

Assessing Entrepreneurial Readiness in Teacher Education Graduates for Future Success

Michael Tapeç Sacramed 

Secondary Education Department, Mariano Marcos State University, Ilocos Norte, Philippines

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Abstract:

Entrepreneurship education is increasingly recognized as essential for cultivating an entrepreneurial mindset among students. The College of Teacher Education (CTE) at Mariano Marcos State University (MMSU) has integrated the "Entrepreneurial Mind" subject into its curriculum to equip future educators with vital entrepreneurial skills. This study assesses the entrepreneurial competencies, attitudes, and intentions of MMSU-CTE graduates who completed this subject. This study evaluates key competencies such as opportunity recognition, innovation, risk management, and leadership, alongside graduates' perceptions of the subject's effectiveness. Data were collected from 150 graduates via a structured questionnaire online and analyzed using descriptive and inferential statistics. Results indicate high proficiency in opportunity recognition, resource management, and innovation, but moderate levels in risk management and financial planning, suggesting areas for curricular enhancement. While 65% of graduates exhibit positive entrepreneurial attitudes, only 50% have strong intentions to start a business, highlighting the need for additional support mechanisms like mentorship and funding. Graduates reported significant improvements in entrepreneurial skills and confidence, validating the subject's integration. The study underscores the importance of entrepreneurship education in non-business disciplines and recommends curriculum enhancements, support mechanisms, broader implementation, and longitudinal research to optimize entrepreneurial readiness and drive innovation.

Keywords: Entrepreneurship Education, Entrepreneurial Competencies, Teacher Education, Innovation, Curriculum Development, Entrepreneurial Attitudes

Introduction:

Entrepreneurship education has increasingly been recognized as a crucial element in cultivating an entrepreneurial mindset among students. The College of Teacher Education (CTE) at Mariano Marcos State University (MMSU) has taken a proactive step by introducing the "Entrepreneurial Mind" subject into its curriculum. This strategic move aims to equip future educators with essential entrepreneurial skills, aligning with broader educational trends that emphasize the importance

of fostering innovation and adaptability in the workforce. According to Fayolle and Gailly [1], embedding entrepreneurship within various educational fields significantly enhances graduates'

employability and adaptability, underscoring the relevance of such curricular innovations.

The primary objective of this study is to assess the entrepreneurial competencies of MMSU-CTE graduates who have completed the "Entrepreneurial Mind" subject. Entrepreneurial competencies, including opportunity recognition, innovation, risk management, and leadership, are critical indicators of a graduate's readiness to engage in entrepreneurial activities. Prior research by Gorman, Hanlon, and King [2] highlighted the positive impact of entrepreneurship education on developing these competencies, suggesting that well-structured entrepreneurship courses can significantly boost students' entrepreneurial skills.

Another key objective is to evaluate the entrepreneurial attitudes and intentions of these graduates. Entrepreneurial attitudes encompass a range of positive perceptions towards entrepreneurship, including the willingness to take risks and the confidence to start and manage a business. Liñán and Chen [3] developed a framework for assessing these attitudes and intentions, which this study adapts to gauge the effectiveness of the "Entrepreneurial Mind" subject. Understanding these attitudes is crucial, as they often translate into entrepreneurial intentions and subsequent actions.

The study also aims to determine the perceived effectiveness of the "Entrepreneurial Mind" subject in enhancing entrepreneurial readiness. This involves gathering graduates' feedback on how well the subject prepared them for entrepreneurial endeavors. Kuratko [4] noted that effective entrepreneurship education fosters creativity, innovation, and practical problem-solving skills. By assessing graduates' perceptions, the study can identify strengths and areas for improvement in the curriculum, ensuring that it continues to meet the evolving needs of students.

Overall, this research builds on existing literature to provide a comprehensive evaluation of the entrepreneurial readiness of MMSU-CTE Education graduates. The findings will contribute to a deeper understanding of how entrepreneurship education can be optimized within teacher education programs, ultimately fostering a generation of educators who are not only skilled in their traditional roles but also equipped to drive innovation and entrepreneurial initiatives. This aligns with the broader educational objective of producing versatile graduates who can thrive in diverse professional contexts.

Literature Review:

One of the best-studied types of entrepreneurial policies in higher education is entrepreneurship (as opposed to enterprise) education, which has been demonstrated many times over as crucial for triggering change in students' attitudes and developing dispositions towards attitudes, perceptions about self-efficacy etc. In addition, Gorman et al [2] have also shown that the needs for entrepreneurship education spur from growth and changes know-how to help students in develop their entrepreneurial competencies, such as recognize opportunity innovation risk management or capabilities as entrepreneur leaders. Kuratko [4]

also suggested that entrepreneurship education could breed creativity, innovation and hands-on problem-solving which is necessary for undertaking entrepreneurial ventures.

Some business schools also embed entrepreneurship courses in other disciplines — like teacher education, for example — to give students different career paths and the power of knowledge transfer. Importantly, since teaching entrepreneurship in other university departments has already been shown by Fayolle & Gailly [1] to greatly improve the employability and flexibility of graduates who are able use entrepreneurial skills across a wide range of professions, this suggests that there is pedagogic discussion for explicitly expanding empirical training units beyond traditional economics or business department subject areas. In teacher education, this integration can enable prospective educators to apply new pedagogical practices and lead educational efforts efficiently.

Findings from the Philippines emphasize the critical role of entrepreneurship education. Studies by Aguinis et al. [5] have shown that government initiatives aimed at enhancing entrepreneurship education have significantly boosted entrepreneurial intentions among students, who increasingly view entrepreneurship as a viable alternative career path. This shift encourages students to expand their employment horizons beyond traditional firms. Moreover, research by Almahry et al. [6] indicates that the integration of entrepreneurship education within academic institutions is essential for developing an adaptive and innovative workforce capable of driving focused entrepreneurial ventures. Additionally, a study by Sanchez [7] highlights that entrepreneurship education not only improves students' entrepreneurial competencies but also enhances their ability to cope with the uncertainties of the business environment, contributing to the overall resilience of the entrepreneurial ecosystem. Another study by Nabi et al. [8] found that entrepreneurship education plays a pivotal role in fostering entrepreneurial mindset development, significantly impacting students' self-efficacy and increasing their propensity to engage in entrepreneurial activities. As a result, educational institutions must adapt to foster a labor force that can contribute to the creation of more dynamic and innovative enterprises.

Research has identified a universal trend in entrepreneurial education's impact on students'

intentions and behaviors globally. For instance, a study of Ahmad et al. [9] involving Malaysian entrepreneurship students revealed a positive correlation between exposure to entrepreneurship education and their attitudes and intentions toward entrepreneurial activities, which are strong predictors of venture creation. Similarly, a study by Nabi et al. [8] in a European context found that entrepreneurship education significantly influences students' entrepreneurial intentions and nascent entrepreneurial behavior, underscoring the global importance of this subject.

Moreover, studies from various regions corroborate these findings. In Australia, according to Bae et al. [10] entrepreneurship education was shown to foster entrepreneurial skills and mindset, leading to increased entrepreneurial activities among graduates. In the United States, entrepreneurship programs have been found to enhance students' risk-taking propensities and innovation capabilities, further encouraging new venture creation by Rideout & Gray [11]. Similarly, research of Zhang et al. [12] from China highlighted the role of entrepreneurship education in shaping entrepreneurial intentions, particularly through the development of entrepreneurial self-efficacy and opportunity recognition skills.

In Africa, a study of Iwu et al. [13] on Nigerian students demonstrated that entrepreneurship education not only boosts entrepreneurial intentions but also equips students with practical skills necessary for business creation. Finally, a cross-cultural study by Liñán and Chen [3] reinforced the significance of entrepreneurship education in developing entrepreneurial intentions across diverse cultural contexts, further validating the global relevance of teaching this subject.

Furthermore, the role of entrepreneurship education in enhancing entrepreneurial readiness has been investigated by several studies. Wilson, Kickul & Marlino [14] in their study they found that entrepreneurship education programs are more successful in cultivating entrepreneurial skills and intentions if "contextually embedded" into its practical applications. For example, the research of Martin et al. [15] confirms a positive effect on entrepreneurial competencies and intentions among college students due to an entrepreneurship education course but emphasizes that its design matters greatly if expected results are achieved.

In MMSU-College of Teacher Education, they designed the subject "Entrepreneurial Mind" to

afford its graduates with a different capability and attitude in engaging to entrepreneurial endeavors. The investigation of the proficiency level they attained in opportunity recognition, innovation, risk management and leadership competencies that are highly needed by their employers is concern. This study investigates the influence of readiness to engage in entrepreneurial activities when students' attitudes and intentions depend on their implementation learning by This research attempts to infer the effect of "the Entrepreneurial Mind" style, based on those enter from those who did not into entrepreneurship using studying his.

Taken together, literature provides support for the incorporation of entrepreneurship education in teacher training and all other fields to produce an adaptable workforce better suited to be innovative. Through the assessment of entrepreneurial readiness among MMSU-CTE graduates, our study aims to increase understanding on how entrepreneurship education can be maximized in teacher education programs leading to a new breed of teachers that are responsive for innovation and generation change.

Methodology:

Research Design:

This paper employed a descriptive survey research design on the graduates of MMSU-CTE. The researcher selected this design because it is ideal for delivering a full view of the graduates' entrepreneurial skills, attitudes, intentions and their perception about "Entrepreneurial Mind" subject.

Participants:

The respondents of this study were graduated students from the CTE in MMSU and who have already taken up their course "Entrepreneurial Mind". One hundred and fifty graduates were randomly selected using a stratified random method so as to make adequate across academic years, in addition to specializations within the College.

Data Collection:

Information was attained using a carefully designed structured questionnaire for this survey. The survey was designed in four principle sections;

- 1) Demographic data: Details of age, gender and specialization for which these participants were entering the study.
- 2) Entrepreneurial Competencies — Measurements of central competencies,

namely: opportunity recognition process criteria, innovation capability index and risk-managing mechanism through standardized scales.

- 3) Entrepreneurial mindset and intend: Capturing attitudinal items from established surveys (e.g. Liñán & Chen, 2009) about whether the participants are enthusiastic of entrepreneurship or not by also measuring their intention to start an enterprise.
- 4) Effectiveness of Subject "Entrepreneurial Mind": Assessing the effectiveness with which graduates rated itself in preparation for entrepreneurial activities by the subject.

Data Analysis:

The data obtained have been analyzed with the use descriptive and inferential statistical methods. Summary statistics were calculated to describe benchmark mean scores and standard deviations of graduates' readiness for entrepreneurship. Therefore, the researcher used inferential statistics (e.g., t-tests and Analysis of Variance (ANOVA)) to determine where the differences with respect to entrepreneurial competencies, attitudes toward entrepreneurship intention and perceived effectiveness existed based on demographic characteristics together with other considerations. Statistical software was used to perform these analyses to obtain dependable and accurate results.

Results and Discussions:

The demographic profile of our graduating class reveals a significant percentage drawn from female graduates (70%) and those aged between 22-25 par with Table 1 showing over three quarters fall within that bracket. Employment status shows that 40% of the graduates are unemployed, while other 60% is employed. This distribution gives an idea about in which bracket these students are with regards to entrepreneurship readiness and interest.

Table 1. Overview of the Demographic Profile of the Participants.

Demographic Variable	Category	Percentage
Gender	Female	70%
	Male	30%
Age	22-25 years old	75%

	26-30 years old	20%
	31+ years old	5%
Employment Status	Employed	60%
	Seeking Employment	40%

Regarding entrepreneurial competencies, graduates showed good levels of skill and mastery in opportunity identification, resource management was a lesser fall-out while innovation scored more than 4.0 on the mean scale table (Table 2). Which in turn have been shown to be important for finding and capitalizing on entrepreneurial opportunities, making efficient use of resources, and generating innovative solutions. While moderate 3.5 and 3.6 mean scores of Risk Management and Financial Planning respectively show the areas of further need in the curriculum as well. Basic tips to understand your business risk tolerance and for a financial plan.

Table 2. Mean Scores and Standard Deviations for Entrepreneurial Competencies, indicating Competency Levels.

Competency	Mean Score (out of 5)	Standard Deviation	Competency Level
Opportunity Recognition	4.3	0.5	High
Resource Management	4.1	0.6	High
Innovation	4.2	0.4	High
Risk Management	3.5	0.7	Moderate
Financial Planning	3.6	0.6	Moderate

In the analysis of entrepreneurial attitudes and intentions shown in Table 3, it was found that at least half of the graduates hold a favorable attitude toward entrepreneurship (65%) while more than two-thirds intend to start their businesses within five years. The t-tests revealed no significant gender differences in entrepreneurial attitudes ($t(148) = 1.23, p = .22$), or intentions ($t(148) = 1.09,$

p = .28). This attitude of the graduates is a good sign for entrepreneurship. Yet, the mere 50% of respondents expressing a seemingly strong

intention to start their own business indicate that more support and motivation is necessary in order for hopeful entrepreneur-types to walk the talk.

Table 3. Percentages and Statistical Analysis of Entrepreneurial Attitudes and Intentions.

Attitude/Intention	Percentage	Mean Score (out of 5)	Standard Deviation
Positive Attitude towards Entrepreneurship	65%	3.9	0.8
Strong Intention to Start a Venture within 5 Years	50%	3.7	0.9

Table 4 indicates that the effectiveness of "Entrepreneurial Mind" subject was perceived high, as a total of eighty percent graduates felt considerable improvement in their entrepreneurial abilities and seventy-five percent were more confident to take on entrepreneurial activities postgraduation. The only group difference was on perceived effectiveness by employment status: $F(1,$

148) = 4.56, $p = .034$; employed graduates had higher perceptions of effectiveness than those seeking jobs. The results indicate a positive influence of the course on graduates' entrepreneurship readiness, supporting the inclusion in teacher education programs entrepreneurial teaching.

Table 4. Perceives Effectiveness of the "Entrepreneurial Mind" Subject, including Statistical Analysis.

Perception	Percentage	Mean Score (out of 5)	Standard Deviation
Subject Significantly Enhanced Entrepreneurial Skills	80%	4.2	0.5
Increased Confidence in Pursuing Entrepreneurial Activities	75%	4.1	0.6

Conclusion:

The introduction of the "Entrepreneurial Mind" discipline into the programs offered at MMSU-CTE has produced a few encouraging results in terms graduating student competency and readiness to get involved as entrepreneurs. This research reinforces the large body of work related to how entrepreneurship can be taught in non-business areas, which may provide some important knowledge for future educators who must develop innovative and adaptive skills across many different settings. Graduates were proficient at recognizing opportunities, managing resource and being innovative all indicative of the importance placed upon key entrepreneurial skills from this course. However, the moderately competent levels of risk management and financial planning would suggest a need for further focus on these areas

within the curriculum. Moreover, the positive perceptions about entrepreneurship from students as a group even when they do not lead to robust entrepreneur intentions indicate that there are plenty of follow-up support mechanisms needed to stimulate entrepreneurial behaviors.

Recommendations:

The results of this study have a number of significant implications for curriculum design, policy-making and research. Overall, high competency levels in ability to recognize and create opportunities (Opportunity recognition), judicious use of resources (Resource management) as well embracing creativity and innovation have been registered for the "Entrepreneurial Mind" subject therefore demonstrating an effective implementation platform. On the other hand their moderate scores reveal that curriculum could

include more lessons on management of donation risk and financial planning. Introducing more need-based training and practical simulations on financial literacy skills, along with the preparedness to take calculated risks could help induce those capabilities.

Secondly, the divergence between positive Entrepreneurial attitudes and actual entrepreneurial intentions highlights a need to introduce some support mechanisms. Mentorship programs, more startup funding sources and incubator initiatives can help to close this gap making it easier for graduates to take the first steps toward entrepreneurship.

Thus, the overwhelming positive feedback to this subject about perceived effectiveness of “Entrepreneurial Mind” is indicative that entrainment education initiatives similar may be and should considered for broader such implementation in other non-business disciplines. This would promote not just an entrepreneurial mentality among a more diverse group of students, but also has the potential to help prepare them for improved career prospects and future economic development.

The fourth and last recommendation is the use of longitudinal studies on entrepreneurial outcomes related to graduates in future research. This would enhance the understanding of how to sustain effects over time from entrepreneurship education, and where further development interventions are relevant. By unpacking how graduates deploy their entrepreneurial attributes and insights in damaging situations, educators along with policy-makers can provide budding entrepreneurship training that is ever-elastic to pivot.

Abbreviations:

MMSU: Mariano Marcos State University

CTE: College of Teacher Education

ANOVA: Analysis of Variance

Author Contributions:

Michael T. Sacramed is the sole author. The author read and approved the final manuscript.

Conflicts of Interest:

The author declares no conflicts of interest.

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