Personal Entrepreneurial Competencies of Non-Business College Students of the University of Southern Mindanao: Basis for Entrepreneurial Mind Module Enhancement

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DOI: https://doi.org/10.47772/IJRISS.2026.100300133

Received: 17 March 2026; Accepted: 23 March 2026; Published: 29 March 2026

ABSTRACT

Entrepreneurship education has become an integral component of higher education curricula in the Philippines, emphasizing the development of entrepreneurial knowledge and competencies across academic disciplines. This study examined the level of Personal Entrepreneurial Competencies (PECs), the level of entrepreneurial knowledge, and the relationship between PECs and entrepreneurial knowledge among non-business college students who completed the Entrepreneurial Mind course at University of Southern Mindanao (USM).

A descriptive–correlational research design was employed. The respondents consisted of 798 non-business students enrolled during the First Semester of School Year 2025–2026. Data were gathered using two instruments: an adapted Personal Entrepreneurial Competencies (PEC) questionnaire based on the framework of David McClelland, and a researcher-made entrepreneurial knowledge test aligned with the official course syllabus. Descriptive statistics (mean, frequency, and percentage) were used to determine the levels of PECs and entrepreneurial knowledge, while Pearson's Product-Moment Correlation Coefficient was applied to examine the relationship between the two variables. The PEC instrument demonstrated excellent reliability (Cronbach's alpha = 0.96).

Results revealed that non-business students possessed a moderate-to-high level of personal entrepreneurial competencies, indicating the presence of foundational entrepreneurial traits despite the absence of formal business training. The students also demonstrated a high level of entrepreneurial knowledge after completing the course, with 84.59% falling within the high to very high categories. This finding suggests that the Entrepreneurial Mind course effectively enhances entrepreneurial understanding among non-business learners. Correlation analysis showed a positive and significant relationship between overall PECs and entrepreneurial knowledge ($r = 0.12$, $p < 0.05$). The findings suggest that strengthening key entrepreneurial competencies can support knowledge development. The study recommends integrating experiential and interdisciplinary learning strategies to further enhance entrepreneurship education among non-business students.

Keywords: Personal Entrepreneurial Competencies, Entrepreneurial Knowledge, Entrepreneurship Education, Non-Business Students, Entrepreneurial Mind, University of Southern Mindanao

INTRODUCTION

Entrepreneurship has long been recognized as a vital force in driving economic growth, innovation, and employment opportunities. In the Philippines, the Commission on Higher Education (CHED) has emphasized the integration of entrepreneurial education across disciplines to prepare students for the challenges of a competitive global economy. One such initiative is the inclusion of The Entrepreneurial Mind course in the curriculum, which aims to instill entrepreneurial values and competencies among college students regardless of their academic specialization. At the University of Southern Mindanao (USM), this course is offered to both

business and non-business students, with the goal of cultivating entrepreneurial thinking that transcends traditional business boundaries.

While business students are often immersed in entrepreneurial training and practical business simulations, non-business students may not receive the same depth of exposure. Their academic programs are typically focused on technical, scientific, or service-oriented fields, which may limit opportunities to develop personal entrepreneurial competencies (PECs) such as opportunity-seeking, risk-taking, persistence, and self-confidence. These competencies are not only essential for starting businesses but also for fostering innovation, adaptability, and leadership in diverse career paths. Thus, assessing the entrepreneurial competencies of non-business students is crucial to ensure that the Entrepreneurial Mind module is inclusive, responsive, and effective in preparing them for future challenges.

Although several studies have examined entrepreneurial competencies among business students, limited research has focused on non-business students. Reyes et al. (2018) found that non-business students enrolled in entrepreneurship courses exhibited moderate correlations between entrepreneurial competencies and entrepreneurial intentions, suggesting that while exposure to entrepreneurship education influences students, the impact is not as strong compared to business majors. Similarly, Herrera et al. (2018) emphasized that entrepreneurial education fosters creativity and opportunity recognition even among students outside business programs, but noted that existing modules often lack contextualization for diverse academic backgrounds. This highlights a gap in tailoring entrepreneurial education to non-business students, who may not initially view entrepreneurship as part of their career trajectory. Addressing this gap is essential to ensure that entrepreneurial education is relevant and beneficial to all students, regardless of their field of study.

Reyes et al. (2018) revealed that eight out of ten entrepreneurial competencies significantly correlated with entrepreneurial intention among non-business students, though the strength of correlation was moderate to weak. This indicates that while competencies are present, they may not be fully developed without targeted interventions. Herrera et al. (2018) further argued that entrepreneurial education enhances creativity and problem-solving skills, which are transferable across disciplines. Meanwhile, curriculum development studies in Philippine higher education stress the importance of integrating entrepreneurial competencies into general education courses to prepare graduates for both employment and enterprise creation. These findings underscore the need to enhance the Entrepreneurial Mind module to better serve non-business students by contextualizing lessons to their unique academic and career paths.

The primary beneficiaries of this study are the non-business college students of USM**,** who will gain from a more contextualized and tailored entrepreneurial module that strengthens their competencies and prepares them for diverse career opportunities. Faculty members and curriculum developers will also benefit, as the findings will provide insights into revising and improving the Entrepreneurial Mind course to better suit non-business learners. The University of Southern Mindanao itself stands to gain by aligning its curriculum with its mission to produce globally competitive and morally responsive graduates. Finally, the local communities and industries will benefit as students develop entrepreneurial competencies that enable them to initiate projects, businesses, and innovations addressing local needs, thereby contributing to regional development.

Objectives

1. To determine the level of Personal Entrepreneurial Competencies (PEC) of the non-business students.
2. To assess the level of students' entrepreneurial knowledge after completing the Entrepreneurial Mind course.
3. To determine the significant relationship between the students' PEC and their entrepreneurial knowledge from the Entrepreneurial Mind course.

LITERATURE REVIEW

Personal Entrepreneurial Competencies (PEC)

Entrepreneurship has increasingly been recognized as a vital competence for all individuals, transcending the boundaries of business education (Drucker, 1985; Fayolle & Gailly, 2015). In response to this paradigm shift,

higher education institutions have integrated entrepreneurship-related courses such as the Entrepreneurial Mind into the general curriculum, making them accessible even to students enrolled in non-business academic programs (Nabi et al., 2017). This development reflects the growing emphasis on cultivating an entrepreneurial mindset characterized by creativity, initiative, and adaptability across disciplines (Man & Lau, 2000). However, the effectiveness of such courses depends largely on learners' existing personal entrepreneurial competencies, which influence how students engage with and internalize entrepreneurial concepts (McClelland, 1987; Bird, 1995).

Personal Entrepreneurial Competencies (PEC) are defined as a set of observable behaviors, skills, and attitudes that contribute to an individual's ability to perform entrepreneurial functions effectively. McClelland (1987) emphasized that these competencies are not purely innate traits but learned behaviors that can be developed through education and training. The commonly cited PEC framework includes opportunity-seeking, persistence, commitment to work contracts, calculated risk-taking, demand for efficiency and quality, goal setting, information seeking, systematic planning and monitoring, persuasion and networking, and self-confidence.

Within higher education, PECs are increasingly valued not only for business students but also for learners in other fields. Man and Lau (2000) emphasized that entrepreneurial competencies are transferable across disciplines, equipping graduates to navigate uncertainty, complexity, and innovation-driven environments. For non-business students, PECs enhance employability, leadership, and problem-solving skills, even in careers outside traditional entrepreneurship.

Empirical evidence shows that business students often score higher in PECs compared to non-business peers, largely due to structured exposure to entrepreneurship courses, simulations, and experiential learning opportunities (Astrero & Velasco, 2025). For example, Accountancy, Business, and Management (ABM) students in Santiago City reported stronger self-assessed entrepreneurial competence, underscoring the influence of targeted training and discipline-specific modules (Astrero & Velasco, 2025). This highlights the critical role of curriculum design in shaping entrepreneurial mindsets.

Nonetheless, non-business students also demonstrate entrepreneurial potential, particularly in creativity, initiative, and problem-solving. Glori and Eusebio (2025) found that while business students exhibited stronger entrepreneurial intentions due to perceived educational support, non-business students showed comparable drive when supported by family, government, and institutional programs. This suggests that entrepreneurial competencies are not exclusive to business disciplines and can be cultivated across academic fields. Although non-business students may lack structured training, their innovative thinking and adaptability can be harnessed through appropriate interventions (Glori & Eusebio, 2025).

Further studies reinforce the relevance of PECs among college students. Sánchez (2013) demonstrated that entrepreneurial competencies significantly influence readiness and intention, regardless of academic background. Similarly, Nabi et al. (2017) reported that entrepreneurship education enhances initiative, self-confidence, and opportunity recognition. In the Philippine context, Geronimo (2018) found that Filipino college students generally exhibited moderate PEC levels, with strengths in persistence and commitment but weaknesses in risk-taking and opportunity-seeking. This pattern underscores the need for instructional strategies that strengthen underdeveloped competencies, particularly among non-business students with limited exposure to entrepreneurial experiences.

Embedding PECs into general education modules can therefore prepare students for diverse career paths, including leadership roles in community development, agribusiness, and technology sectors. Glori and Eusebio (2025) emphasized that entrepreneurial intentions are shaped not only by academic exposure but also by institutional support systems, highlighting universities' role in fostering entrepreneurial mindsets across disciplines. Likewise, Romero and Nalangan (2023) argued that PEC assessment can guide curriculum design, ensuring that entrepreneurial skills are systematically developed and aligned with local contexts.

Consistent findings reveal that non-business students often display moderate but uneven PEC levels. Reyes et al. (2018) reported that non-business students enrolled in an introductory entrepreneurship course improved their overall PECs, particularly in persistence, commitment to work contracts, and information seeking. However,

weaker competencies were observed in risk-taking and opportunity-seeking, reflecting hesitation in decision-making under uncertainty. International studies echo this pattern, with Rosita (2023) noting that non-business majors often demonstrate self-confidence and goal-setting abilities but lack experiential activities that strengthen risk-taking and innovation. Collectively, these findings suggest that while non-business students are capable of developing entrepreneurial mindsets, certain competencies require intentional instructional emphasis.

Entrepreneurial Knowledge and Entrepreneurship Education

Entrepreneurial knowledge refers to an individual's understanding of entrepreneurial concepts, processes, and skills related to opportunity recognition, innovation, and venture creation. Drucker (1985) asserted that entrepreneurship is a discipline that can be taught and learned, emphasizing the role of education in cultivating entrepreneurial thinking rather than merely business management skills. Modern entrepreneurship education aims to develop not only knowledge but also mindset and behavior. Fayolle and Gailly (2015) explained that contemporary approaches emphasize experiential learning, creativity, and problem-solving, making entrepreneurship relevant across disciplines. Courses such as The Entrepreneurial Mind are designed to instill awareness and competencies applicable in both employment and self-employment contexts.

Research consistently shows that entrepreneurship education positively influences students' entrepreneurial knowledge. Martin et al. (2013), through a meta-analysis, concluded that such education significantly improves knowledge, skills, and attitudes among both business and non-business students. This supports the inclusion of entrepreneurship courses in general education curricula. In the Philippines, the Commission on Higher Education (CHED) institutionalized entrepreneurship education through policies such as CMO No. 18, s. 2018, which integrates entrepreneurship into higher education curricula. Dacanay (2019) observed that Filipino students completing entrepreneurship courses demonstrated increased understanding of business concepts, innovation, and opportunity identification, though outcomes varied depending on teaching methods and module design.

Entrepreneurship education has also been extended to non-business programs, equipping students with knowledge applicable across professional contexts. Studies indicate that non-business students generally achieve moderate improvements in entrepreneurial knowledge after completing such courses. Martin, McNally, and Kay (2013) found that entrepreneurship education enhances understanding of opportunity recognition, innovation, and business planning regardless of discipline. Similarly, Reyes et al. (2018) reported that non-business students completing introductory courses improved their awareness of entrepreneurial processes, though they struggled with applying concepts related to risk assessment and venture execution.

International research supports these findings. Oosterbeek, van Praag, and Ijsselstein (2010) noted that non-business students often acquire foundational knowledge but may not reach advanced competency levels without experiential learning. Nabi et al. (2020) further emphasized that entrepreneurship education is most effective when courses integrate experiential activities, as traditional lectures often lead to surface-level knowledge acquisition. Rosita (2023) similarly found that non-business majors demonstrated intermediate knowledge, excelling in creativity and goal setting but showing weaker understanding in financial literacy and risk management.

Relationship Between Personal Entrepreneurial Competencies and Entrepreneurial Knowledge

The relationship between personal entrepreneurial competencies and entrepreneurial knowledge has been widely examined in entrepreneurship research. Bird (1995) proposed that entrepreneurial behavior is influenced by a combination of personal competencies and acquired knowledge. Students with stronger PECs are more likely to engage actively in learning and apply entrepreneurial concepts effectively. Karimi et al. (2016) found that students with higher entrepreneurial competencies achieved better learning outcomes in entrepreneurship courses. This indicates that PECs serve as a foundation that enhances students' ability to acquire and utilize entrepreneurial knowledge. Rauch and Hulsink (2015) further explained that competencies and knowledge reinforce each other, leading to improved entrepreneurial preparedness. Among non-business students, this relationship becomes more critical. Oosterbeek et al. (2010) noted that entrepreneurship education outcomes are influenced by students' pre-existing competencies, attitudes, and motivation. Students with higher levels of self-

confidence, initiative, and persistence tend to benefit more from entrepreneurship instruction compared to those with lower competency levels.

A growing body of research supports the interdependence of PECs and entrepreneurial knowledge. Sánchez (as cited in Alakaleek et al., 2023) described competencies as learnable outcomes developed through education, while Fayolle and Gailly (2015) emphasized that entrepreneurship courses strengthen both knowledge and competencies. Alakaleek et al. (2023) found that educational exposure fosters understanding while simultaneously enhancing competencies such as creativity, risk-taking, and opportunity recognition.

Empirical studies with non-business students also highlight this synergy. Reyes et al. (2018) reported significant correlations among eight of ten PEC traits following completion of an introductory entrepreneurship course, suggesting that competency development coincides with increased knowledge. Similarly, Al Mamun et al. (2019) noted that higher entrepreneurial knowledge is linked with improved opportunity recognition and strategic decision-making, reflecting a reciprocal relationship where knowledge supports competency and competencies enable deeper understanding.

However, not all findings confirm a strong linkage. Malebana and Vhukeja (2023) found that while competencies positively related to entrepreneurial intention, entrepreneurship education did not significantly influence competency levels, indicating that external factors such as gender and prior experiences may mediate the relationship. Likewise, Alakaleek et al. (2023) cautioned that while knowledge may increase through instruction, competencies such as risk-taking or opportunity-seeking do not always show parallel gains, especially when courses rely heavily on lectures rather than experiential learning. These findings imply that the relationship between PECs and entrepreneurial knowledge is complex and contingent on pedagogical approaches, learning contexts, and personal learner characteristics.

Research Hypothesis

Null Hypothesis (H_0):

There is no significant relationship between the students' personal entrepreneurial competencies (PEC) and their entrepreneurial knowledge gained from the Entrepreneurial Mind course.

Alternative Hypothesis (H_1):

There is a significant relationship between the students' personal entrepreneurial competencies (PEC) and their entrepreneurial knowledge gained from the Entrepreneurial Mind course.

METHODS

Study Design

The study utilized a descriptive-correlational research design. This design is most appropriate because it allows the researcher to describe the current level of personal entrepreneurial competencies (PEC) among non-business college students enrolled in the Entrepreneurial Mind course, while also examining the relationship between these competencies and the students' entrepreneurial knowledge. The descriptive component will focus on identifying and presenting the levels of PEC and entrepreneurial knowledge, whereas the correlational component will determine whether a significant relationship exists between the two variables. By combining these approaches, the research design ensures that the study not only measures and summarizes the competencies and knowledge of the students but also provides a statistical basis for understanding how these factors are related.

The Respondents

The respondents of the study were non-business college students enrolled in the Entrepreneurial Mind course during the First Semester of School Year 2025–2026 at the University of Southern Mindanao (USM) Main Campus. A total of 798 students participated in the study. They were selected because the course was specifically

designed to introduce entrepreneurial concepts to students outside the field of business, making them an ideal group for assessing personal entrepreneurial competencies (PEC) and entrepreneurial knowledge.

Sampling Procedure

The participants represented a wide range of colleges and programs that were not business-related, composed of Associate Agriculture (76), AB Philosophy (43), Elementary Education (41), Doctor of Veterinary Medicine (49), Development Communication (71), Fisheries (75), Public Administration (65), Agriculture (45), Veterinary Technology (48), English Language (53), AB English (61), Nursing (72), Midwifery (34), and Early Childhood Education (65). This diversity provided the study with a broader perspective on how entrepreneurial competencies and knowledge were developed among students who did not have formal business training.

The study utilized convenience sampling in selecting the respondents. This method was chosen because the participants were readily available and accessible during the conduct of the research. Specifically, the respondents were non-business college students enrolled in the Entrepreneurial Mind course at the University of Southern Mindanao. Since these students were already taking the course during the semester of data collection, they were considered the most practical group to participate in the study.

Convenience sampling allowed the researcher to gather data efficiently without the need for complex sampling techniques. Although this method did not guarantee equal representation across all programs and year levels, it provided a sufficient number of respondents to meet the objectives of the study. The sample size was determined based on the actual number of students who voluntarily agreed to participate, ensuring that ethical considerations such as informed consent and voluntary participation were observed. This approach was appropriate for the study because it enabled the researcher to collect data from the target population within the available time and resources, while still providing meaningful insights into the personal entrepreneurial competencies and entrepreneurial knowledge of non-business students.

Research Instrument

The study utilized two main research instruments to gather the necessary data. The first instrument was a Personal Entrepreneurial Competencies (PEC) Questionnaire, which was adapted from established PEC assessment tools developed by McClelland and later refined by the Philippine Commission on Higher Education (CHED) for entrepreneurship education. The questionnaire measured ten core entrepreneurial competencies, namely: opportunity-seeking, risk-taking, persistence, commitment to work contract, demand for efficiency and quality, goal setting, information seeking, systematic planning and monitoring, persuasion and networking, and self-confidence. Each competency was assessed using a series of statements rated on a five-point Likert scale ranging from Strongly Disagree (1) to Strongly Agree (5). This instrument was designed to determine the level of PEC among non-business students enrolled in the Entrepreneurial Mind course.

The second instrument was a Researcher-Made Entrepreneurial Knowledge Test, which was constructed based on the official course syllabus and learning outcomes of the Entrepreneurial Mind subject. The test consisted of key topics such as entrepreneurial concepts, opportunity recognition, innovation, business planning, and ethical practices in entrepreneurship. The test was validated by subject matter experts to ensure content validity and was pilot-tested with a small group of students to establish reliability. This instrument was used to assess the level of entrepreneurial knowledge of the respondents after completing the course. Together, these instruments provided the data needed to address the study's objectives. The PEC questionnaire measured the students' competencies, while the knowledge test evaluated their understanding of entrepreneurship. The results from both instruments were then statistically analyzed to determine whether a significant relationship existed between the students' PEC and their entrepreneurial knowledge.

Data Gathering Procedures

The data for the study were collected through the administration of online questionnaires. After securing approval from the University of Southern Mindanao and the concerned course instructors, the researchers prepared two instruments: the Personal Entrepreneurial Competencies (PEC) questionnaire and the researcher-made

entrepreneurial knowledge test. Both instruments were encoded into a Google Form to facilitate easy distribution and collection of responses.

The Google Form link was sent directly to the students enrolled in the Entrepreneurial Mind course through their official university email addresses and class group chats. The respondents were given clear instructions on how to access and complete the form, and they were informed of the purpose of the study, the voluntary nature of their participation, and the assurance of confidentiality. Students answered the questionnaires online at their own convenience within the given time frame. The researchers monitored the responses through the Google Form platform until the required number of participants was reached. Once the data collection period ended, the responses were downloaded and tabulated for statistical analysis.

This online method of data gathering was chosen because it was practical, efficient, and accessible to all respondents, especially given the availability of internet resources and the widespread use of digital platforms among college students.

Data Analysis

The data collected from the respondents were analyzed using both descriptive and inferential statistics. To address the first objective, which was to determine the level of Personal Entrepreneurial Competencies (PEC) of the students, the researchers computed the mean of the responses from the PEC questionnaire. The mean scores were interpreted using a descriptive scale to categorize the level of competencies. For the reliability of the PEC questionnaire, the researchers employed Cronbach's alpha coefficient. The result of the reliability test was 0.96 which signifies excellent, indicating that the instrument had a high level of internal consistency and was appropriate for measuring the intended competencies.

To address the second objective, which was to assess the level of students' entrepreneurial knowledge after completing the Entrepreneurial Mind course, the responses from the researcher-made entrepreneurial knowledge test were tabulated. The data were analyzed using frequency counts and percentage distributions to present the overall level of entrepreneurial knowledge among the respondents. The highest corrected score is 25 per PECs item. The closer you are to 25 means you are strong in that particular PECs item. The average and median score is 12.5. A score below 12.5 means a challenge or opportunity for improvement in that particular PECs item. A below the average score calls for change of behavioral pattern.

LEVEL OF KNOWLEDGE	VALUE	SCALE	INTERPRETATION
Very High	5	4.21-5.00	Indicates a very strong level of entrepreneurial knowledge and confidence. Respondents demonstrate a high degree of mastery of entrepreneurial concepts and the ability to apply them effectively after completing the course.
High	4	3.41-4.20	Reflects a solid and functional understanding of entrepreneurship. Respondents are confident in their knowledge and can apply key concepts, although there is still room for further enhancement.
Not Sure	3	2.61-3.40	Suggests uncertainty in self-assessment of entrepreneurial knowledge. This may be due to limited practical exposure or lack of confidence in applying theoretical concepts to real-life situations.
Low	2	1.81-2.60	Indicates limited perceived knowledge of entrepreneurship after course completion. Respondents in this category may require additional support, reinforcement, or alternative learning strategies.

Very Low	1	1.00-1.80	Reflects minimal perceived knowledge gain. This level highlights the need for instructional review and targeted interventions to help learners meet the intended course outcomes.

Finally, to address the third objective, which was to determine the significant relationship between the students' PEC and their entrepreneurial knowledge, the researchers employed Pearson's Product-Moment Correlation Coefficient (r). This statistical test was used to measure the strength and direction of the relationship between the two variables. A significance level of 0.05 was set as the basis for determining whether the correlation was statistically significant.

RESULTS AND DISCUSSIONS

Level of Personal Entrepreneurial Competencies (PEC) of the Non-Business Students

The results in Table 1 indicate that the non-business students possess an overall moderate-to-high level of Personal Entrepreneurial Competencies (PECs), as reflected in the grand mean of 13.83. This suggests that although the respondents are not enrolled in business programs, they already demonstrate foundational entrepreneurial qualities. This finding supports the assertion that entrepreneurship education can cultivate entrepreneurial competencies across disciplines. Herrera, Amora, and Torres (2018) emphasized that entrepreneurship education enhances creativity, opportunity awareness, and adaptive skills even among non-business students, highlighting the importance of integrating entrepreneurial training beyond business-focused programs.

The relatively higher scores in Opportunity Seeking and Persistence under the Achievement Cluster indicate that the respondents are proactive in recognizing opportunities and willing to exert sustained effort despite challenges. These competencies are widely recognized as core elements of entrepreneurial behavior. Nabi et al. (2022) noted that entrepreneurship education significantly strengthens opportunity recognition and perseverance by exposing students to problem-based and innovation-driven learning environments. However, the comparatively lower means in Commitment to Work Contract and Demand for Quality and Efficiency suggest the need to reinforce discipline, accountability, and quality-oriented behaviors, which often develop more effectively through experiential and performance-based learning activities.

The Planning Cluster recorded the highest mean, highlighting students' inclination toward Information Seeking and Goal Setting, which are essential for informed decision-making and strategic direction. According to Fayolle and Liñán (2021), entrepreneurial learning is strengthened when students actively seek information and set purposeful goals, as these behaviors support opportunity evaluation and venture planning. Nevertheless, the slightly lower result in Systematic Planning and Monitoring implies that students may require further training in follow-through, progress tracking, and adaptive planning. Finally, the Power Cluster yielded the lowest mean, with Self-Confidence registering the lowest score among all PECs. Although still above the challenge threshold, this result suggests a potential area for development. Fayolle and Liñán (2021) further explained that self-confidence and influence-related competencies are critical in entrepreneurial action, as they shape leadership, decision-making, and risk engagement. This finding indicates the importance of incorporating confidence-building, presentation, and collaborative entrepreneurial activities into the Entrepreneurial Mind course to strengthen students' leadership and interpersonal entrepreneurial capacities.

Table 1. Level of Personal Entrepreneurial Competencies (PEC) of the non-business students.

PERSONAL ENTREPRENEURIAL COMPETENCY	MEAN
Achievements Cluster	**13.85**
Opportunity Seeking	14.37
Persistence	14.09
Commitment to Work Contract	13.43
Demand for Quality & Efficiency	13.64
Risk Taking	13.74

Planning Cluster	**14.03**
Goal Setting	14.26
Information Seeking	14.35
Systematic Planning & Monitoring	13.48
Power Cluster	**13.47**
Persuasion and Networking	13.96
Self - Confidence	12.97
GRAND MEAN	**13.83**

Level of Students' Entrepreneurial Knowledge after Completing the Entrepreneurial Mind Course

Table 2 presents the level of entrepreneurial knowledge of non-business students after completing The Entrepreneurial Mind course. The results indicate that respondents demonstrated a predominantly high level of entrepreneurial knowledge, with 65.79% rating their knowledge as High and 18.80% as Very High. Collectively, 84.59% of the respondents fell within the high to very high categories, highlighting the effectiveness of the course in fostering students' understanding of core entrepreneurial concepts. This finding supports the view that entrepreneurship education can significantly improve entrepreneurial literacy even among students outside business programs. Fayolle and Liñán (2021) emphasized that well-designed entrepreneurship courses enhance students' conceptual understanding, entrepreneurial awareness, and readiness to apply entrepreneurial principles across various fields.

The absence of respondents in the Low and Very Low categories further suggests that the course successfully achieved its fundamental learning outcomes. This result aligns with Nabi et al. (2022), who reported that entrepreneurship education in higher education institutions generally leads to improved entrepreneurial knowledge, mindset, and cognitive engagement, particularly when courses are structured around problem-solving and innovation-based learning approaches. The high overall mean score of 4.03 reinforces the conclusion that The Entrepreneurial Mind course effectively develops entrepreneurial knowledge among non-business students.

However, the presence of a Not Sure group (15.41%) indicates that some students may still lack confidence in applying theoretical knowledge to real-world contexts. This finding is consistent with the observation of Herrera et al. (2018), who noted that while entrepreneurship education improves knowledge acquisition, students outside business programs often require more experiential and contextualized activities to strengthen application skills and self-confidence. Thus, although the course is effective in delivering entrepreneurial concepts, integrating more hands-on, project-based, and community-linked activities could further enhance students' ability to translate knowledge into entrepreneurial practice.

Table 2. Level of Overall knowledge of entrepreneurship after completing The Entrepreneurial Minds course.

KNOWLEDGE LEVEL	**F**	**%**
Very High	150	18.80%
High	525	65.79%
Not Sure	123	15.41%
Low	0	0.00%
Very Low	0	0.00%
TOTAL	**798**	**100.00%**
Mean	4.03 (High)	

Significant Relationship Between the Students' PEC and their Entrepreneurial Knowledge from the Entrepreneurial Mind Course

Table 3 reveals that the overall PEC score is positively and significantly related to entrepreneurial knowledge ($R = 0.12$; $p = 0.0007$)**.** This indicates that students who exhibit stronger entrepreneurial competencies tend to have higher levels of entrepreneurial knowledge. This finding supports the premise of entrepreneurship education that

knowledge acquisition is enhanced when learners possess or develop entrepreneurial traits such as initiative, planning ability, persistence, and confidence. Nabi et al. (2022) emphasized that entrepreneurship education becomes more effective when cognitive learning is integrated with competency development, as these competencies enable students to better internalize, interpret, and apply entrepreneurial concepts. The overall significance of PECs confirms that personal competencies play a crucial role in supporting learning outcomes in entrepreneurship courses, even among non-business students.

Among the ten PECs examined, opportunity seeking showed a significant positive relationship with entrepreneurial knowledge ($R = 0.14$; $p = 0.0001$). This suggests that students who are more inclined to identify opportunities, unmet needs, and new ideas tend to acquire higher entrepreneurial knowledge. Opportunity recognition is widely regarded as a core element of entrepreneurship. Ratten and Tajeddini (2021) explained that opportunity-seeking behavior enhances entrepreneurial cognition by encouraging learners to connect theory with real-world possibilities. In the context of the *Entrepreneurial Mind* course, students who are more opportunity-oriented may be more engaged in discussions, case analyses, and ideation activities, leading to better knowledge acquisition.

Persistence was also found to be significantly related to entrepreneurial knowledge ($R = 0.09$; $p = 0.0110$). Persistence reflects a student's willingness to exert continuous effort despite difficulties. This relationship implies that students who persevere in tasks, projects, and academic challenges are more likely to understand and retain entrepreneurial concepts. Karimi et al. (2021) noted that persistence strengthens entrepreneurial learning by promoting deeper engagement, problem-solving, and reflection, which are critical in mastering entrepreneurship-related content.

Similarly, commitment to work contract exhibited a significant relationship with entrepreneurial knowledge ($R = 0.08$; $p = 0.0238$). This competency pertains to responsibility, reliability, and fulfillment of obligations. Its significance suggests that students who demonstrate accountability in completing academic and entrepreneurial tasks are more likely to benefit cognitively from the course. Zhao et al. (2023) emphasized that commitment enhances learning transfer, allowing students to better connect theoretical knowledge with academic and simulated entrepreneurial activities.

Risk-taking also showed a significant positive relationship with entrepreneurial knowledge ($R = 0.11$; $p = 0.0019$). Entrepreneurship education often involves decision-making under uncertainty, simulations, and project-based learning. Morris, Kuratko, and Schindehutte (2020) argued that calculated risk-taking facilitates experiential learning by encouraging students to test ideas, explore alternatives, and reflect on outcomes. Thus, students who are more willing to take risks may be more open to engaging in entrepreneurial tasks, thereby strengthening their understanding of entrepreneurial concepts.

Moreover, systematic planning and monitoring emerged as one of the strongest significant predictors of entrepreneurial knowledge ($R = 0.14$; $p = 0.0001$). This indicates that students who organize tasks, set structured plans, and evaluate progress tend to demonstrate higher entrepreneurial knowledge. Nabi et al. (2022) explained that structured planning supports entrepreneurial learning by helping students translate abstract ideas into actionable frameworks. This competency likely assists non-business students in comprehending business models, feasibility concepts, and venture processes discussed in the course.

Self-confidence was also significantly related to entrepreneurial knowledge ($R = 0.07$; $p = 0.0481$). Although the correlation is relatively weak, its significance highlights the importance of self-belief in the learning process. Fayolle and Liñán (2021) emphasized that entrepreneurial self-confidence and self-efficacy encourage participation, experimentation, and critical thinking, all of which contribute to deeper learning. Confident students may be more willing to share ideas, ask questions, and engage in entrepreneurial activities, thereby enhancing their knowledge acquisition.

On the other hand, four PECs were found to have no significant relationship with entrepreneurial knowledge: demand for quality and efficiency, goal setting, information seeking, and persuasion and networking**.** The non-significance of demand for quality and efficiency ($R = -0.05$; $p = 0.1582$) may indicate that this competency is more closely associated with performance outcomes and operational excellence rather than conceptual

knowledge. Hisrich, Peters, and Shepherd (2021) explained that quality orientation often manifests more strongly in business implementation stages rather than in early knowledge acquisition, which may account for its limited influence on students' entrepreneurial knowledge.

Goal setting also did not significantly relate to entrepreneurial knowledge (R = 0.01; p = 0.7779). This could suggest that while students may set academic or personal goals, these goals are not necessarily aligned with entrepreneurial learning outcomes. If goals are not clearly connected to entrepreneurial skill-building, they may not directly influence the depth of knowledge gained from the course. The absence of a significant relationship for information seeking (R = 0.06; p = 0.0903) may imply that students have not yet fully developed the ability to strategically search, evaluate, and utilize entrepreneurial information. Politis (2020) noted that information-seeking competence in entrepreneurship develops gradually through experience and practice, and may not immediately translate into higher conceptual knowledge, particularly among non-business students.

Likewise, persuasion and networking showed no significant relationship with entrepreneurial knowledge (R = 0.01; p = 0.7779). Although essential in real-world entrepreneurship, networking skills are typically cultivated through direct interaction, exposure, and external engagement rather than classroom-based theoretical instruction. Seikkula-Leino (2022) emphasized that networking competence is more experiential in nature and may not strongly influence academic knowledge outcomes unless supported by field-based or industry-linked activities.

Overall, the findings demonstrate that PECs related to initiative, perseverance, structured thinking, responsible action, risk engagement, and self-belief significantly support entrepreneurial knowledge development among non-business students. The significant overall relationship confirms that entrepreneurial knowledge is not developed in isolation but is strengthened when students possess competencies that promote engagement, application, and reflective learning. These results imply that the Entrepreneurial Mind module may be further enhanced by integrating learning activities that intentionally cultivate the non-significant PECs, such as networking simulations, research-based entrepreneurial tasks, quality-driven projects, and goal-alignment workshops. Strengthening these areas could result in a more holistic entrepreneurial competency framework, better preparing non-business students for entrepreneurial and innovation-driven roles.

Table 3. Significant relationship between the students' PEC and their entrepreneurial knowledge from the Entrepreneurial Mind course.

PECs	**R value**	**P value**	**REMARKS**
Opportunity Seeking	0.14	0.0001	SIGNIFICANT
Persistence	0.09	0.0110	SIGNIFICANT
Commitment to Work Contract	0.08	0.0238	SIGNIFICANT
Demand for Quality & Efficiency	-0.05	0.1582	NOT SIGNIFICANT
Risk Taking	0.11	0.0019	SIGNIFICANT
Goal Setting	0.01	0.7779	NOT SIGNIFICANT
Information Seeking	0.06	0.0903	NOT SIGNIFICANT
Systematic Planning & Monitoring	0.14	0.0001	SIGNIFICANT
Persuasion and Networking	0.01	0.7779	NOT SIGNIFICANT
Self - Confidence	0.07	0.0481	SIGNIFICANT
OVERALL PECs SCORE	**0.12**	**0.0007**	**SIGNIFICANT**

Legend: $p > 0.05$ not significant $p \leq 0.05$ significant

CONCLUSION

This study examined the personal entrepreneurial competencies (PECs) and entrepreneurial knowledge of non-business college students at the University of Southern Mindanao after completing the Entrepreneurial Mind course. The findings revealed that the respondents generally possessed a moderate-to-high level of PECs and a high level of entrepreneurial knowledge, indicating that the course is effective in developing foundational entrepreneurial understanding even among students without formal business training. These results affirm the

role of entrepreneurship education as a cross-disciplinary tool that equips non-business students with essential competencies such as opportunity awareness, planning ability, persistence, and confidence, qualities that are increasingly vital in diverse professional fields.

More importantly, the study established a significant positive relationship between overall PECs and entrepreneurial knowledge, leading to the rejection of the null hypothesis. Specific competencies such as opportunity seeking, persistence, commitment to work contract, risk-taking, systematic planning and monitoring, and self-confidence were found to significantly support knowledge acquisition, highlighting that entrepreneurial learning is strengthened when cognitive instruction is complemented by competency development. By focusing on a large and diverse non-business student population, this research contributes empirical evidence to the limited body of local literature on non-business entrepreneurship education. It underscores the importance of enhancing the *Entrepreneurial Mind* module to further contextualize learning experiences, particularly in strengthening competencies that were not significantly related, thereby supporting USM's mission to produce innovative, adaptable, and globally competitive graduates.

RECOMMENDATIONS

Based on the findings of the study, which revealed a generally moderate-to-high level of Personal Entrepreneurial Competencies (PECs), a high level of entrepreneurial knowledge, and a significant relationship between overall PECs and entrepreneurial knowledge among non-business students, the following recommendations are proposed:

The Entrepreneurial Mind module should be reviewed and enhanced to further strengthen the integration of entrepreneurial competencies with content knowledge. While the course is effective in developing opportunity seeking, persistence, risk-taking, planning, commitment, and self-confidence, instructional strategies should be intentionally aligned with competency-based outcomes to deepen learning and practical application.

Given that demand for quality and efficiency, goal setting, information seeking, and persuasion and networking were not significantly related to entrepreneurial knowledge, the course should incorporate more experiential activities such as product-development tasks, goal-mapping workshops, case-based research projects, pitching sessions, and networking simulations. These approaches can help contextualize entrepreneurial concepts within non-business disciplines and strengthen the development of these competencies.

The University of Southern Mindanao may establish partnerships with local entrepreneurs, cooperatives, industries, and community organizations to provide students with exposure to real-world entrepreneurial environments. Activities such as mentorship programs, community-based enterprise projects, and innovation challenges can enhance persuasion, networking, information-seeking, and quality-orientation competencies that are better developed through authentic engagement.

Faculty members teaching the *Entrepreneurial Mind* course should be provided with continuous professional development focused on experiential entrepreneurship education, interdisciplinary integration, and competency-based assessment. This will support instructors in designing learning activities that are more responsive to the needs and contexts of non-business students.

USM may institutionalize regular assessment of students' PECs and entrepreneurial knowledge before and after entrepreneurship courses. This will enable systematic monitoring of student development, provide data for curriculum improvement, and ensure alignment with CHED's mandate to strengthen entrepreneurship education across disciplines.

Future studies may employ longitudinal designs to track changes in PECs and entrepreneurial knowledge over time, or expand the scope to other campuses and institutions for comparative analysis. Researchers may also explore additional variables such as entrepreneurial intention, innovation skills, employability, and venture readiness to further enrich the understanding of entrepreneurship education among non-business students.

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