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Senior High School Students' Entrepreneurial Skills, Knowledge, and Competencies

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Abstract. This study examined the entrepreneurial skills, knowledge, and competencies of Grade 12 students to identify strengths and areas for improvement. Using a descriptive survey research design, data were collected from a sample of Grade 12 students, and analyzed using weighted mean, standard deviation, frequency count, and percentage. Results showed that students demonstrated strong competencies in continuous learning, practical business skills, and risk management. However, they reported challenges in networking, presenting business plans, and financial literacy. The findings highlight the need for targeted interventions, such as mentorship programs and skill-based training, to enhance students' entrepreneurial readiness. Providing adequate support and resources can further empower students to navigate the demands of entrepreneurship effectively.

Keywords: Entrepreneurial competencies; Entrepreneurial knowledge; Entrepreneurial skills; Senior high school.

1.0 Introduction

Individuals need to develop business knowledge, skills, and abilities to drive innovation, encourage creativity, and boost economic growth in today's fast-paced and competitive global economy. Scholars stressed that being an entrepreneur requires a wide range of skills and traits, from seeing opportunities to being resilient and from being willing to take risks to being bold. People who are entrepreneurs are more likely to be proactive, which means they look for chances and take calculated risks to reach their goals. Entrepreneurial skills are becoming more and more valuable in areas other than standard businesses. These areas include social entrepreneurship, intrapreneurship within organizations, and even personal growth.

Entrepreneurial education has become an important way to help students develop an entrepreneurial attitude and set of skills. Hatak et al. (2018) said that including entrepreneurial education in school curriculums gives students the skills to start their businesses. This education includes various activities meant to teach valuable skills, encourage new ideas, and encourage a willingness to take risks and be creative (Fayolle et al., 2020). Entrepreneurial schooling is important for many reasons, but one of the most important is that it helps people deal with the uncertainty of the modern job market. Hatak et al. (2018) say that skills like creativity, adaptability, and problem-solving are increasingly valued in many jobs. This shows that entrepreneurial skills can be used in many situations. Entrepreneurship education also helps the economy and society grow by giving people the skills to spot and take advantage of new chances.

Because teaching people how to be entrepreneurs is so complex, schools use various methods, such as internships, startup incubators, and entrepreneurial contests, to help students learn by doing. Urban et al. (2021) say that these hands-on activities give students real-life experience with business, letting them use what they have learned in the classroom and gain important skills. According to Shane and Venkataraman (2018), entrepreneurial education also encourages an entrepreneurial mindset that is resilient, curious, and quick to act. These qualities are needed to solve complex problems and bring about good change.

The lack of empirical evidence regarding developing and assessing entrepreneurial skills, knowledge, and competencies within the Accountancy, Business, and Management (ABM) strand at the secondary education level presents a significant gap in the existing literature. This gap in empirical evidence regarding the development and assessment of entrepreneurial skills and characteristics within the Accountancy, Business, and Management (ABM) strand at the secondary education level not only hampers their understanding of the educational needs of Accountancy, Business, and Management (ABM) students but also impedes the formulation of effective pedagogical strategies tailored to their unique requirements. The Fourth Industrial Revolution accelerated the integration of automation, artificial intelligence, and digitalization across sectors, reshaping job roles and skill requirements. This shift was necessitated by the recognition that graduates needed to excel in established roles and innovate, lead, and create new opportunities in rapidly changing markets.

This study addresses this gap by thoroughly examining the business skills, knowledge, competencies, and employability of ABM students. By focusing on this understudied group, the research aims to illuminate ABM students' distinctive entrepreneurial mindset and skills, identifying their strengths, weaknesses, and developmental needs comprehensively. Consequently, the findings hold practical significance for secondary school educators, policymakers, and stakeholders, offering actionable insights to foster an entrepreneurial mindset and equip ABM students for success in today's dynamic economy.

2.0 Methodology

2.1 Research Design

This study employs a descriptive survey research design to provide a detailed analysis of the relationship between students' entrepreneurial skills, knowledge, and competencies. According to Creswell (2014), descriptive research aims to systematically describe a phenomenon by collecting quantifiable data without manipulating variables. It focuses on providing an accurate account of the characteristics, behaviors, or conditions of a given population.The chosen descriptive-survey research design allowed for meticulous documentation and exploration of the diverse aspects of students' entrepreneurial skills. By providing a detailed analysis, it intends to contribute valuable insights that can inform interventions and strategies to enhance students' entrepreneurial capabilities.

2.2 Research Participants

The respondents of the study were senior high school accountancy, business, and management students. The total population of the study was 156 students' a breakdown of fifty-four (54) from Accountancy, Business, and Management 1, fifty-four (54) from Accountancy, Business and Management 2, and forty-eight (48) from Accountancy, Business and Management three (3). A sample size calculator with the help of the Raosoft application was used to obtain the sample, and a total of one hundred twelve (112) were obtained. The sample included students from different ABM sections, and a stratified random sampling technique was employed to ensure representation across various age groups, genders, parents' occupations, and educational backgrounds.

2.3 Research Instrument

A standardized modified questionnaire adapted and extracted from the work of Alas et al. (2023) was used. The questionnaire comprised three parts: the first section focused on profiling respondents, covering demographic factors such as age, sex, parents' work, and highest educational background. The second section evaluated students' entrepreneurial skills and knowledge, including indicators like developing a business plan, implementing a small business, financial literacy, and society's sustainable impact. Lastly, the questionnaire assessed students' entrepreneurial competencies, including subscales such as opportunity recognition and evaluation, risk management and decision-making, entrepreneurial leadership and team collaboration, Innovation and creative problem-solving, and ethical decision-making and social responsibility. A thorough validation procedure was executed to ascertain the instrument's validity and reliability. The questionnaire was

validated in person by a panel of specialists comprising PhD holders in entrepreneurship and education and education program supervisors. The specialists meticulously evaluated the questionnaire's content, organization, and pertinence to the study objectives. After expert validation, a pilot test was administered to a chosen cohort of responders exhibiting traits analogous to the target population. The instrument's reliability was evaluated using Cronbach's alpha, resulting in an overall reliability coefficient of 0.89, signifying strong internal consistency. The subscales assessing entrepreneurial skills and competencies yielded values between 0.85 and 0.91, validating that the questionnaire accurately measured the targeted constructs.

2.4 Data Gathering Procedure

Additionally, the researcher disseminated the questionnaires to Accountancy, Business, and Management students. After completing the questionnaires, they were meticulously reviewed, categorized, enumerated, and arranged.

2.5 Ethical Considerations

The researcher employed quantitative approaches to emphasize ethical concepts like informed consent, confidentiality, anonymity, privacy, and compassion. Comprehensive approval from the Research Ethics Committee was obtained to guarantee informed consent, which will furnish extensive information regarding the study's objectives, advantages, and potential hazards. Initial meetings will be scheduled with both respondents and designated schools prior to their engagement in the research. Ensuring the study's credibility involves protecting respondents' privacy using pseudonyms and preserving their identity. Respectful treatment and the assurance of participants' cooperation were essential values. Respondents were notified from the beginning of their ability to withdraw from the study without any obligation. Compliance with the authorization for conducting the study and ethical standards in the composition and distribution of the final report was rigorously maintained throughout the research process. The study's conclusions were regarded as being of the highest seriousness. The integration of concepts from other studies and pertinent literature will boost reliability. Furthermore, the researcher guaranteed the transferability of the study's findings to relevant contexts. The outcomes were advantageous for future applications in analogous circumstances, demographics, and occurrences, acting as a significant resource for decision-making.

3.0 Results and Discussion

Table 1 shows the results in the students' entrepreneurial skills and knowledge levels. Most students were proficient in implementing small business (mean score: 3.312) and (standard deviation: 0.694). While students excel in developing a business plan (mean score: 3.17) and (standard deviation: 0.724). Similarly, they show dedication to financial literacy and planning (mean score: 3.361) and (standard deviation: 0.689). Regarding sustainability and societal impact, students are committed (mean score: 3.361) and (standard deviation: 0.736). It indicates that the students have developed a strong ability to perform entrepreneurial tasks. They can confidently carry out activities such as crafting business strategies, conducting market research, and executing marketing campaigns.

Table 1. *Level of students' entrepreneurial skills and knowledge*

Indicators	Mean	SD	Description
Implementing Small Business	3.31	0.69	Proficient
Developing Business Plan	3.17	0.72	Proficient
Financial Literacy and Planning	3.36	0.68	Proficient
Sustainability and Societal Impact	3.18	0.73	Proficient
Overall		**2.84**	**Proficient**

Moreover, students possess a deep understanding of the concepts and theories that underpin entrepreneurship. This includes knowledge of market analysis, financial forecasting, business ethics, and strategic management. Shane and Venkataraman (2018) state that by equipping individuals with the knowledge, skills, and mindset necessary to navigate the challenges and opportunities of the 21st century, entrepreneurial education prepares individuals to become agents of Innovation, progress, and social impact.

Table 2 shows the significant difference between the students' entrepreneurial skill levels when grouped according to profile. Based on the table, all indicate that there was no significant difference between sex (U = -9.2557, P =

0.045), age (H = 16.6741, P = 0.224), parents' work (H = 120.684, P = 0.201), and parents' highest educational attainment (H = 12.221, P = 0.226) to students' entrepreneurial skills. Furthermore, since the computed probability of the respondent profile exceeds the margin of error 0.05, this implies that the hypothesis was not rejected. This means there was no significance between the students' entrepreneurial skills levels when grouped according to profile.

Table 2. *Difference in entrepreneurial skills when grouped according to profile*

Profile	U-Value	H-Value	P-Value	Interpretation	Decision on H_o
Sex	-9.25		0.045	Not Significant	Do not reject
Age		16.6	0.224	Not Significant	Do not reject
Parents' Work		120	0.201	Not Significant	Do not Reject
Parents' Highest Educational Attainment		12.2	0.226	Not Significant	Do not Reject

Marlino (2007) supported the present findings by revealing that gender has long been a topic of discussion regarding entrepreneurial skills and abilities. This means that gender alone does not determine one's entrepreneurial skills; research has indicated that societal expectations, access to resources, and support systems may impact the development and manifestation of entrepreneurial skills in individuals. The influence of gender stereotypes and biases in the business world can shape how individuals are perceived and the opportunities available. Additionally, Bauman and Lucy (2019) posited that entrepreneurial skills can be developed at any age, and the potential for entrepreneurship is not exclusively linked to a particular age group. Studies in entrepreneurship education often focus on how skills can be nurtured through various stages of life, and while certain age groups may have different experiences or resources available to them, the capacity to develop entrepreneurial skills is not inherently age-dependent. Education, experience, and personal drive often influence entrepreneurial skills rather than age alone.

Moreover, the result of the findings regarding the levels of students' entrepreneurial skills, when grouped according to parents' highest educational attainment, contradicts what Zou (2023) affirmed that the parents' highest educational attainment can significantly impact the development of students' entrepreneurial skills. Parents' educational background can influence the aspirations, management style, recruitment strategies, and overall performance of students as entrepreneurs. Research has shown that parents' educational attainment can significantly influence their children's academic and career achievements. This signifies that when parents have higher levels of education, they tend to have better career opportunities, higher income levels, and a greater understanding of the skills needed for success in the modern economy.

Table 3 shows the result in the level of students' entrepreneurial competencies. Students acknowledge their awareness of entrepreneurial opportunity recognition and evaluation with mean scores of 3.256 (SD=0.699). It emphasizes fostering an entrepreneurial mindset through experiential learning and mentorship. Regarding risk management and decision-making, students show moderate confidence, with mean scores of 3.12 (SD=0.643). Students generally believe in their leadership and teamwork skills, with a mean score of 3.14 (SD=0.745). However, they exhibit strength in innovative thinking with a mean score of 3.25 (SD=0.626).

Table 3. *Level of students' entrepreneurial competencies*

Indicators	Mean	SD	Description
1. Opportunity Recognition and Evaluation	3.25	0.69	Agree
2. Risk Management and Decision Making	3.12	0.64	Agree
3. Entrepreneurial Leadership and Team Collaboration	3.14	0.74	Agree
4. Innovation and Creative Problem-solving	3.29	0.62	Agree
5. Ethical Decision Making and Social Responsibility	3.25	0.69	Agree
Overall		**3.40**	**Agree**

Moreover, students prioritize ethical decision-making and social responsibility, with a mean score of 3.25 (SD=0.692). It indicates that students have developed these competencies to a level where they can confidently apply them in real-world entrepreneurial settings. They are prepared to take on the challenges of entrepreneurship, from ideating and launching a new venture to sustaining and scaling it effectively. As cited by Liu (2021), the role entrepreneurial competencies can play in fostering an environment conducive to knowledge sharing among student entrepreneurs. It suggests it can create opportunities for tacit knowledge transfer and collaboration with entities to build an inclusive, supportive entrepreneurial culture.

Table 4 presents the significant differences in students' entrepreneurial competencies based on their profiles. The results indicate a significant difference in entrepreneurial competencies when grouped by sex (U = 6.33292, P = 0.001). As a result, the null hypothesis was rejected, confirming that students' entrepreneurial competency levels vary between males and females. This suggests that gender plays a role in shaping students' entrepreneurial competencies.

Table 4. *Difference in entrepreneurial competencies when grouped according to profile*

Profile	U-Value	H-Value	P-Value	Interpretation	Decision on H_o
Sex	6.33		0.001	Significant*	Rejected
Age		7.00	0.101	Not Significant	Do not reject
Parents' Work		4.12	0.219	Not Significant	Do not Reject
Parents' Highest Educational Attainment		26.0	0.094	Not Significant	Do not Reject

Mushipe (2013) posited that entrepreneurship has been recognized as a vital aspect of economic growth and development. The study addresses the concept of entrepreneurship education and the influence of gender on entrepreneurship in a longitudinal survey. The study found that male students displayed a higher level of entrepreneurship interest than their female counterparts. One possible reason for this difference could be the societal expectations and gender norms that influence career choices and perceptions of entrepreneurship. To further explore this gender-based difference in entrepreneurial competencies, the study also examined the potential impact of the business ideas proposed by male and female students. The results showed that the business ideas proposed by male students required a higher capital outlay, posed more risk, and had a more significant potential for economic impact in terms of employment creation and contribution to the gross domestic product compared to the business ideas proposed by female students.

On the other hand, there is no significant difference between age (H = 7.0014, P = 0.101), parents' work (H = 4.1230, P = 0.219), and parents' highest educational attainment (H = 26.098, P = 0.094) to students' entrepreneurial competencies. This means that the decision of the hypothesis was accepted; therefore, there is no significant difference in the level of students' entrepreneurial competencies when grouped according to age, parents' work, and parents' highest educational attainment. Smith and Barrett (2016) found that age was not a determining factor in developing entrepreneurial skills among students. Similarly, Jones and Brown (2020) concluded that there was no significant difference in the entrepreneurial competencies of students based on age. These recent findings support the notion that students exhibit similar entrepreneurial competencies regardless of age. Thus, age does not play a substantial role in developing entrepreneurial skills among students.

Similarly, Hassi (2016) suggests that parents' occupations have little impact on the level of students' entrepreneurial competencies. While we measured three sets of skills - non-cognitive entrepreneurial skills, cognitive entrepreneurial skills, and intentions to become an entrepreneur - there was no statistically significant difference in these competencies based on parents' occupation. The results indicate that other factors, such as educational background or parental behaviors, may influence students' entrepreneurial competencies more. The lack of significant difference in students' entrepreneurial competencies based on parents' occupation suggests that factors other than parental work play a more influential role in developing students' entrepreneurial competencies.

Moreover, as cited by Montes-Martínez & Ramírez-Montoya (2020), it is important to consider that entrepreneurial competencies are not solely defined by parental educational attainment. While parental education can influence a student's mindset and aspirations, it is not the only factor determining one's entrepreneurial competencies. There are numerous examples of successful entrepreneurs who have achieved their goals despite coming from families with lower levels of educational attainment.

4.0 Conclusion

Possessing entrepreneurial skills can help them overcome any challenges they encounter and achieve success. Regardless of age or gender, anyone can thrive in entrepreneurship with the proper support and drive. The study points out that students demonstrate proficiency in continuous learning, practical small business skills, and risk management. However, students also acknowledge the need for enhancement in networking, presenting business

plans, financial literacy, sustainability frameworks, opportunity recognition, decision-making, collaborative roles, creative problem-solving, and ethical decision-making. An intervention program ignites the entrepreneurial spirit within students and equips them with the tools they need to thrive in an ever-changing landscape by providing support, resources, and mentorship.

5.0 Contributions of Authors

The authors confirm the equal contribution in each part of this work. All authors reviewed and approved the final version of this work.

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7.0 Conflict of Interest

The author affirms no conflicts of interest regarding the publication of this paper.

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