Fostering Entrepreneurial Mindsets in Teacher Trainees: A Study on Entrepreneurship Education for Future Educators

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ABSTRACT

Entrepreneurship education is an essential component of teacher training programmes, equipping future educators with the knowledge and skills necessary to foster an entrepreneurial mindset among students. This study examines teacher trainees' perceptions of the UHAK 1032 Introduction to Entrepreneurship course at Universiti Teknologi Malaysia (UTM), focusing on curriculum effectiveness, soft skills development, and entrepreneurial inclination. A quantitative research design was employed, involving 100 participants who completed structured questionnaires. Data were analysed using IBM SPSS, with descriptive and inferential statistics applied to assess correlations between key variables. The findings indicate that teacher trainees generally perceive the course as relevant, with a high mean score reflecting positive curriculum evaluations. However, the predominance of theoretical instruction was highlighted as a limitation, with respondents advocating for more experiential learning components. The study also found significant improvements in soft skills, particularly in teamworking and leadership, highlighting the importance of collaborative approaches in the teaching and learning process. Furthermore, a strong correlation was observed between perceptions on entrepreneurship course curriculum and soft skills development, entrepreneurship course curriculum and entrepreneurial inclination, and soft skills development and entrepreneurial inclination, suggesting that enhanced engagement in entrepreneurship education fosters greater entrepreneurial confidence. These findings underscore the need for curriculum enhancements that integrate real-world business exposure, digital entrepreneurship, and industry collaborations to better prepare teacher trainees for entrepreneurial roles. This study extends previous research by evaluating the role of entrepreneurship education in teacher training using empirical evidence from Malaysia. Further, this study contributes to ongoing discourse on entrepreneurship education, providing recommendations for policy improvements and future research directions.

Keywords: Entrepreneurship education, teacher trainees, university curriculum, pedagogical approaches, entrepreneurial mindset.

INTRODUCTION

The Malaysia Education Blueprint for Higher Education (PPPM) 2015-2025, introduced on April 7, 2015, outlines 10 fundamental shifts that emphasize the aspirations of key stakeholders in higher education while strengthening the socio-economic landscape and national development. The recognition of entrepreneurship as a catalyst for economic growth aligns with the notion that entrepreneurship is a combination of initiative, resilience, commitment, organization, and creativity in executing productive activities (Hassan, Khan & Noor, 2017). In line with this, the Ministry of Higher Education (MoHE) developed the Higher Education Institution Entrepreneurship Action Plan 2016-2020**,** which supports Shift 1 (Holistic, Entrepreneurial and Balanced Graduates) and Shift 5 (Financial Sustainability) within the PPPM framework. The primary goal of this action plan is to embed entrepreneurial thinking across the higher education system, ensuring that graduates are holistic, balanced, and entrepreneurial**,** in accordance with the National Education Philosophy (Ministry of

Higher Education, 2016). More recently, MoHE launched the Higher Education Institution Entrepreneurship Action Plan 2021-2025**,** along with the Integrated Entrepreneurship Education Guidelines for universities. This initiative aims to increase the number of student and graduate entrepreneurs**,** reinforcing the transition from necessity-based entrepreneurship to opportunity-driven entrepreneurship (Ministry of Higher Education, 2021). The ministry is committed to fostering entrepreneurial mindsets among students and graduates, ensuring they are equipped with innovative problem-solving skills and the ability to identify business opportunities within a competitive global economy.

BACKGROUND OF THE PROBLEM

Entrepreneurship education has gained significant attention in recent years as an essential component of higher education, particularly in teacher training programmes. It is widely regarded as a means of fostering self-reliance, innovation, and economic growth. The role of entrepreneurship education extends beyond business studies to broader educational contexts, equipping future teachers with the ability to instil entrepreneurial mindsets in students (Lv, et al., 2021; Iwu, et al., 2021). This is in line with Malaysia's vision to produce graduates who are job creators rather than job seekers, reducing graduate unemployment rates and strengthening the national economy (Salleh & Othman, 2023; Norhisham & Sahid, 2022).

The Ministry of Higher Education Malaysia has made significant efforts to integrate entrepreneurship education across higher education curricula, including teacher training programmes. The introduction of entrepreneurship courses in teacher training institutions aims to prepare educators who can cultivate entrepreneurial values among school students, ensuring that entrepreneurship is embedded within the education system from an early stage (Kementerian Pengajian Tinggi, 2021). Research has shown that exposure to entrepreneurship education positively impacts students' entrepreneurial intentions (Sun, Shi & Zhang, 2023; Otache, et al., 2021), yet challenges remain in its implementation due to the predominance of theoretical learning over practical experiences (Ismail, 2024).

Despite its recognized benefits, the effectiveness of entrepreneurship education in teacher training remains debatable. Some studies indicate that while trainees gain theoretical knowledge, they often lack the practical skills necessary for real-world application. Othman, Ariffin, and Don (2017) argue that entrepreneurship education must incorporate hands-on learning experiences, such as business simulations, industry collaborations, and startup projects, to be truly effective. However, in Malaysia, many entrepreneurship courses remain predominantly lecture-based, limiting their impact on students' skill development (Sabarudin & Lokman, 2022).

Entrepreneurship education is particularly crucial for teacher trainees as they play a pivotal role in shaping future generations (Igwe, Okolie, & Nwokoro, 2021). Teachers equipped with entrepreneurial competencies can integrate entrepreneurial thinking into their teaching methodologies, helping students develop critical problem-solving, creativity, and leadership skills (Hanafe & Abdullah, 2022). However, studies have highlighted inconsistencies in curriculum design and teaching methodologies, which may hinder the effectiveness of entrepreneurship education within teacher training institutions (Overwien, Jahnke, & Leker, 2024; Cui, 2021).

Given these challenges, this study seeks to evaluate the perceptions of teacher trainees towards entrepreneurship education, focusing on the relevance and effectiveness of the curriculum, the development of soft skills, and the impact of the course on their entrepreneurial inclination. By identifying strengths and weaknesses in the current approach, this research aims to provide recommendations for improving the delivery of entrepreneurship education in teacher training programmes.

Problem Statement

The increasing importance of entrepreneurship in national economic development has driven higher education institutions to embed entrepreneurial education into their curricula. However, despite policy initiatives such as the Malaysia Education Blueprint for Higher Education (PPPM) 2015-2025**,** concerns persist regarding the effectiveness of entrepreneurship education in producing graduates with the necessary entrepreneurial

competencies. Studies suggest that many entrepreneurship courses remain theoretically driven with limited hands-on learning opportunities, failing to instil entrepreneurial mindsets and practical business skills among students. Furthermore, though entrepreneurship education is recognised as essential for teacher trainees, research on its impact within teacher training programmes remains limited. While entrepreneurship courses have been made mandatory in many teacher training programmes, their impact on teacher trainees' competencies and readiness to integrate entrepreneurial concepts into their teaching remains unclear. Previous research suggests that merely exposing students to entrepreneurship theories is insufficient to develop the mindset and skills necessary for real-world application. Many teacher trainees report feeling unprepared to teach entrepreneurship due to limited practical learning opportunities, a gap that needs urgent attention. Additionally, studies have highlighted inconsistencies in the curriculum and teaching methodologies that may hinder the effectiveness of entrepreneurship education in teacher training. Given these concerns, it is crucial to assess how teacher trainees perceive entrepreneurship education and identify areas for curriculum enhancement to bridge these gaps. There is a pressing need to examine how entrepreneurship courses influence teacher trainees' curriculum perceptions, soft skills development, and entrepreneurial inclination**,** particularly in the Malaysian context. Addressing these gaps is essential to ensure that entrepreneurship education effectively prepares future educators to integrate entrepreneurial principles into their teaching practices, fostering innovation and self-sufficiency among future generations.

Study Objectives

This study aims to:

1. To examine teacher trainees' perceptions of the basic entrepreneurship course, focusing on curriculum relevance and content effectiveness.

2. To assess the impact of the course on the development of soft skills, including leadership, teamwork, and problem-solving.

3. To evaluate the extent to which the course influences teacher trainees' entrepreneurial inclination and readiness to integrate entrepreneurship into their teaching practices.

4. To analyse the relationship between curriculum content, soft skills acquisition, and entrepreneurial inclination among teacher trainees after completing the course.

Significance of the Study

This study contributes to the growing body of research on entrepreneurship education in teacher training by providing empirical evidence on the strengths and weaknesses of the current curriculum. The findings are expected to inform policymakers, curriculum designers, and educators on how to improve entrepreneurship education to better equip future teachers with the necessary skills to nurture entrepreneurial mindsets among their students (Sabarudin & Lokman, 2022). By identifying best practices and areas for improvement, this research will help shape more effective teaching methodologies that align with the evolving demands of the education sector (Hanafe & Abdullah, 2022). Ultimately, the study seeks to enhance the quality of entrepreneurship education within teacher training programmes, ensuring that future educators can play an active role in fostering a culture of innovation and self-sufficiency among students.

LITERATURE REVIEW

Empowering Future Educators: The Role of Entrepreneurship Education in Teacher Training

Entrepreneurship education plays a pivotal role in preparing future educators to cultivate entrepreneurial thinking in their students. By integrating entrepreneurship into teacher training, educators can foster critical thinking, problem-solving, and creativity—skills that are essential for adapting to the dynamic demands of the 21st-century workforce (Baggen, Lans, & Gulikers, 2022; Fischer et al., 2021). The integration of entrepreneurship education within teacher training programmes ensures that future educators are not only

equipped with subject-matter knowledge but also possess the ability to inspire innovation and self-sufficiency among their students. Research suggests that teachers who receive entrepreneurship training are more likely to adopt student-centred, experiential learning approaches that enhance engagement and real-world application of knowledge (Hardie, Highfield, & Lee, 2023). Furthermore, exposure to entrepreneurship education enables teachers to guide students in exploring business opportunities, equipping them with practical skills that extend beyond traditional classroom settings.

Despite its significance, challenges persist in fully embedding entrepreneurship education within teacher training. Many teacher education programmes still emphasise theoretical content with limited hands-on experiences, thereby restricting the ability of trainees to translate entrepreneurial concepts into classroom practices. Studies have highlighted that entrepreneurship education should incorporate real-world business scenarios, mentorship, and interdisciplinary learning to make it more effective (Salleh & Othman, 2023). Additionally, teacher trainees often express concerns about their confidence and preparedness in teaching entrepreneurship-related content. Addressing these gaps requires institutions to adopt experiential teaching methodologies, including problem-based learning, collaborative projects with entrepreneurs, and school-based entrepreneurship initiatives. Such initiatives would enable future educators to create a learning environment that nurtures entrepreneurial mindsets, ultimately contributing to national and global economic sustainability.

Concept of Entrepreneurship Education

Entrepreneurship education is a multidisciplinary field that integrates business, psychology, and education to develop entrepreneurial skills and attitudes (Ou & Kim, 2024: Jia, Yuan & Liu, 2024). It aims to foster innovation, risk-taking, and problem-solving skills, preparing individuals for self-employment and business ventures. In Malaysia, entrepreneurship education has been identified as a strategic approach to addressing graduate unemployment and promoting economic sustainability (Sabarudin et al., 2022). The emphasis on entrepreneurship in higher education has led to the incorporation of various entrepreneurship-based courses, including UHAK 1032, which aims to instil an entrepreneurial mindset among students.

Entrepreneurship Education in Higher Learning Institutions

Higher education institutions play a pivotal role in shaping students' entrepreneurial competencies. The Malaysian Ministry of Higher Education (KPT) has mandated entrepreneurship education as part of the national curriculum, requiring universities to integrate entrepreneurial elements into their programmes (Salleh & Othman, 2023). This policy shift is aimed at equipping graduates with the skills necessary to navigate a dynamic job market. Despite this initiative, challenges remain in ensuring that these courses are effective in fostering entrepreneurial intention. Studies indicate that many entrepreneurship courses still rely heavily on theoretical instruction, with limited opportunities for practical application, such as business simulations, industry engagement, and startup incubators (Ismail, 2024). As a result, graduates may struggle to translate their knowledge into real-world entrepreneurial ventures.

To bridge this gap, universities must incorporate more experiential learning opportunities into their entrepreneurship education programmes (Motta & Galina, 2023). Research suggests that institutions that offer hands-on entrepreneurial experiences, such as business plan competitions, startup accelerators, and industry mentorship, produce graduates with stronger entrepreneurial competencies (Anwar & Abdullah, 2021; Sabil et al., 2021). Furthermore, universities should establish strategic partnerships with industry stakeholders to provide students with exposure to real-world business environments. Collaborations with entrepreneurs and business incubators can allow students to apply their theoretical knowledge in practical settings, enhancing their problem-solving and decision-making skills. Additionally, guest lectures from successful entrepreneurs can provide valuable insights into the challenges and realities of running a business, further motivating students to pursue entrepreneurial careers.

Another critical aspect of entrepreneurship education in higher learning institutions is the need for continuous curriculum evaluation and reform (Mei & Symaco, 2022; Wong & Chan, 2022). Many existing entrepreneurship courses focus on generic business knowledge (Mei & Symaco, 2022) rather than industry-

specific entrepreneurial skills, making it difficult for graduates to transition into self-employment or startup ventures. To address this issue, universities should tailor their entrepreneurship programmes to align with market demands and emerging industry trends (Chhabra et al, 2021; Sadli, 2022). Incorporating modules on digital entrepreneurship, social enterprise development, and financial technology (FinTech) can help students develop relevant competencies that are in high demand in today's economy. Furthermore, embedding interdisciplinary learning approaches—where students from different academic backgrounds collaborate on entrepreneurial projects—can foster innovation and creativity, which are essential for entrepreneurial success (Almansour, 2022; Yu & Jiang, 2021; Del Vecchio, et al, 2021).

Teaching Methods in Entrepreneurship Education

In recent years, entrepreneurship education has rapidly evolved in response to technological advancements and global disruptions such as the COVID-19 pandemic. One major trend is the rise of digital entrepreneurship, where aspiring entrepreneurs increasingly engage in **e-**commerce, launch online startups, and leverage FinTech platforms to access financing and manage business operations (Almansour, 2022; Queen, Anjani & Prawiyog, 2024). Higher education institutions are progressively integrating digital business simulations and online incubators into their programmes to provide students with experiential, tech-driven learning environments (Motta & Galina, 2023). Concurrently, the post-pandemic era has accelerated the adoption of online learning models for entrepreneurship education, with initiatives such as virtual mentorships and remote business launch programmes becoming increasingly mainstream (Liguori et al., 2021). These shifts not only expand accessibility but also prepare students for the realities of operating in a global digital economy. For teacher trainees, entrepreneurship education now demands a stronger focus on developing creativity, leadership, and adaptability — critical competencies required to nurture entrepreneurial mindsets among future school students (Hardie, Highfield, & Lee, 2023). As such, teacher training institutions must redesign curricula to equip future educators with both traditional entrepreneurial knowledge and the ability to integrate innovative, technology-driven practices into their teaching.

One of the fundamental issues in entrepreneurship education is the pedagogical approach (Kakouris & Liargovas, 2021; Peschl, Deng & Larson, 2021; Ratten & Usmanij, 2021). Traditional lecture-based methods are often insufficient in fostering the creativity, resilience, and problem-solving skills required in entrepreneurship. Research advocates for interactive and experiential learning methods, including case studies, mentorship, role-playing exercises, and real-world business engagements (Sabil et al., 2021). Additionally, the integration of digital platforms, such as online business simulations, has been explored to enhance student engagement and provide hands-on experience (Samuel & Rahman, 2018). Competency-based learning, where students develop and pitch business ideas, has also been recognised as an effective way to bridge the gap between theory and practice (Jovanović, et al., 2025; Sadli, 2022).

To address the limitations of conventional lecture-based methods, entrepreneurship education must adopt a blended learning approach that combines theoretical instruction with practical exposure (Viebig, 2022). One effective strategy is the incorporation of problem-based learning (PBL) where students are encouraged to tackle real-world entrepreneurial challenges in a collaborative setting. PBL enhances critical thinking and decision-making abilities, making learning more engaging and applicable to actual business scenarios (Fassbender, Papenbrock & Pilz, 2022; Hermann, Amaral & Bossle, 2021). Additionally, experiential learning models**,** such as internships with startup companies or collaborative projects with local businesses, allow students to gain firsthand experience in business operations, strengthening their entrepreneurial confidence and competence (Jackson, Shan & Meek, 2022; Bauman & Lucy, 2021). Another innovative method gaining traction in entrepreneurship education is the lean startup methodology**,** where students learn to develop, test, and refine business ideas based on real customer feedback. This approach, widely used in entrepreneurial ecosystems, helps students understand the iterative nature of business development and the importance of adaptability (Aransyah, Fourqoniah & Riani, 2023; Queen, Anjani & Prawiyog, 2024). Moreover, gamification techniques, such as entrepreneurship simulations and business strategy games, have been shown to increase student engagement and knowledge retention, making the learning process more dynamic and interactive (Marinov & Spasova, 2023).

Theoretical Frameworks in Entrepreneurship Education

Two major theoretical frameworks underpin entrepreneurship education: Roger's Diffusion of Innovation Theory and Ajzen's Theory of Planned Behavior.

- Roger's Diffusion of Innovation Theory (2003) explains how new ideas and entrepreneurial concepts spread within a society. In the context of entrepreneurship education, students adopt entrepreneurial thinking at different rates, influenced by factors such as their background, exposure to entrepreneurial role models, and the learning environment (Menzli, et al., 2022; Yu, 2022). This theory highlights the importance of fostering an environment conducive to innovation, where teacher trainees are encouraged to explore new pedagogical approaches and integrate entrepreneurial principles into their teaching methodologies. Studies suggest that institutions that embrace the diffusion of innovation through structured entrepreneurship courses and interdisciplinary collaborations see a higher rate of entrepreneurial adoption among students (Frei-Landau, Muchnik-Rozanov & Avidov-Ungar, 2022). Additionally, entrepreneurial universities that leverage industry partnerships and mentorship initiatives tend to produce graduates who are more likely to engage in entrepreneurial ventures (Crawford, 2023).

- Ajzen's Theory of Planned Behavior (1991) asserts that entrepreneurial intention is shaped by attitudes, perceived behavioral control, and social influences. This theory suggests that structured entrepreneurship courses can positively influence students' perceptions of entrepreneurship as a viable career option, increasing their likelihood of pursuing business ventures (Sampene, et al., 2023; Lihua, 2022; Yasir, et al., 2021). Attitude toward entrepreneurship is largely influenced by the perceived desirability and feasibility of starting a business, which can be strengthened through exposure to real-world entrepreneurial success stories, hands-on business development projects, and entrepreneurial role models. Recent studies have further refined Ajzen's model by incorporating emotional intelligence and resilience as key factors that influence entrepreneurial intention (Gazi, Moni, Arefin, 2024; Ahmad, 2023). Furthermore, self-efficacy, or the belief in one's ability to succeed in entrepreneurship, plays a significant role in determining whether teacher trainees will adopt an entrepreneurial mindset (Krueger, Mestwerdt & Kickul, 2024; Costa, Liñán & Fayolle, 2024). By integrating experiential learning components, universities can enhance perceived behavioral control, thereby increasing the likelihood of teacher trainees applying entrepreneurial principles in both education and business contexts.

While these theories provide valuable insights into entrepreneurship education, contemporary research suggests that a hybrid approach that integrates both theoretical models with experiential learning is most effective. For instance, the Entrepreneurial Event Model (Shapero & Sokol, 1982) as cited in Indarwati & Syahran, 2024 suggests that entrepreneurial activity is triggered by displacement events such as economic shifts, policy changes, or personal experiences. This model highlights the importance of context in shaping entrepreneurial intention, making it particularly relevant for teacher trainees who must navigate evolving educational and economic landscapes. Moreover, the Effectuation Theory (Sarasvathy, 2001) as cited in Adamu, Yusof, & Sambasivan (2022) argues that successful entrepreneurs rely on iterative, flexible decision-making rather than rigid strategic planning. Applying this theory to entrepreneurship education suggests that teacher trainees should be trained to embrace uncertainty, experiment with new teaching techniques, and co-create learning experiences with their students. By integrating these frameworks, entrepreneurship education can be designed to foster both entrepreneurial intent and capability**,** ensuring that teacher trainees are equipped with the necessary skills, confidence, and adaptability to innovate within their educational and professional environments. Future research should explore how these theories interact with digital transformation in education, particularly in the post-pandemic era where online entrepreneurial learning has become increasingly prominent (Winkler, 2024; Liguori, et., 2021).

Entrepreneurial Inclination and Soft Skills Development

Entrepreneurship education extends beyond technical knowledge, playing a critical role in the development of essential soft skills such as leadership, teamwork, adaptability, and problem-solving. Studies have shown that students who undergo entrepreneurship training demonstrate higher confidence levels in business decision-making, communication, and strategic planning (Sabil et al., 2021). These skills are not only essential for

entrepreneurial ventures but also beneficial for individuals pursuing careers in various fields, as they enhance adaptability and resilience in an ever-changing job market. One of the key aspects of soft skills development in entrepreneurship education is fostering an entrepreneurial mindset that encourages innovation and risk-taking. Research suggests that entrepreneurship courses that integrate experiential learning, such as collaborative projects and business simulations, significantly contribute to students' ability to think creatively and solve complex problems (Salleh & Othman, 2023). Additionally, teamwork and leadership skills are cultivated through group-based entrepreneurial projects, where students are required to collaborate, delegate tasks, and navigate challenges collectively. Such experiences help trainees develop confidence in managing projects, making informed decisions, and assuming leadership roles in their professional careers.

Despite the apparent benefits, many existing entrepreneurship courses still lack structured modules that explicitly target soft skills development. While theoretical instruction provides a foundational understanding, the absence of hands-on training limits students' ability to apply these skills effectively in real-world situations. To address this gap, institutions should integrate industry-driven mentorship programmes, networking opportunities, and internship placements, allowing students to gain exposure to practical business environments. Moreover, refining assessment methods by incorporating competency-based evaluations, such as pitch presentations and problem-solving challenges, can further reinforce soft skills acquisition among teacher trainees. Furthermore, the development of soft skills through entrepreneurship education plays a significant role in shaping students' entrepreneurial inclination. Studies have found that students who actively engage in entrepreneurship-related activities are more likely to develop self-efficacy and a proactive approach toward business opportunities (Sadli, 2022). Entrepreneurial inclination is influenced not only by knowledge and exposure but also by an individual's confidence in their ability to take risks and make strategic decisions. By embedding soft skills training into entrepreneurship education, universities can enhance students' readiness to venture into self-employment and innovation-driven careers.

METHODOLOGY

Research Design

This study employs a quantitative research design to examine the perceptions of teacher trainees regarding entrepreneurship education. A survey method was chosen to collect numerical data that could be statistically analysed, providing an objective assessment of the effectiveness of the UHAK 1032 Introduction to Entrepreneurship course. The study focuses on measuring three key variables: curriculum effectiveness, soft skills development, and entrepreneurial inclination among teacher trainees.

Population and Sampling

The target population for this study consists of final-year teacher trainees enrolled in the UHAK 1032 course at one public university. These trainees have undergone formal training in entrepreneurship education and represent a critical group for evaluating the effectiveness of the course. A purposive sampling technique was employed to ensure that only those who had completed the course participated in the study. This approach ensures that respondents have firsthand experience and can provide meaningful insights into the curriculum, teaching methodologies, and overall impact of the course. A total of 100 teacher trainees were selected as respondents, representing a diverse group in terms of academic backgrounds, gender, and prior exposure to entrepreneurship. This sample size was deemed sufficient for statistical analysis, allowing for generalizable findings. The selection process also accounted for students from different specializations within the teacher training programme to ensure that perceptions across various teaching disciplines were considered. Future research may explore larger and more diverse samples to further validate these findings across multiple institutions.

Research Instrument

The development of the research instrument was guided by established frameworks and validated scales used in previous entrepreneurship education studies. The questionnaire items were adapted from existing literature on curriculum effectiveness, soft skills development, and entrepreneurial inclination (Karimi et al., 2016; Nabi

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et al., 2022). The content validity of the instrument was assessed through expert reviews from faculty members specializing in entrepreneurship education. Their feedback ensured that the items accurately captured the constructs being measured and were relevant to the study's objectives. The questionnaire consisted of four major sections:

1. Demographic Information – This section gathered background details such as gender, age, academic specialization, and prior exposure to entrepreneurship. This data provided context for interpreting the responses

2. Perceptions of Curriculum Effectiveness – Questions in this section focused on students' evaluation of the course structure, content relevance, teaching methodologies, and overall satisfaction with the programme

3. Soft Skills Development – Respondents were asked to assess their perceived improvement in essential entrepreneurial soft skills, including leadership, communication, teamwork, adaptability, and problem-solving

4. Entrepreneurial Inclination – This section measured participants' confidence in pursuing entrepreneurship as a career path, their willingness to take risks, and their likelihood of integrating entrepreneurial principles into their future teaching practices

A 5-point Likert scale was used for most items, ranging from 1 = Strongly Disagree to 5 = Strongly Agree, allowing for detailed measurement of student perceptions. The questionnaire underwent a pilot study with a small sample of teacher trainees to test clarity, reliability, and internal consistency. Adjustments were made based on feedback, and reliability was confirmed through Cronbach's Alpha analysis, ensuring the instrument's robustness.

Data Collection Procedure

The questionnaire was distributed online via Google Forms, ensuring accessibility and ease of participation. Respondents were given a one-week timeframe to complete the survey. To increase response rates, follow-up reminders were sent through academic communication channels.

Data Analysis

The collected data were analysed using IBM SPSS Statistics (Version 27). The following statistical methods were applied:

- Descriptive Analysis – Used to summarise demographic characteristics and general trends in responses.
- Inferential Statistics – Pearson correlation analysis was conducted to determine the relationships between curriculum effectiveness, soft skills development, and entrepreneurial inclination.
- Reliability Testing – Cronbach's Alpha was calculated to assess the internal consistency of the questionnaire items, ensuring the reliability of the research instrument.

Ethical Considerations

Ethical approval was obtained from the faculty's research ethics committee. Participants were assured of confidentiality and anonymity, and informed consent was obtained before participation. The study adhered to ethical guidelines related to voluntary participation and data protection.

RESULTS

This section presents the findings of the study, which are divided into four parts: demographic information of respondents, descriptive analysis of students' perceptions of the entrepreneurship course, and inferential analysis to identify the relationship between curriculum, soft skills, and students' entrepreneurial inclination.

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Demographic Profile

The questionnaire was distributed using Google Forms to facilitate and expedite responses from the respondents. A total of 100 respondents (84.74%) from the final-year students of the Bachelor of Education (B.Ed.) program at one public university participated in the study. All responses were valid, with no missing data. The demographic information of the respondents includes gender, ethnicity, program of study, and educational background. The majority of respondents were female (64%), compared to male respondents (36%). In terms of ethnicity, 96% of respondents were Malay, while 2% were Indian and 2% were Iban. The majority of respondents were from the Living Skills Education program (42%), followed by Teaching English as a Second Language (TESL) (33%), Sports Science (18%), and Mechanical Engineering Education (7%). In terms of educational background, 47% of respondents had an STPM qualification, 29% had a Matriculation qualification, and 24% had a Diploma.

Table 1: Summary of Demographic Data of Respondents

Demographic Characteristics	**Frequency (f)**	**Percentage (%)**
Gender:		
- Male	36	36
- Female	64	64
Ethnicity:		
- Malay	96	96
- Indian	2	2
- Iban	2	2
Program of Study:		
- Living Skills Education	42	42
- TESL	33	33
- Mechanical Engineering Education	7	7
- Sports Science	18	18
Educational Background:		
- STPM	47	47
- Matriculation	29	29
- Diploma	24	24

Descriptive Analysis

Descriptive analysis was conducted using frequency, percentage, mean, and standard deviation to explain the data collected. The analysis is divided into three parts, corresponding to the three research objectives.

Descriptive Analysis of Curriculum Perception

Research Question 1: How do teacher trainees perceive the relevance and effectiveness of the basic entrepreneurship course curriculum?

Table 2 summarises the responses regarding the curriculum perception. The mean score for most items exceeded 3.80, indicating a high level of agreement among trainees. The highest-rated statement was *"The*

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course assignments have exposed me to the skills and characteristics of an entrepreneur", scoring a mean of 4.56 (SD = 0.52), indicating strong consensus among students regarding the curriculum's effectiveness in fostering entrepreneurial competencies. Conversely, the lowest-rated statement, *"Time and credit allocation for course assignments are appropriate"* recorded a mean score of 3.84 (SD = 0.76) with 49 respondents agreeing and 19 strongly agreeing. Overall, the mean score for students' perceptions of the entrepreneurship course curriculum was 4.32 (SD = 0.48), signifying a generally high level of agreement among participants regarding the course's relevance and impact.

Table 2: Students' Perceptions of the Entrepreneurship Course from the Curriculum Aspect

Statement	**STS**	**TS**	**AS**	**S**	**SS**	**Mean**	**Std. Deviation**
BS1. Time and credit allocation for course assignments are appropriate.	0	3	29	49	19	3.84	0.76
BS2. The course implementation is suitable for students' educational level.	0	6	11	33	50	4.27	0.89
BS3. The assignments align with the course objectives.	0	0	6	47	47	4.41	0.60
BS4. The assignments exposed me to entrepreneurial skills and characteristics.	0	0	1	42	57	4.56	0.52
BS5. The curriculum allows me to plan a business.	0	3	2	42	53	4.45	0.69
BS6. The curriculum exposes me to types of businesses in Malaysia and abroad.	0	0	12	36	52	4.40	0.70
BS7. The curriculum enables me to calculate business costs and profits.	0	0	9	60	31	4.22	0.60
BS8. The curriculum aligns with current business trends (e.g., online business).	0	0	2	51	47	4.45	0.54
BS9. I am able to create a new business during the course assignments.	0	0	11	49	40	4.29	0.66
BS10. I can improve the performance of existing businesses through the course.	0	1	9	47	43	4.32	0.68

The findings indicate that while teacher trainees perceive the course as beneficial, they highlight the need for better time and credit allocation to enhance the learning experience. The curriculum effectively exposes students to entrepreneurial knowledge, but more structured applications could strengthen its impact.

Descriptive Analysis of Soft Skills Development

Research Question 2: What is the impact of the entrepreneurship course on the development of soft skills such as leadership, teamwork, and problem-solving among teacher trainees?

Table 3 presents the mean scores, frequency distributions, and standard deviations for students' perceptions on various soft skills development aspects. The results indicate that the highest mean score was 4.52 (SD = 0.56), for the statement, *"The lecturer encourages group cooperation in completing course assignments,"* with 55 respondents strongly agreeing and 42 agreeing. This finding suggests that students highly value collaborative activities facilitated by the lecturer. The lowest mean score was 4.36 (SD = 0.75), for the statement *"The activities instil a spirit and attitude to become an entrepreneur"*.

Table 3: Students' Perceptions of the Entrepreneurship Course from the Soft Skills Aspect

Statement	STS	TS	AS	S	SS	Mean	Std. Deviation
CS1. The lecturer instils moral values in entrepreneurial activities.	0	0	2	49	49	4.47	0.54
CS2. The lecturer emphasizes ethics and integrity in entrepreneurial activities.	0	0	7	40	53	4.46	0.63
CS3. The lecturer encourages group cooperation in completing assignments.	0	0	3	42	55	4.52	0.56
CS4. The lecturer's delivery enhances students' creativity in assignments.	0	0	8	41	51	4.43	0.64
CS5. The activities instil a spirit and attitude to become an entrepreneur.	0	3	7	41	49	4.36	0.75

The overall mean score for students' perceptions of the entrepreneurship course from the soft skills aspect was 4.45 (SD = 0.55). These results reflect a consistently high level of agreement among respondents regarding the course's effectiveness in fostering soft skills. The study highlights that entrepreneurship courses significantly contribute to teamwork and cooperation. The activities designed for the course improve leadership and problem-solving abilities; however, greater emphasis on entrepreneurial motivation could enhance the effectiveness of the programme.

Descriptive Analysis of Entrepreneurial Inclination

Research Question 3: To what extent does the course influence teacher trainees' entrepreneurial inclination and their readiness to integrate entrepreneurship into their teaching practices?

Table 5 presents findings on entrepreneurial inclination. The highest mean score was 4.41 (SD = 0.55) for the statement *"I can build an online business platform to expand market reach",* followed by 4.39 (SD = 0.53) for the statement *"Through the entrepreneurship course at UTM, I have increased my knowledge and skills by attending entrepreneurship programs such as webinars,"* with 41 respondents strongly agreeing and 57 agreeing. The lowest mean score was 4.05 (SD = 0.94) for the statement *"Through the entrepreneurship course at UTM, I have the desire to become an entrepreneurial figure,"* with 35 respondents strongly agreeing and 45 agreeing. The overall mean score for students' perceptions of the entrepreneurship course from the entrepreneurial tendency aspect was 4.28 (SD = 0.58), indicating a moderate level of agreement.

Table 5: Students' Perceptions of the Entrepreneurship Course from the Entrepreneurial Tendency Aspect

Statement	STS	TS	AS	S	SS	Mean	Std. Deviation
DS1. I can explore business opportunities through the course.	0	0	3	56	41	4.38	0.55
DS2. I can develop business ideas through the course assignments.	0	0	7	50	43	4.36	0.61
DS3. I am aware of the advantages of self-employment over salaried jobs.	0	6	5	51	38	4.21	0.80
DS4. I can establish business networks with peers and outsiders.	0	2	9	46	43	4.30	0.72

DS5. I can manage and control capital and finances during business operations.	0	3	11	43	43	4.26	0.77
DS6. I can plan a business from capital sourcing to profit generation.	0	3	6	48	43	4.31	0.72
DS7. I can build an online business platform to expand market reach.	0	0	3	53	44	4.41	0.55
DS8. I can turn consumer problems into business opportunities.	2	3	7	54	34	4.15	0.83
DS9. I have the desire to become an entrepreneurial figure.	1	8	11	45	35	4.05	0.94
DS10. I can improve communication skills with entrepreneurs and customers.	0	3	10	48	39	4.23	0.76
DS11. I can create online advertisements to attract customers.	0	0	10	49	41	4.31	0.65
DS12. I have increased my knowledge and skills by attending entrepreneurship programs.	0	0	2	57	41	4.39	0.53

The findings suggest that teacher trainees have developed a strong interest in entrepreneurship, particularly in digital business and networking opportunities. However, a slightly lower mean score in entrepreneurial ambition suggests that additional exposure to real-world entrepreneurial experiences may be necessary to strengthen students' confidence in becoming entrepreneurs.

Inferential Analysis

Inferential analysis was conducted using Pearson's correlation coefficient to identify the relationship between the curriculum, soft skills, and students' entrepreneurial inclination after completing the entrepreneurship course. The strength of the relationship was determined based on Cohen, Manion, and Morrison's (2011) scale.

Table 6: Strength of Relationship Based on Correlation Coefficient

Correlation Coefficient (r)	Strength of Relationship
< 0.81 to 1.00	Very Strong
< 0.51 to 0.80	Strong
< 0.31 to 0.50	Moderate
< 0.21 to 0.30	Weak
< 0.1 to 0.20	Very Weak

Relationship between Entrepreneurship Course Curriculum, Soft Skills Development, And Entrepreneurial Inclination

Research Question 4: What is the relationship between curriculum content, soft skills acquisition, and entrepreneurial inclination among teacher trainees after completing the course?

Table 7 shows the Pearson correlation coefficient between the curriculum and soft skills aspects and students' entrepreneurial inclination after completing the entrepreneurship course. The correlation coefficient ranges

between 0.663 to 0.783 with a significance level of 0.00 ($p < 0.01$), indicating a strong positive relationship between the curriculum, soft skills, and students' entrepreneurial tendencies. The findings suggests that both the curriculum and soft skills significantly influence students' inclination toward entrepreneurship. The proposed relationships between IV and DV:

1. Curriculum of the Entrepreneurship Course (IV) → Students' Entrepreneurial Tendencies (DV)
    - Hypothesis: A well-structured and relevant curriculum positively influences students' entrepreneurial tendencies.
2. Soft Skills Development (IV) → Students' Entrepreneurial Inclination (DV)
    - Hypothesis: The development of soft skills during the course enhances students' entrepreneurial inclination.

Table 7: Relationship between Curriculum, Soft Skills, and Entrepreneurial Inclination

Construct	**Pearson Correlation Coefficient (r)**	**Significance Level**	**Strength of Relationship**
Curriculum and Soft Skills	0.783**	0.00	Strong
Curriculum & Entrepreneurial Inclination	0. 706**	0.00	Strong
Soft Skills & Entrepreneurial Inclination	0.663**	0.00	Strong

The curriculum has the strongest correlation with students' entrepreneurial inclination (r = 0.706), indicating that a well-designed course significantly impacts students' interest in entrepreneurship. Soft skills also show a strong positive relationship with entrepreneurial inclination (r = 0.663), highlighting the importance of skills like teamwork, communication, and creativity in fostering entrepreneurial tendencies. The combined effect of curriculum and soft skills (r = 0.783) further reinforces the importance of integrating both elements in entrepreneurship education. Figure 1 shows the models of relationship between curriculum, soft skills, and entrepreneurial inclination.

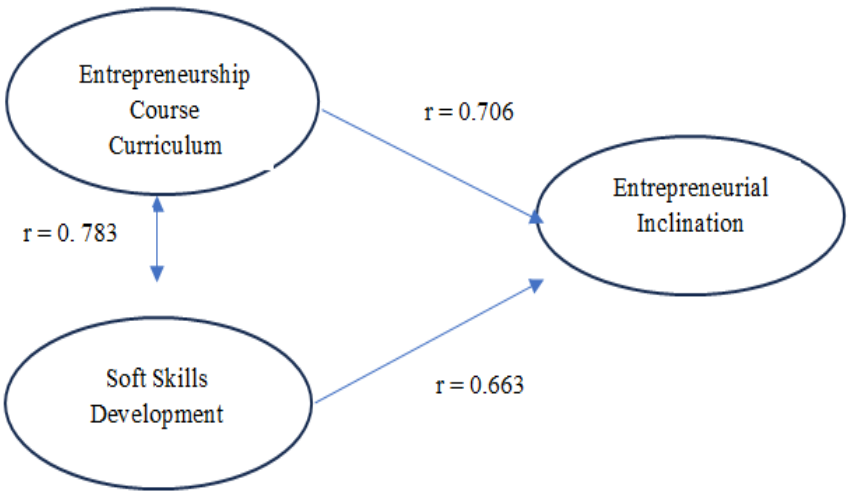

Figure 1: Models of Relationship between Curriculum, Soft Skills, and Entrepreneurial Inclination

These findings highlight the importance of both curriculum design and soft skills development in shaping students' entrepreneurial inclination. Universities should focus on designing comprehensive and relevant

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curricula that align with current entrepreneurial trends and needs. Additionally, emphasis should be placed on developing soft skills such as teamwork, communication, and creativity, as these are critical for fostering entrepreneurial tendencies. Lecturers should also adopt effective teaching methods that integrate both theoretical knowledge and practical skills to enhance students' entrepreneurial readiness. This analysis provides valuable insights for improving entrepreneurship education programs and preparing students for future entrepreneurial endeavours.

To complement the quantitative findings, qualitative data were drawn from student evaluations of learning reports to gain deeper insights into trainees' experiences with the entrepreneurship course. Trainees highlighted several recurring themes in their reflections, notably emphasizing the need for more experiential learning opportunities, such as direct engagement with entrepreneurs and participation in real-world startup projects. Many students expressed appreciation for group assignments that fostered leadership and teamwork, but noted that the course lacked sufficient industry exposure and hands-on business simulations. Several trainees suggested integrating modules on digital entrepreneurship, including online business management and digital tools, to align the curriculum with current entrepreneurial realities. Furthermore, participants reported that while theoretical content was informative, it often felt disconnected from practical application. These qualitative insights underscore the importance of embedding more project-based learning, industry mentorship, and technology-driven initiatives into the course structure, offering valuable guidance for future curriculum enhancements.

Additionally, the following are the remarks from the course instructors from the Continuous Quality Improvement (CQI) analysis.

...the commitment and resilient of the students to start with generating ideas and do the actual business. It's good if students have the opportunity to be attached with a real business environment, meeting real customers and sell real products or services for few days or hours.

Need more input on Go e-commerce as the students are learning more on real-life business activities.

Fundamentals and concepts for introduction to entrepreneurship are sufficient. However, Online business learning materials need to be included for better implementation.

All of the students demonstrate the ability and commitment to collaborate successfully in an online business environment. In fact, few groups managed to produce own product and one of the team have expand sales through Shopee.

Business pitching need improvement and also on BMC

The Continuous Quality Improvement (CQI) analysis revealed that students demonstrated strong commitment and resilience in generating business ideas and engaging in actual business activities. Instructors highlighted that students would benefit further from real-world business attachments, allowing them to interact with real customers and conduct live sales activities. While the course adequately covers fundamental entrepreneurial concepts, there is a need to incorporate more practical content on Go-eCommerce platforms and online business operations to better reflect current industry practices. The instructors observed that students showed excellent collaboration skills in an online business setting, with some groups successfully creating products and even expanding their sales through platforms like Shopee. However, the analysis also identified areas for improvement, particularly in students' business pitching skills and the application of the Business Model Canvas (BMC) framework.

DISCUSSION

The findings of this study highlight the critical role that entrepreneurship education plays in shaping teacher trainees' entrepreneurial attitudes, soft skills, and confidence. The strong correlation observed between curriculum effectiveness and entrepreneurial inclination aligns with previous studies that emphasise the importance of well-structured entrepreneurship courses in enhancing students' business acumen (Sankaran &

Saad, 2021). However, the results also underscore the necessity of refining pedagogical approaches to make entrepreneurship education more engaging and practical.

Teacher Trainees' Perceptions of the Course Curriculum and Its Effectiveness

The study revealed that while teacher trainees perceive the UHAK 1032 course as beneficial, they also identified certain limitations in its content delivery. The predominance of theoretical instruction was seen as a drawback, as practical entrepreneurial exposure remains minimal. This aligns with previous research indicating that entrepreneurship courses must include experiential learning components such as business simulations, industry collaborations, and hands-on projects to maximise their impact (Jackson, Shan & Meek, 2022; Bauman & Lucy, 2021; Indarwati & Syahran, 2024). Studies by Ismail (2024) and Salleh & Othman (2023) also emphasise that entrepreneurship education should not only impart theoretical knowledge but also cultivate practical competencies necessary for business development. Hence, integrating case studies and entrepreneurial mentoring within the curriculum could address these shortcomings and provide a more holistic learning experience.

Recent literature further supports this perspective, with studies indicating that universities adopting active learning strategies, such as flipped classrooms and project-based assignments, yield higher student engagement and knowledge retention in entrepreneurship education (Hsu & Wu, 2023; Rosário & Raimundo, 2024; Bauman & Lucy, 2021). Furthermore, research suggests that incorporating real-world entrepreneurial challenges—where students collaborate with local businesses—can significantly enhance their ability to apply theoretical knowledge in practical settings (Jena, 2020; Din, Anuar & Osman, 2016).

Development of Soft Skills through the Course

The findings show that the course significantly contributed to teacher trainees' soft skills development, particularly in communication, leadership, and problem-solving. These skills are crucial for both entrepreneurial and teaching careers, as effective educators must be able to inspire and motivate students while also managing dynamic classroom environments (Sabil, Jamian & Othman, 2021). However, despite positive feedback regarding soft skills enhancement, trainees suggested that the course lacked collaborative learning opportunities, which could further refine teamwork and adaptability. Research by Othman, Ariffin & Don (2017) indicates that problem-solving and decision-making skills improve significantly when students are exposed to real-world entrepreneurial challenges. Therefore, incorporating peer-led entrepreneurship projects and group-based business assignments could enhance soft skills development among teacher trainees (Bauman & Lucy, 2021).

Recent studies highlight the importance of digital collaboration tools in enhancing soft skills development. According to Prokopenko et al. (2024), the use of virtual team projects in entrepreneurship education fosters adaptability and global networking skills, preparing students for the modern digital economy. Additionally, integrating interdisciplinary collaboration—where students from different faculties work together on business ideas—has been shown to improve problem-solving efficiency and leadership confidence (Seikkula-Leino et al., 2021).

Impact of the Course on Entrepreneurial Inclination

A major finding of this study is the increase in teacher trainees' entrepreneurial inclination after completing the course. Many participants expressed a heightened awareness of entrepreneurial opportunities and a greater willingness to engage in business ventures. This supports the assertion by Krueger, Mestwerdt & Kickul (2024) and Costa, Liñán & Fayolle (2024) that entrepreneurship education can serve as a catalyst for developing an entrepreneurial mindset among students. However, the lack of direct industry exposure was seen as a limitation, with many trainees feeling unprepared to venture into real-world business activities. Previous studies suggest that direct engagement with entrepreneurs, such as guest lectures and startup internships, can significantly boost students' entrepreneurial motivation (Overwien, Jahnke, & Leker, 2024; Al Balushi, et al., 2023). Therefore, stronger industry collaboration should be considered in the curriculum redesign to provide teacher trainees with tangible entrepreneurial experiences (Wu & Chen, 2021).

Emerging research supports the implementation of experiential startup incubators within universities to bridge this gap. According to Souitaris et al. (2022), students who participate in university-based business incubators demonstrate higher entrepreneurial self-efficacy and are more likely to launch startups after graduation. Additionally, fostering international entrepreneurship exposure through exchange programmes and collaborative projects with global institutions can further strengthen students' inclination toward entrepreneurial careers (Jackson, Shan & Meek, 2022; Bauman & Lucy, 2021).

The Relationship Between Curriculum, Soft Skills, and Entrepreneurial Inclination

The correlation analysis suggests that the curriculum's effectiveness directly influences both soft skills development and entrepreneurial inclination. This supports the findings of Hanafe & Abdullah (2022), who argue that well-designed entrepreneurship courses foster both cognitive and practical entrepreneurial skills. The positive relationship between soft skills acquisition and entrepreneurial inclination further reinforces previous research by Sabarudin & Lokman (2022), which states that individuals with strong leadership and communication skills are more likely to pursue entrepreneurial careers. As a result, a more structured curriculum that incorporates soft skills training within entrepreneurship education could yield better long-term outcomes.

Recent studies argue that entrepreneurship education should integrate emotional intelligence (EI) training, as higher EI levels correlate with stronger entrepreneurial resilience and adaptability (Gazi, Moni, Arefin, 2024; Ahmad, 2023; Kwapisz, et al., 2022). Additionally, research by Al Balushi, et al., (2023) and Clevenger, et al., (2022) suggests that entrepreneurship education should extend beyond formal coursework by integrating mentorship programmes, networking events, and business competitions to fully develop students' entrepreneurial capabilities.

In summary, this study reinforces the need for a more experiential, industry-integrated approach to entrepreneurship education. By adopting active learning methods, interdisciplinary collaborations, digital tools, and startup incubators, universities can significantly improve teacher trainees' entrepreneurial readiness and professional competencies. Future research should explore longitudinal impacts of entrepreneurship education, evaluating how these interventions influence career outcomes and business success rates among graduates.

CONCLUSION

This study underscores the importance of entrepreneurship education in teacher training programmes. While the UHAK 1032 course provides fundamental knowledge, enhancements in curriculum design and pedagogical approaches are needed to maximise its effectiveness. Teacher trainees should be equipped with practical tools to integrate entrepreneurship concepts into their teaching methodologies. Strengthening experiential learning opportunities, fostering industry collaborations, and providing ongoing professional development can significantly enhance their preparedness to teach entrepreneurship. Future research should explore long-term assessments to determine the sustained impact of entrepreneurship education on teacher trainees' careers and teaching practices.

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