship between Experiential Entrepreneurial Learning and Entrepreneurial Intentions ($r = .699$), ($p < .001$), ($N = 353$). Hands-on experiential learning is positively tied to higher entrepreneurial intent.

H1: Entrepreneurship Education and Entrepreneurial Intentions (Overarching Hypothesis)

Since all three sub-dimensions (Knowledge, Skills Development, and Experiential Learning) represent components of Entrepreneurship Education and each shares a highly significant positive relationship with Entrepreneurial Intentions, the overarching hypothesis H1 is fully validated.

Table 3 Regression (Model Summary)

| Model R | R Square | Adjusted Square | Change Statistics | | | | | | |
|---------|-------------------|-----------------|-------------------|---------------|---------|--------|-----|------|-------------|
| | | | R Change | Square Change | F | Change | df1 | df2 | Sig. Change |
| 1 | .895 ^a | .800 | .799 | .800 | 466.659 | 3 | 349 | .000 | |

a. Predictors: (Constant), Experiential Entrepreneurial Learning, Entrepreneurial Skills Development, Entrepreneurial Knowledge

Table 4 ANOVA^a

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|-------|-------------------|----------------|-----|-------------|---------|-------------------|
| | Regression | 22.818 | 3 | 7.606 | 466.659 | .000 ^b |
| 1 | Residual | 5.688 | 349 | .016 | | |
| | Total | 28.507 | 352 | | | |

a. Dependent Variable: Entrepreneurial Intentions

b. Predictors: (Constant), Experiential Entrepreneurial Learning, Entrepreneurial Skills Development, Entrepreneurial Knowledge

Table 5 Coefficients^a

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|-------|---------------------------------------|------------|---------------------------|-------|------|
| | B | Std. Error | Beta | | |
| | (Constant) | .701 | | 6.760 | .000 |
| 1 | Entrepreneurial Knowledge | .216 | .247 | 3.998 | .000 |
| | Entrepreneurial Skills Development | .391 | .486 | 7.908 | .000 |
| | Experiential Entrepreneurial Learning | .213 | .245 | 7.942 | .000 |

a. Dependent Variable: Entrepreneurial Intentions

Analysis of H2a: Entrepreneurial Knowledge

The multiple regression analysis reveals that Entrepreneurial Knowledge has a significant positive effect on Entrepreneurial Intentions among university students (beta = 0.247), (t = 3.998), (p < .001). The unstandardized coefficient (B = 0.216) indicates that for every one-unit increase in Entrepreneurial Knowledge, Entrepreneurial Intentions increase by 0.216 units when controlling for other variables. Because the p-value is well below the standard alpha level of 0.05, hypothesis H2a is fully supported.

Analysis of H2b: Entrepreneurial Skills Development

The results demonstrate that Entrepreneurial Skills Development exerts a statistically significant positive influence on Entrepreneurial Intentions (beta = 0.486), (t = 7.908), (p < .001). With an unstandardized coefficient (B) of 0.391, this variable stands out as the strongest individual predictor of the three components. This means that improvements in skills development yield the highest relative increase in students' intentions to start a business. Therefore, hypothesis H2b is fully supported.

Analysis of H2c: Experiential Entrepreneurial Learning

The statistical data shows that Experiential Entrepreneurial Learning significantly and positively affects Entrepreneurial Intentions (beta = 0.245), (t = 7.942), (p < .001). The unstandardized coefficient (B = 0.213) indicates that a one-unit increase in experiential learning leads to a 0.213-unit increase in students' entrepreneurial intentions. Since the relationship is highly significant, hypothesis H2c is fully supported.

Analysis of the Main Hypothesis (H2)

Taken together, these three dimensions represent the core pillars of Entrepreneurship Education. The overall model summary indicates that these dimensions collectively explain 80% of the variance in Entrepreneurial Intentions (R² = 0.800), Adjusted (R² = .799). The overall model is highly significant (F(3, 349) = 466.659), (p < .001), confirming that the combined elements of Entrepreneurship Education strongly predict

the target outcome. Because all three sub-hypotheses (H2a, H2b, and H2c) are statistically significant and positive, the overarching hypothesis H2 is fully supported.

Discussion

The present study aimed to investigate the effect of Entrepreneurship Education and its components (Entrepreneurial Knowledge, Entrepreneurial Skills Development and Experiential Entrepreneurial Learning) on Entrepreneurial Intentions among university students. The results support the argument powerfully that entrepreneurship education has a significant role on students' entrepreneurial intentions.

The reliability and validity testing showed satisfactory results for the use of the measurement scales used in the study. The measurement items of Entrepreneurial Skills Development showed the highest level of internal consistency ($\alpha = .711$). For exploratory social science research, the reliability of Entrepreneurial Knowledge ($\alpha = .672$) and Entrepreneurial Intentions ($\alpha = .622$) were also acceptable. The reliability value for Experiential Entrepreneurial Learning was relatively low ($\alpha = .575$); however, its KMO value (.646) indicated that the sample size was adequate for further statistical analysis. In general, the KMO statistics of all variables were higher than the recommended value of .50, indicating the appropriateness of the data set for factor analytic and multivariate analyses.

Strong and statistically significant positive relationships between all dimensions of entrepreneurship education were found with entrepreneurial intentions in the correlation analysis. Entrepreneurial Skills Development had the highest correlation with Entrepreneurial Intentions ($r = .864, p < .001$), followed by Entrepreneurial Knowledge ($r = .847, p < .001$) and Experiential Entrepreneurial Learning ($r = .699, p < .001$). They make their way to entrepreneurial competencies, practical skills, and business-related knowledge, which in turn, give rise to a strong desire to start their own business ventures. The findings confirm the theoretical explanation which indicates that entrepreneurship education improves entrepreneurial self-efficacy, opportunity recognition and self-confidence, which consequently boosts entrepreneurship intentions.

The regression analysis also showed that the dimensions of entrepreneurship education predicted the entrepreneurial outcome variable. The overall model accounted for 80% of the variance in Entrepreneurial Intentions ($R^2 = .800$), which is an excellent explanation of the variance. The high F statistic value ($F = 466.659, < .001$) indicated a good fit of the model to the data. Entrepreneurial Skills Development ($\beta = .486$) was the most significant predictor, underscoring the need for practical entrepreneurial skills to drive entrepreneurial intentions. The results indicate that students give more importance to practical business skills rather than theory in entrepreneurial career, which in turn implies that students are more interested in learning business skills for entrepreneurial career than getting knowledge only in theory.

Entrepreneurial Knowledge had a strong positive influence on Entrepreneurial Intentions ($\beta = .247, p < .001$) as well. The finding suggests that the knowledge of business concept, entrepreneurship process and the market opportunity are related to the entrepreneurial intentions of students, and the higher they had, the greater the likelihood of their considering entrepreneurship as a career option. The knowledge

improves the awareness of the business opportunities and decreases the uncertainty of entrepreneurial activities, which strengthens entrepreneurial intentions.

Likewise, Experiential Entrepreneurial Learning had a significant effect on Entrepreneurial Intentions ($\beta = .245$, $p < .001$). The results highlight the need for practical experience in learning, which includes business simulations, business internships, start-up projects, case studies, and contact with entrepreneurs. The practical experiences enable students to put the theory into practice and build their confidence and motivation towards entrepreneurial activities. This positive effect is congruent with experiential learning theory that states that experiential learning plays an important role in shaping behavioral intentions.

The overall results support the correlational and causal relationships suggested by the research. Results suggest that entrepreneurship education is not solely a school subject but rather a very effective tool for building entrepreneurial mindsets and stimulating entrepreneurship among university students. The study underscores that a holistic entrepreneurship education programme, which includes knowledge impartation, skill development, and experiential learning, can have a substantial impact on boosting entrepreneurial intentions among the youth graduating from educational institutions.

Future Recommendations

Based on the findings of the study, several recommendations can be proposed for educational institutions, policymakers, and future researchers.

1. Universities should strengthen entrepreneurship education curricula by integrating practical and skill-oriented learning activities alongside theoretical instruction. Greater emphasis should be placed on entrepreneurial skills development, as it emerged as the strongest predictor of entrepreneurial intentions.
2. Higher education institutions should establish entrepreneurship incubation centers, startup support programs, and mentorship initiatives that provide students with practical exposure to business development and entrepreneurial decision-making.
3. Faculty members should adopt experiential teaching methods, including business simulations, case studies, startup competitions, internships, and project-based learning, to enhance students' entrepreneurial learning experiences.
4. Universities should promote collaboration with industry professionals, successful entrepreneurs, and business organizations to provide students with real-world entrepreneurial insights and networking opportunities.
5. Policymakers should support entrepreneurship education through funding schemes, innovation grants, and startup financing opportunities that encourage students to transform entrepreneurial intentions into actual business ventures.
6. Future researchers should investigate additional factors that may influence entrepreneurial intentions, such as entrepreneurial self-efficacy, risk-taking propensity, family business background, innovation orientation, and access to financial resources.
7. Future studies should employ longitudinal research designs to examine how entrepreneurship education influences entrepreneurial intentions and entrepreneurial behavior over time.

8. Researchers may expand the geographical scope of investigation by including students from multiple universities, provinces, and countries to enhance the generalizability of findings.
9. Since Experiential Entrepreneurial Learning demonstrated relatively lower reliability, future studies should refine and expand the measurement items of this construct to improve reliability and capture experiential dimensions more comprehensively.
10. Future research may also explore mediating and moderating variables, such as motivation, entrepreneurial passion, digital literacy, and institutional support, to develop a deeper understanding of the mechanisms through which entrepreneurship education influences entrepreneurial intentions.

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