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# Entrepreneurship Education in the Lens of the Senior High School Students

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## Abstract

This study uncovers the perspective on the entrepreneurship education of senior high school students on the university campus. This paper is employed a descriptive research design using a survey questionnaire for the respondents. The survey found that respondents are willing to engage in business between one to 10 years after college. The willingness is due to the encouragement from their parents, independent decision-making, building self-confidence and knowledge, and chasing their dreams. However, there are two significant factors that hinder this, including a need for more business investment and experience. The principal attitudes of an entrepreneur include self-control and creativity. Gaining skills and knowledge and making money are the respondents' expectations of the program. The campus is ready to conduct entrepreneurship activities. The findings provide practical insight to develop the program and add ideal activities.

**Keywords:** Entrepreneurship education, Entrepreneurship, Senior high school

## 1. Introduction

Young people are inherently curious and creative, which they use to explore their surroundings. Giving students in schools the chance to advance their knowledge, acquire new skills, and adopt an entrepreneurial mindset lays the groundwork for their success both now and in the future (CEI, 2020). Further, the university has role to create establishment (Sancho et al, 2021) through giving importance to entrepreneurship subjects in the curricula of the world. This subject is offered and taught in business schools and natural science and technology as an elective course as part of educational programs (Shih & Huang, 2017).

A special issue in understanding the dynamics of entrepreneurship and management is innovation education (Chen et al, 2017). In Singapore, there was a significant transformation to an entrepreneurial community more than a change in corporate viewpoint. A task was created to create a pedagogical environment for the students (Kayne & Altman, 2005).

In Malaysia, there is rising concern over technical students having limited business perspectives and needing more entrepreneurship abilities to launch a startup. Instead of creating jobs, they prefer to find employment and become job seekers (Sh. Ahmad et al, 2004). Hence the Ministry of Education encourages all institutions of higher learning (IHL) to produce job-creator graduates than job seekers. IHL



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should inspire students to create a business before graduation (Abdul Karim, 2016).

Moreover, the Malaysian government has been encouraging the higher education institution (HEI) to create a business environment on the campus or for the students to seek business partnerships outside the institution. Mentorship shall be created on the internal campus to assist this student (Tri-laksono et al, 2022). Given the significant budgetary and policy support for entrepreneurship education around the world, particularly in developing economies like India, more excellent knowledge of the efficacy of entrepreneurship programs becomes important (Aboobaker & R, 2020).

In South Africa, entrepreneurship among young people still needs to be improved (Gwija et al, 2014). In the school's setting, entrepreneurship education can be promoted by entrepreneurship events (Farid & Rahman, 2020), through economic-related activities (Petridou & Glaveli, 2008) and initiatives through online platform (Lubis, 2020) and student creativity. In Africa, entrepreneurship is essential to teaching young people about self-employment. It is good that entrepreneurship shall be taught in the university through economic-viable activities related to self-employment. It prepares the young to engage in value creation and the blue economy.

Due to the present crisis, employment lagged (Camba, 2020), and government policies and structure (Velasco et al., 2017, p. 8), the labor market demands additional skill sets (Barba-Sanchez & Atienza-Sahuquillo, 2017). Through entrepreneurship education, the university can promote entrepreneurial intention and produce graduate entrepreneur (Sondari, 2013).

This research study provides information on the perspective of entrepreneurship education in terms of entrepreneurship programs, motivating and deterring factors from taking entrepreneurship, and attitudes of entrepreneurs. It will contribute ideas on the topics that needed to write and included in the course subject syllabus.

## 2. Literature Review

Entrepreneurship imparts knowledge on launching and expanding a firm (Mentoor & Friedrich, 2007). Velasco (2013) added that entrepreneurship is not just for profit but also for uplifting the community's lives. It is not only referred to as an income-generating company but also as a group that supports community lives that uphold and alleviate social status.

Academic entrepreneurship is a method wherein a person or a group of people, who are connected to

their work through a university or research center, used the result of their research to launch a new businesses or spin offs (Miranda et al, 2017).

Entrepreneurship education is relevant to teach in school. However, it depends on how to teach in the classroom. Teaching entrepreneurship varies from three approaches, including teaching "about," "for," and "through" entrepreneurship. Teaching "about" refers to a content-laden and theoretical approach to providing basic understanding (Mwasalwiba, 2010). Teaching "for" entrepreneurship denotes an occupationally oriented approach to give budding entrepreneurs the necessary knowledge and skills (Lackéus, 2015, p. p10). Teaching "through" means educating by experiential approach wherein students will apply and practice through the actual learning process (Kyrö, 2005).

By viewing entrepreneurship education is a comprehensive process from the standpoint of entrepreneurial stakeholders (Ratten & Jones, 2020). Entrepreneurship education is valued for its capacity to provide practical skills and understand how to support communities and enhance the quality of life (Ratten, 2017).

Entrepreneurship education provides students with the basic concept of entrepreneurship, training, and motivation to engage in economic-related activities (Mani, 2015). The result of his study showed a high interest in investing in their enterprise, as responded by the student. It also revealed that the most critical skills for a successful entrepreneur are decision-making skills, risk-taking capacity, creativity, communication skills, and the ability to prepare a business plan. Factors motivating the respondents to engage are being bosses and chasing their dreams. The students identified that the most deterring factors are lack of experience and funds.

Barriers preventing micro-enterprises from employing youth are limited innovation and creativity, lack of capital, lack of tools and resources, lack of savings, lack of entrepreneurship skills, lack of business development services, inadequate mentorship and support by parents, inadequate strategic locations for business, low self-esteem, and laziness (VSO International, 2018).

Lack of trust from financial institutions in young entrepreneurs (European Network for Rural Development, n.d.). Moreover, according to the research study of Gwija et al. (2014), major inhibiting factors were revealed, including a lack of awareness and inaccessibility of youth entrepreneurship support structures and initiatives in this community.

Communication, time management, negotiation, and teamwork skills are all skills that are taught in

entrepreneurship classes, which improve students' education. It is a mindset that enables people to cultivate quick thinking to see issues and develop valuable solutions. Thus, it is true that it is more than just another subject. These interpersonal and analytical abilities go beyond the workplace. Three reasons students should enroll in an entrepreneurship subject include developing innovative thinking; leading through collaboration; and combining tenacity with confidence (Marlborough, 2020).

Entrepreneurship education in higher education institutions can promote through successful entrepreneurial role models for sustainable development. Theories, including human capital theory, the entrepreneurial self-efficacy and self-determination theory, believe that entrepreneurial education has positive relationship to entrepreneurial intentions of students (Boldureanu et al, 2020). Moreover, according to Patricia and Silangen (2016) students' entrepreneurial intention is shaped by entrepreneurship education. It is higher likelihood that students are influenced by pre-educational entrepreneurial intention and peer.

According to Llisterri et al (2006) study, poor overall performance indicates that they are highly susceptible to business failure, most likely due to a lack of resources such as social capital, entrepreneurial skills, and education. A small percentage of young people become business owners because of necessity or by seizing an opportunity.

Engineering entrepreneurship is an academic field with the quickest growth. According to the research study of Besterfield-Sacre et al (2012) on the factors related to entrepreneurial knowledge in the engineering curriculum. The result shows differences in specific content areas between first- and fourth-year student engineering students—the same with engineering seniors with experience and without experience in the engagement. With the study of Herman (2019) Romanian engineering students' entrepreneurial family background and personality traits has a positively influence but students' participation does not affect the entrepreneurial intention.

Moreover, according to Martinez-Gregorio et al (2021) that there is small effect of influence for entrepreneurial education to entrepreneurship intention and self-efficacy. Result from the study of Küttim et al (2014) through using frequencies and binary logistic regression that lectures and seminars are not necessary offered in the class but the students expected to have more entrepreneurial participation, such as networking and coaching activities.

According to Resurreccion's (2016) study on the determinants of entrepreneurial attitudes and intentions among high school students in Iligan City

showed that their mother's occupation influenced the respondents' entrepreneurial intention to pursue entrepreneurship engagement; their father's highest education attained; curriculum; the importance of determination, persistence, interest, and energy; intelligence and honesty; and managing their own time.

According to the study by Ambad and Damit (2016), there are three determinants of entrepreneurial intention, including personal attitude, perceived behavioral control, and perceived relational support. In Malaysia, students are involved in entrepreneurship, which is counted as their career option. Entrepreneurship subject is compulsory for every student to enroll in, regardless of their field of discipline, as part of the government effort.

In the Philippines, entrepreneurship education strongly emphasizes the growth of business owners and the promotion of new ventures. However, the conventional educational system must emphasize helping students develop a creative and innovative attitude. Additionally, there needs to be more assistance from academia and business to help emerging entrepreneurs expand and maintain their businesses. (Velasco, 2013).

### 3. Methodology/Materials

A descriptive research design is employed as a method in this study. This research used a questionnaire to assess the non-ABM student respondents' perception of entrepreneurship education. It was conducted on May 10–25, 2023. The respondents were the Science, Technology, Engineering, and Mathematics (STEM) students at the Science High School and General Academic Strand (GAS) and Humanities and Social Sciences (HUMSS) of the Integrated Laboratory School, with 159 total respondents. The two schools are located at Tubig Mampallam, Bongao, Tawi-Tawi.

The primary data was collected through the survey questionnaire. Further, a two-page well-structured survey questionnaire was distributed to the two schools. The variables in the questionnaire were adapted from the questionnaire of Mani (2015). The questionnaire comprises the demographic profile and the respondents' perceptions. The second part of the questionnaire includes the desire to engage in business, essential skills, motivating factors, and hindrances to take entrepreneurship, expectations in the program, and attitudes toward being an entrepreneur.

Likert Scaling was used to assess the likelihood and attitude of the respondents toward some of the queries. It has five scales; the highest is strongly agree, while the strongly disagree is the least. Furthermore, the collected data was analyzed by

various statistical tests depending on the data's level of measurement. The statistical tests include frequencies and proportions.

### 4. Results/Findings

#### 4.1. Demographic profile

The respondents of this research study involved students from HUMSS (8.81%), STEM (37.74%), and GAS (53.46), as reflected in Table 1. These students are from the Integrated Laboratory School, with 62.26% of the participants, and 37.74% are from the Science High School. Almost 50% of the respondents are aged 18 and followed by 32.08% aged 19.

Table 1. Demographic profile in terms of strand, school, and age.

STRAND	F	%
HUMSS	14	8.81%
GAS	85	53.46%
STEM	60	37.74%
Total	159	100.00%
SCHOOL	F	%
ILS	99	62.26%
SHS	60	37.74%
Total	159	100%
AGE	F	%
16	1	0.63%
17	20	12.58%
18	79	49.69%
19	51	32.08%
20	7	4.40%
21	1	0.63%
Total	159	100.00%

Table 2. Plan to start with own business.

	F	%
Never	5	3.14%
Immediate after graduate	19	11.95%
1–5 years after college	51	32.08%
5–10 years after college	50	31.45%
After ten years	22	13.84%
No Answer	12	7.55%
Total	159	100.00%

Table 3. Respondents' answered on the three queries.

	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree	
	F	%	F	%	F	%	F	%	F	%
2. The entrepreneurship subject/education is essential to teach in senior high school	99	62.26%	54	33.96%	4	2.52%	0	0.00%	2	1.26%
3. Entrepreneurship education is helpful for students even if they never plan to start their own business.	85	53.46%	53	33.33%	18	11.32%	3	1.89%	0	0.00%
4. Entrepreneurs are born; entrepreneurship cannot be taught in the classroom.	18	11.32%	24	15.09%	46	28.93%	45	28.30%	26	16.35%

The respondents were asked about the desire to engage with their own business when they want to start. Table 2 shows that about 32% of the respondents plan to start their own business within one to five years after college. 31.08% responded to their desire to engage within five to 10 years after college. Some participants want to open a business immediately after graduating, 11.95%.

#### 4.2. Assessment of the Respondents

Table 3 reflects the response of the students to the three queries. The respondents (62.26%) strongly agreed that entrepreneurship subject is essential to teach in senior high school. 33.96% of the respondents agreed that entrepreneurship should be taught in school. Further, 53.46% of the student-respondents strongly agreed to the usefulness of entrepreneurship education even though they did not plan to engage. 33.33% of the respondents agreed that entrepreneurship is helpful for them. Another query regarding entrepreneurs is born and cannot be taught in the classroom. Almost 29% are neutral, and 28.30% disagree regarding the statement. Also, 16.35% of the respondents strongly disagreed with the query.

Skills are essential in managing a business. The following skills are listed and rated by the respondents according to the given scales (Table 4). The scales are rated from 1 to 5, wherein one is unimportant and five is important. The students agreed that the listed skills are essential for business ventures. The skills rated by the respondents are decision-making skills (52.83%), risk-taking skills (45.28%), communication skills (55.35%), creativity (49.69%), ability to prepare business plan/research (47.17%), negotiation skills (45.28%); sales technique (50.31%); knowledge of finance (48.43%); network skills (45.28%); leadership skills (55.97%); new venture planning (38.36%); critical thinking or rational thinking (49.06%); time management (49.69%); and recognizing and developing opportunities (55.36%).

The respondents answered what motivated them to take entrepreneurship (Table 5). Three of the



Table 4. Respondents' assessment of the importance of the listed entrepreneurial skills.

SKILLS	5		4		3		2		1	
	F	%	F	%	F	%	F	%	F	%
Decision-Making Skills	84	52.83%	53	33.33%	19	11.95%	2	1.26%	1	0.63%
Risk Taking skills	72	45.28%	61	38.36%	23	14.47%	3	1.89%	0	0.00%
Communication Skills	88	55.35%	49	30.82%	23	14.47%	7	4.40%	1	0.63%
Creativity	79	49.69%	46	28.93%	29	18.24%	4	2.52%	1	0.63%
Ability to Prepare Business Plan/Research	75	47.17%	48	30.19%	30	18.87%	5	3.14%	1	0.63%
Negotiation skills	72	45.28%	49	30.82%	30	18.87%	7	4.40%	1	0.63%
Sales Technique	80	50.31%	47	29.56%	23	14.47%	7	4.40%	2	1.26%
Knowledge of finance	77	48.43%	43	27.04%	34	21.38%	3	1.89%	2	1.26%
Network Skills	72	45.28%	44	27.67%	37	23.27%	4	2.52%	2	1.26%
Leadership Skills	89	55.97%	40	25.16%	26	16.35%	2	1.26%	2	1.26%
New venture planning	61	38.36%	55	34.59%	37	23.27%	5	3.14%	1	0.63%
Critical thinking or rational thinking	78	49.06%	52	32.70%	25	15.72%	4	2.52%	0	0.00%
Time Management	79	49.69%	52	32.70%	20	12.58%	5	3.14%	3	1.89%
Recognizing and developing opportunities	88	55.35%	47	29.56%	15	9.43%	5	3.14%	4	2.52%

Table 5. Students' motivation to take entrepreneurship.

	F	%
Family support	103	64.78%
Independent decision making	100	62.89%
Own confidence and knowledge	98	61.64%
Chasing Dreams	94	59.12%
To do things differently	76	47.80%
Being own boss	67	42.14%
To do something for society	57	35.85%
High Returns	47	29.56%

variables were chosen by more than 60% of the respondents, including family support (64.78%), independent decision-making (62.89%), and building your confidence and knowledge (61.64%). Almost 30% of the participants chose high returns.

The respondents were asked and chose freely on the hindrances to take entrepreneurship. Based on the result in Table 6, the most chosen hindrances to engage are lack of funds with 70.44% and lack of experience with 58.49% of the respondents. There are only 16.48% were not interested in indulging.

Table 7 reflects the students' response to the expectation in the Entrepreneurship Program. 84.91% of the respondents expected to gain skills and knowledge in the entrepreneurship program. The respondents (69.81%) believed they could make

Table 6. Students' hindrances to take entrepreneurship.

	F	%
Lack of funds	112	70.44%
Lack of experience	93	58.49%
Lack of knowledge	67	42.14%
Too much of a risk	66	41.51%
Family responsibilities	53	33.33%
Other objectives in life	48	30.19%
Parents do not want	31	19.50%
Beneficial job offers	30	18.87%
Not interested	27	16.98%

Table 7. Expectations in the entrepreneurship program.

EXPECTATION	F	%
Gain skills and knowledge	135	84.91%
Make Money	111	69.81%
Develop Confidence	110	69.18%
Create Idea	109	68.55%
Develop Product	95	59.75%
Develop Capabilities	90	56.60%
Innovate Product	79	49.69%
Plan Finances	71	44.65%
Conduct Market Research	60	37.74%

money through this program. Developing confidence and creating ideas gained 69.18% and 68.55% of the respondents, respectively. Almost 60% and 57% are expected to develop products and capabilities.

The respondents were asked about the attitudes of an entrepreneur (Table 8). Of the student surveyed, 70.44% responded that the attitude of entrepreneurs is having self-control. The second response by the respondents is idea generation, with 67.30%. Almost 60% picked innovation and environmental analysis.

The respondents were asked about the readiness of MSU for an entrepreneurial environment (Table 9). Four parameters were enumerated and assessed by the respondents. The parameters include campus conditions, lecturers, curriculum syllabus, and support to carry out entrepreneurial activities on campus. Almost 40% of the respondents agreed that

Table 8. Attitudes of entrepreneurs.

ATTITUDE	F	%
Self-control	112	70.44%
Idea generation	107	67.30%
Innovation	95	59.75%
Environmental analysis	95	59.75%
Tolerance for ambiguity and risk-control	86	54.09%
Market sensitivity	79	49.69%

Table 9. Readiness of MSU for entrepreneurial environment (Campus).

	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree	
	F	%	F	%	F	%	F	%	F	%
Campus condition	60	37.74%	63	39.62%	32	20.13%	4	2.52%	0	0.00%
Lecturers	50	31.45%	74	46.54%	35	22.01%	0	0.00%	0	0.00%
Curriculum/Syllabus	40	25.16%	77	48.43%	39	24.53%	3	1.89%	0	0.00%
Support to carry out entrepreneurial activities on campus	63	39.62%	53	33.33%	41	25.79%	2	1.26%	0	0.00%

the condition of the campus is ready to offer. 37.74% strongly agreed (Positive). There is almost 78% positive varying response on the readiness of the lecturers to handle entrepreneurship course subjects.

Further, 48.43% of the respondents agreed that the curriculum or syllabus is ready. Of the students, 25.16% strongly agreed. On the support to carry out entrepreneurial activities on the campus, there is about 73% positive varying responses of the student.

## 5. Discussion and Conclusion

The study has uncovered the respondents' perspective on the entrepreneurship program of MSU-TCTO using the frequency and percentage statistical tool. The identified results provide practical insights that support the program at the senior high school level. The respondents from GAS, STEM, and HUMSS students who are 18 have desired to engage in business between one to ten years after college. According to Senate No. 1930 as introduced by Villar (2023) on Act Requiring the Inclusion of Entrepreneurship as a separate subject in the Junior and Senior High School Curricula of the K-12 program, entrepreneurship subjects shall teach and include in the curriculum. The author believed that entrepreneurship is a primary instrument to develop the economy. Through entrepreneurship, it will create employment, wealth and provide tax to the government. Therefore, they strongly agreed that entrepreneurship must be taught in senior high school because it provides insight for the students whether they venture into business or not.

The students believe that entrepreneurship programs can be learned from the subject's lecture. Cope (2005, p. 381) considers that entrepreneurship can be developed and learned by learning by doing or direct observation. According to Jarvis (2006), moreover, the concepts of surface learning concept described as acquiring facts and obtaining information, and deep learning is illustrated as meaning abstraction and experience interpretation. In surface learning, the student will learn the information from the teacher and the application of shared information which is

deep learning. With this concept, entrepreneurship will be taught in the classroom, which will be acquired by students and applied in real life.

The Lüthje and Franke model developed by Lüthje & Franke (2003) with the integration of personal and environmental factors (Nabi et al, 2010), this model identifies the significant influence of personality traits on the attitudes toward entrepreneurship, especially the influence of student intention to establish a new enterprise. It investigates the factors that create an impact on entrepreneurial intentions. Based on the result of this study, half the participants are encouraged to engage because of family support, independent decision-making, self-confidence and knowledge, and their dreams. However, the need for business investment and lack of experience are the two significant hindrances the student finds challenging to venture into business.

Further, the attitudes of an entrepreneur are essential in business engagement to fuel up the operation of the enterprise. According to the Theory of Planned Behavior, it explains the behavior of a person's ability to exert self-control. One of the components of this model is the behavioral intentions which are influenced by the attitude that is expected to have an outcome (Lamorte, 2022). The respondents chose preferred attitudes being an entrepreneur, including self-control, creativity, innovation, know-how to analyze the environment and risk taker.

Three assumptions are expected from a university for entrepreneurship education. It includes the description of an entrepreneur, the inclusion of an entrepreneurship curriculum in the university, and the measurement of the outcome (de Carolis & Litzky, 2019). Aside from the curriculum, it also includes the campus conditions, lecturers, and support of the administration. Based on the result, the respondents agreed to the preparedness of MSU-TCTO regarding campus conditions, lecturers, curriculum/syllabus, and support of the administration to conduct entrepreneurship activities on the campus. When the university is prepared, the student expects to gain skills and knowledge, make

money, develop confidence, create ideas, develop products, and develop capabilities.

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## References

- Abdul Karim, M. (2016). Entrepreneurship education in an engineering curriculum. *Procedia Economics and Finance*, 35, 379–387. [https://doi.org/10.1016/S2212-5671\(16\)00047-2](https://doi.org/10.1016/S2212-5671(16)00047-2)
- Aboobaker, N., & R, D. (2020). Human capital and entrepreneurial intentions: Do entrepreneurship education and training provided by universities add value? *On the Horizon*, 28(2), 73–83. <https://doi.org/10.1108/OTH-11-2019-0077>
- Ahmad, F. S., Baharun, R., & Rahman, S. H. (2004). *Interest in entrepreneurship: An exploratory study on engineering and technical students in entrepreneurship education and choosing entrepreneurship as a career. Project report*. Skudai, Johor: Faculty of Management and Human Resource Development (Unpublished).
- Ambad, S., & Damit, D. (2016). Determinants of entrepreneurial intention among undergraduate students in Malaysia. Elsevier B. V *Procedia Economics and Finance*, 37, 108–114. [https://doi.org/10.1016/S2212-5671\(16\)30100-9](https://doi.org/10.1016/S2212-5671(16)30100-9).
- Barba-Sanchez, V., & Atienza-Sahuquillo, C. (2017). *Entrepreneurial intention among engineering students: The role of entrepreneurship education*. European Research on Management and Business Economics. <https://doi.org/10.1016/j.jiedeen.2017.04.001>
- Besterfield-Sacre, M. E., Robinson, A. M., Shuman, L. J., & Shartrand, A. M. (2012). *Essential factors related to entrepreneurial knowledge in the engineering curriculum*. American Society for Engineering Education.
- Boldureanu, G., Ionescu, A. M., Bercu, A., Bedrule-Grigoruta, M. V., & Boldureanu, D. (2020). Entrepreneurship education through successful entrepreneurial models in higher education institution. *Sustainability*, 12, 1267. <https://doi.org/10.3390/su12031267>
- Camba, A. L. (2020). Estimating the nature of relationship of entrepreneurship and business confidence on youth unemployment in the Philippines. *Journal of Asian Finance, Economics, and Business*, 7(8), 533–542. <https://doi.org/10.13106/jafeb.2020.vol7.no.8.533>.
- Chen, C., HanTsai, S., & Japutra, A. (2017). Introduction to the special issue on entrepreneurship and management in turbulent global environment. *Asia Pacific Management Review*, 22, 167. <https://doi.org/10.1016/j.apmr.2017.11.003>
- Childhood Education International (CEI). (2020). *Guide to teacher and staff professional development training session on building entrepreneurial mindsets*. Retrieved on July 8, 2023, from <https://ceinternational1892.org/wp-content/uploads/2020/09/Training-Guide-to-Entrepreneurial-Mindsets-Final.pdf>.
- Cope, J. (2005). Toward a dynamic learning perspective of entrepreneurship. Sage Journal. *Entrepreneurship Theory and Practice*, 29, 373–397. <https://doi.org/10.1111/j.1540-6520.2005.00090.x>
- de Carolis, D., & Litzky, B. (2019). Unleashing the potential of university entrepreneurship education: A mandate for a broader perspective. *New England Journal of Entrepreneurship*, 22(No. 1), 58–66. <https://doi.org/10.1108/NEJE-04-2019-0022>
- European Network for Rural Development (ENRD).(n.d.). Youth entrepreneurship support. [https://ec.europa.eu/enrd/enrd-static/app\\_templates/enrd\\_assets/pdf/youth\\_and\\_young\\_farmers/Youth-entrepreneurship-support-LV.pdf](https://ec.europa.eu/enrd/enrd-static/app_templates/enrd_assets/pdf/youth_and_young_farmers/Youth-entrepreneurship-support-LV.pdf).
- Farid, S. M., & Rahman, S. A. (2020). Identifying the challenges of involvement in entrepreneurship activities among a group of undergraduates. *International Journal of Contemporary Educational Research*, 7(2), 246–257. <https://doi.org/10.33200/ijcer.697597>
- Gwija, S. A., Eresia-Eke, C., & Iwu, C. G. (2014). Challenges and prospects of youth entrepreneurship development in a designated community in the western cape, South Africa. *Journal of Economics and Behavioral Studies*, 6(No. 1), 10–20. . ISSN: 2220-6140.
- Herman, E. (2019). Entrepreneurial intention among engineering students and its main determinants. *Procedia Manufacturing*, 32, 318–324. <https://doi.org/10.1016/j.promfg.2019.02.220>
- Jarvis, P. (2006). *Towards a comprehensive theory of human learning*. New York, NY: Routledge. <https://doi.org/10.4324/9780203001677>
- Kayne, J., & Altman, J. (2005). Creating entrepreneurial societies: The role and challenge for entrepreneurship education. *Journal of Asia Entrepreneurship and Sustainability*, 1(1). ISSN 1176-8592.
- Küttim, M., Kallaste, M., Venesaar, U., & Kiis, A. (2014). Entrepreneurship education at university level and students' entrepreneurial intentions. *Procedia – Social and Behavioral Sciences*, 110, 658–668. <https://doi.org/10.1016/j.sbspro.2013.12.910>
- Kyrö, P. (2005). Entrepreneurial learning in a cross-cultural context challenges previous learning paradigms. In P. Kyrö, & C. Carrier (Eds.), *The dynamics of learning entrepreneurship in a cross-cultural university context*. Hämeenlinna: University of Tampere.
- Lackéus, M. (2015). *Entrepreneurship in education: What, why, when, how* (p. p10). Organization for Economic Co-operation and Development.
- Lamorte, W. (2022). *The theory of planned behavior. Behavioral change models*. Retrieved in July 2023 from <https://sphweb.bumc.bu.edu/otlt/mph-modules/sb/behavioralchange/theories/BehavioralChangeTheories3.html>.
- Llisterri, J. J., Kantis, H., Angelelli, P., & Tejerina, L. (2006). *Is youth entrepreneurship a necessity or an opportunity? A first exploration of household and new enterprise surveys in Latin America*. Sustainable Development Department Technical Paper Series. MSM-131.
- Lubis, R. L. (2020). Digital entrepreneurship in academic environment: Are we there yet?. ISSN: 2165-6266 *Journal of Teaching and Education*, 9(1), 167–194, 2019.
- Lüthje, C., & Franke, N. (2003). The "making" of an entrepreneur: Testing a model of entrepreneurial intent among engineering students at MIT. *R & D Management*. <https://doi.org/10.1111/1467-9310.00288>
- Mani, M. (2015). Entrepreneurship education: A students' perspective. *International Journal of E-Entrepreneurship and Innovation*, 5(1), 1–14. <https://doi.org/10.4018/978-1-5225-3153-1.ch029>
- Marlborough. (2020). *Why entrepreneurship is so important for students*. Retrieved on May 2023 from <https://www.marlborough.org/news/~board/stem/post/why-entrepreneurship-is-so-important-for-students>.
- Martinez-Gregorio, S., Badenes-Ribera, L., & Oliver, A. (2021). Effect of entrepreneurship education on entrepreneurship intention and related outcomes in educational contexts: A meta-analysis. *International Journal of Management in Education*. <https://doi.org/10.1016/j.ijme.2021.100545>
- Mentoor, E. R., & Friedrich, C. (2007). Is entrepreneurial education at South African universities successful?: An empirical example. *Industry and Higher Education*, 21(3), 221–232. <https://doi.org/10.5367/000000007781236862>
- Miranda, F., Chamorro-Mera, A., & Rubio, S. (2017). Academic entrepreneurship in Spanish universities: An analysis of the determinants of entrepreneurial intention. *European research on management and business economics*. <https://doi.org/10.1016/j.jiedeen.2017.01.001>
- Mwasalwiba, E. S. (2010). Entrepreneurship education: A review of its objectives. *Teaching Methods and Impact Indicators. Education and Training*, 52, 20–47. <https://doi.org/10.1108/00400911011017663>
- Nabi, G., Holden, R., & Walmsley, A. (2010). Entrepreneurial intentions among students: Towards a re-focused research



- agenda. *Journal of Small Business and Enterprise Development*, 17, 537–551. <https://doi.org/10.1108/146260010110887>
- Patricia, & Silangen, C. (2016). The effect of entrepreneurship education on entrepreneurial intention in Indonesia. *DeReMa Jurnal Manajemen*, 11(1), 67. <https://doi.org/10.19166/derema.v11i1.184>
- Petridou, E., & Glaveli, N. (2008). Rural women entrepreneurship within Co-operatives: Training support. *Gender in Management an International Journal*, 23(4), 262–277. <https://doi.org/10.1108/17542410810878077>
- Ratten, V. (2017). Entrepreneurial universities: The role of communities, people, and places. *Journal of Enterprising Communities: People and Places in the Global Economy*, 11(3), 310–315. <https://doi.org/10.1108/JEC-03-2017-0021>
- Ratten, V., & Jones, P. (2020). Covid-19 and entrepreneurship education: Implications for advancing research and practice. *International Journal of Management in Education*. <https://doi.org/10.1016/j.ijme.2020.100432>
- Resurreccion, P. (2016). Determinants of entrepreneurial attitudes and intentions among high school students in iligan city, southern Philippines. *The Mindanao Forum*, XXIV(No. 2).
- Sancho, M. P., Ramos-Rodriguez, A. R., & Vega, M. A. (2021). Is a favorable entrepreneurial climate enough to become an entrepreneurial university? An international study with GUESS data. *International Journal of Management in Education*. <https://doi.org/10.1016/j.ijme.2021.100536>
- Shih, T., & Huang, Y. (2017). A case study on technology entrepreneurship education at a taiwan university. *Asia pacific management review*. <https://doi.org/10.1016/j.apmrv.2017.07.009>
- Sondari, M. C. (2013). Is entrepreneurship education really needed?: Examining the antecedent of entrepreneurship career intention. *Procedia – Social and Behavioral Sciences*, 115(21), 44–53. <https://doi.org/10.1016/j.sbspro.2014.02.414>
- Trilaksono, T., Marchalina, L., Sasmoco Indrianti, Y., & Yusak, N. (2022). Entrepreneurship education strategy in higher education in ASEAN: Competitive intelligence and readiness to change. *Asia-Pacific Management and Business Application*, 10(3), 239–260. <https://doi.org/10.21776/ub.apmba.2022.010.03.1>
- Velasco, A. (2013). Entrepreneurship education in the Philippines. *DLSU Business & Economics Review*, 22(2), 1–14.
- Velasco, A., Castell, P., Conchada, M., Gozun, B., Largoza, G., Perez, J., et al. (2017). *Philippine entrepreneurship report 2015-2016*. De La Salle University Publishing House.
- Villar, C. (2023). *An Act Requiring the Inclusion of Entrepreneurship as a Separate Subject in the Junior and Senior High School Curricula of the K-12 Program, Senate Bill No. 1930, 19th Congress*. <https://legacy.senate.gov.ph/lisdata/40905372681.pdf>.
- VSO International. (2018). *Youth entrepreneurship and empowerment project (yeep): Understanding barriers to youth employment in Uganda and Kenya: A participatory action research report*.