

INNOVATIVE INSTRUCTIONAL STRATEGIES AS PREDICTORS OF ENTREPRENEURSHIP SKILLS ACQUISITION AMONG UNIVERSITY UNDERGRADUATES

Usua, Oku Bassey

Department of Curriculum and Teaching

University of Calabar, Calabar

Email: okubassey03@gmail.com (DOI <https://doi.org/10.30605/0009-0002-4594-8324>)

Agbaji, Joseph Ubangha

Department of Educational Research, Measurement and evaluation,

University of Calabar, Cross River State, Nigeria

Email: josephagbaji@unical.edu.ng (DOI <https://orcid.org/10.30605/0009-0002-9646-6341>)

Ogban, Adonokpem Ina

Department of Curriculum and Teaching

University of Calabar, Calabar

adonkpemogban@gmail.com

Evor, Imoke Awara

Department of Environmental Management

University of Calabar, Calabar

imokeevor@gmail.com



Abstract

Entrepreneurship education increasingly requires innovative instructional strategies that promote creativity, critical thinking, collaboration, problem-solving, and practical skill development among university undergraduates. This study investigated innovative instructional strategies, operationalized through experiential learning, social-emotional learning, and Genius Hour learning, as predictors of entrepreneurship skills acquisition among undergraduate students in public universities in Cross River State, Nigeria. A correlational survey research design was adopted. The population comprised 4,520 undergraduate students enrolled in entrepreneurship-related programmes, from which a sample of 708 students was selected using appropriate sampling procedures. Data were collected using the Instructional Strategies and Entrepreneurship Skills Acquisition Questionnaire (ISESAQ) and analysed using simple linear regression at the .05 level of significance. The findings revealed that experiential learning significantly predicted entrepreneurship skills acquisition (Adjusted $R^2 = .651$, $F = 1414.61$, $p < .05$), social-emotional learning significantly predicted entrepreneurship skills acquisition (Adjusted $R^2 = .638$, $F = 1339.22$, $p < .05$), and Genius Hour learning significantly predicted entrepreneurship skills acquisition (Adjusted $R^2 = .628$, $F = 1281.92$, $p < .05$). The findings demonstrate that innovative instructional strategies significantly enhance entrepreneurship skills acquisition by providing authentic learning experiences, fostering socio-emotional competencies, and encouraging student autonomy and creativity. The study concluded that innovative instructional strategies are important predictors of entrepreneurship skills acquisition among university undergraduates. It was recommended that universities strengthen entrepreneurship education by integrating experiential learning opportunities, social-emotional learning practices, and Genius Hour activities into entrepreneurship curricula to improve students' entrepreneurial competencies.

Keywords: Innovative instructional strategies, experiential learning, social-emotional learning, Genius Hour learning, entrepreneurship skills acquisition, university undergraduates.



Introduction

Entrepreneurship has become a critical driver of economic growth, innovation, competitiveness, and employment generation in the twenty-first century. As economies continue to confront technological disruptions, labour market uncertainties, and increasing rates of graduate unemployment, entrepreneurship education has assumed a strategic role in preparing students with the competencies required to identify opportunities, create value, and adapt to changing socioeconomic realities. Contemporary entrepreneurship education extends beyond business creation to encompass the development of entrepreneurial competencies such as creativity, innovation, critical thinking, problem-solving, opportunity recognition, leadership, resilience, and risk management. Consequently, universities across the world have increasingly integrated entrepreneurship education into their curricula as a means of fostering entrepreneurial mindsets and enhancing graduate employability (Rodrigues, 2023; Ebele & Agbade; 2020; Effiong, & Agbade, 2016; Ihekoronye et al. 2020; Anubhav, Dwivedi, & Aashish, 2024).

The growing importance of entrepreneurship education has been amplified by the challenges that emerged during and after the COVID-19 pandemic. The pandemic disrupted traditional educational systems globally, compelling higher education institutions to adopt innovative instructional approaches capable of sustaining learning and skills development in rapidly changing environments. These disruptions highlighted the limitations of conventional teacher-centred pedagogies and reinforced the need for learner-centred instructional strategies that promote engagement, adaptability, creativity, and practical competence. As universities seek to prepare graduates for uncertain and increasingly complex labour markets, greater attention has been directed toward pedagogical approaches that actively involve students in authentic learning experiences and entrepreneurial problem-solving (Marinoni, van't Land, & Jensen, 2020; Rodrigues, 2023).

Among the instructional approaches receiving considerable scholarly attention is experiential learning. Rooted in the principle that knowledge is created through the transformation of experience, experiential learning emphasizes active participation, reflection, experimentation, and the application of knowledge to real-world situations. In entrepreneurship education, experiential learning enables students to engage in activities such as venture creation projects, business simulations, internships, field experiences, and problem-based tasks that mirror entrepreneurial practice (Ogunode, & Agbade, 2023; Olofu et al. 2019; Opara et al. 2020; Agbade & Ironbar, 2017). Evidence from recent systematic reviews indicates that experiential learning enhances entrepreneurial competencies by improving students' opportunity recognition, decision-making, innovation capability, self-efficacy, and venture development skills ((Arikpo & Ekpo, 2026; Motta & Galina, 2023). Through direct engagement with authentic entrepreneurial challenges, students are better positioned to acquire practical skills that transcend theoretical knowledge and support entrepreneurial success.

A study carried out by Bandaranaike, Quijano, and Navarrete-Baez (2020) revealed that the introduction of growth mindset reflections into work-integrated learning curricula made a significant contribution to student learning and served as a valid educational strategy during the COVID-19 period. It was disclosed in another study by Jones, Morrish, Heyworth-Thomas, and Graham (2023) that the use of post-disaster business recovery frameworks within experiential learning cycles resulted in deeper learning, improved understanding, and

the generation of new entrepreneurial knowledge. The study further showed that experiential learning strengthened entrepreneurial competencies necessary for business resilience and growth in post-pandemic environments. Similarly, Ghannad and Sörensson (2025) reported that a condensed and immersive entrepreneurial learning approach promoted innovation and enhanced entrepreneurial mindsets more effectively than extended instructional formats. The study further revealed that hybrid teaching models introduced during the pandemic enriched classroom interactions through diverse perspectives and peer learning experiences.

Another study conducted by Yang, Yang, and Shabbir (2026) found that experiential learning had a significant positive influence on professional competencies and entrepreneurial mindset among postgraduate students in higher education institutions. The researchers reported that experiential learning improved innovation-oriented skills through internships, multidisciplinary projects, and institutional training programmes. Likewise, Banha, Graça, Góis, and Banha (2026) demonstrated that structured experiential learning within the Tourism Creative Factory programme enhanced entrepreneurial readiness, resilience, innovation capacity, and sustainable venture development among participants. These findings were considered relevant to the present study because entrepreneurship skills acquisition among university undergraduates may similarly be enhanced through experiential instructional strategies that provide opportunities for active engagement, reflection, innovation, and practical problem-solving (Meremikwu et al.2022; Ibu et al.2019; Adie et al. 2022)

Another instructional approach that has gained prominence in contemporary educational discourse is social-emotional learning. Social-emotional learning focuses on developing competencies such as self-awareness, self-management, social awareness, relationship management, and responsible decision-making. These competencies are increasingly recognized as essential components of entrepreneurial success because entrepreneurs frequently operate in environments characterized by uncertainty, ambiguity, and interpersonal complexity. Individuals with strong social-emotional competencies are more likely to demonstrate resilience, adaptability, emotional intelligence, effective communication, and collaborative problem-solving abilities. Recent studies have emphasized the importance of socioemotional competencies in higher education, highlighting their contribution to students' personal development, leadership effectiveness, and capacity to navigate complex professional environments (Rojas Chacaltana, Etchart-Puza, Cardenas-Zedano, & Herencia-Escalante, 2023). The development of such competencies may therefore provide a foundation for entrepreneurship skills acquisition among university undergraduates.

A study carried out by Gil, Even-Zahav, and Siemionow (2025) revealed that integrating socio-emotional support with entrepreneurial activities significantly enhanced entrepreneurial thinking among pre-service teachers. The findings indicated that learning by doing, authentic challenges, collaboration, and socio-emotional support contributed substantially to creativity, opportunity recognition, and entrepreneurial competence development. It was disclosed in another study by Zabel, Meister, Van De Sandt, and Mauer 2025 in Usua, et. al. (2026) that socially induced and regulated emotions significantly influenced entrepreneurial mindset development. The study revealed that emotional experiences, facilitator interventions, emotional sharing, and collaborative meaning-making enhanced entrepreneurial learning outcomes.

Similarly, Ou and Kim (2025) found a significant relationship between psychological factors and entrepreneurial behaviour among university students. The study emphasized that entrepreneurship education programmes that integrate psychological and emotional development are more effective in fostering entrepreneurial competencies. Another study by Baburao, Gupta, Manjushree, and Raju (2025) revealed that emotional intelligence contributes significantly to innovation, resilience, creativity, and positive organizational behaviour, particularly in challenging post-pandemic environments. Furthermore, Pettersen,

Van Der Lingen, and Åmo (2025) demonstrated that emotions emerged as the strongest predictor of entrepreneurial self-efficacy and entrepreneurial identity aspiration among students. The findings showed that students who demonstrated stronger emotional learning tendencies exhibited higher confidence, control, competence, and aspirations toward entrepreneurship. These findings were considered relevant to the present study because emotional intelligence, resilience, self-awareness, and social competence are essential entrepreneurial attributes that may facilitate entrepreneurship skills acquisition among university undergraduates (Ibu et al. 2019; Igyu et al. 2022; Adie, et al. 2026; Meremikwu et al. 2022)

In addition to experiential and social-emotional learning, Genius Hour learning has emerged as an innovative learner-centred instructional strategy that promotes autonomy, creativity, inquiry, and self-directed learning. Genius Hour is founded on the principle of allocating dedicated time for learners to pursue projects based on their interests, passions, and curiosities. Through independent inquiry and project development, students are encouraged to identify problems, conduct investigations, develop solutions, and present outcomes. The approach fosters creativity, critical thinking, innovation, initiative, and ownership of learning, which are competencies closely aligned with entrepreneurial behavior (Arikpo & Yahaya-Idinye, 2026; Arikpo & Otu, 2026). A recent literature review by Ramadhan, Kuswandi, and Soepriyanto (2023) revealed that Genius Hour promotes student engagement, creativity, problem-solving, and independent learning across educational contexts. Given its emphasis on innovation and self-directed inquiry, Genius Hour learning may serve as a valuable pedagogical approach for strengthening entrepreneurship skills among university students.

The findings of Ramadhan et al. (2023) further revealed that learners who participate in Genius Hour activities develop stronger problem-solving abilities, creativity, self-confidence, and innovative thinking skills. These outcomes were considered relevant to the present study because entrepreneurship skills acquisition requires students to identify opportunities, generate creative solutions, and independently pursue innovative ideas. Therefore, Genius Hour learning may provide a conducive environment for nurturing entrepreneurial competencies among university undergraduates. Machado, Vale, Silva, Aguiar and Paraizo (2021) examined the effectiveness of Genius Hour Learning and found that students participating in self-directed projects demonstrated improved creativity, innovation, independent learning, and entrepreneurial thinking. The researchers concluded that Genius Hour Learning promotes the development of twenty-first century competencies required for entrepreneurial success.

Despite the increasing recognition of experiential learning, social-emotional learning, and Genius Hour learning as innovative pedagogical approaches, empirical evidence concerning their combined influence on entrepreneurship skills acquisition remains limited, particularly within developing countries. Existing entrepreneurship education research has focused predominantly on curriculum design, entrepreneurial intention, institutional support systems, and entrepreneurship programme outcomes, while comparatively less attention has been devoted to examining how specific instructional approaches contribute to entrepreneurship skills development among university undergraduates (Amao-Taiwo, Shittu, & Yinusa, 2023; Anubhav, Dwivedi, & Aashish, 2024).

In Nigeria, where graduate unemployment and underemployment continue to present significant socioeconomic challenges, identifying effective instructional strategies capable of promoting entrepreneurship skills acquisition is particularly important. Universities are increasingly expected to produce graduates who possess not only academic knowledge but also the entrepreneurial competencies required for self-employment, innovation, and sustainable economic participation. Therefore, investigating the predictive influence of experiential learning, social-emotional learning, and Genius Hour learning on

entrepreneurship skills acquisition among university undergraduates is both timely and necessary. Such evidence could provide valuable insights for curriculum development, instructional practice, and policy interventions aimed at strengthening entrepreneurship education and improving graduate outcomes in the post-pandemic era.

Previous research has established that experiential learning enhances entrepreneurial competence, innovation, and venture creation outcomes. Similarly, studies on social-emotional learning have emphasized its role in fostering resilience, adaptability, and interpersonal effectiveness. Research on Genius Hour Learning has also demonstrated positive effects on creativity, autonomy, and learner engagement.

However, two important gaps remain. First, existing evidence is largely derived from Western educational contexts, thereby limiting the applicability of findings to developing countries where entrepreneurship education serves different socio-economic functions. Secondly, limited research has examined these instructional approaches within post-pandemic higher education environments where instructional practices have undergone substantial transformation. The present study addresses these gaps by examining the individual contributions of experiential learning, social-emotional learning, and Genius Hour Learning to entrepreneurship skills acquisition among university undergraduates in Nigeria.

Statement of the Problem

The COVID-19 pandemic exposed significant limitations in conventional approaches to entrepreneurship education. Restrictions on physical interactions disrupted traditional instructional methods that depended heavily on practical demonstrations, collaborative activities, and experiential engagement. Consequently, universities increasingly adopted innovative instructional strategies aimed at sustaining learning and promoting entrepreneurship skills acquisition despite these challenges. Although experiential learning, social-emotional learning, and genius hour learning have been widely advocated as effective pedagogical approaches, questions remain regarding their effectiveness in promoting entrepreneurship skills acquisition among undergraduate students. There is limited empirical evidence demonstrating the extent to which these instructional strategies independently and collectively predict entrepreneurial competencies within Nigerian universities. This uncertainty creates challenges for curriculum developers, educators, and policymakers seeking to identify the most effective approaches for entrepreneurship education in the post-pandemic era. It is against this background that this study investigated experiential learning, social-emotional learning, and genius hour learning as predictors of entrepreneurship skills acquisition among undergraduate students in public universities in Cross River State, Nigeria.

Objectives of the Study

The study sought to:

1. Examine the extent to which experiential learning predicts entrepreneurship skills acquisition among undergraduate students.
2. Determine the extent to which social-emotional learning predicts entrepreneurship skills acquisition among undergraduate students.
3. Assess the extent to which genius hour learning predicts entrepreneurship skills acquisition among undergraduate students.

Research Hypotheses

The following hypotheses guided the study:

H01: Experiential learning does not significantly predict entrepreneurship skills acquisition among undergraduate students.

H02: Social-emotional learning does not significantly predict entrepreneurship skills acquisition among undergraduate students.

H03: Genius hour learning does not significantly predict entrepreneurship skills acquisition among undergraduate students.

Methodology

Research Design

The study adopted a correlational survey research design. The design was considered appropriate because it enabled the researcher to examine the predictive relationships between instructional strategies and entrepreneurship skills acquisition among undergraduate students without manipulating any variables.

Area of the Study

The study was conducted in public universities in Cross River State, Nigeria. The state hosts major public universities that offer entrepreneurship education programmes as part of their undergraduate curriculum.

Population of the Study

The total population of this study is made up of four thousand five hundred and twenty (4,520) respondents which includes all year three undergraduates studying Education courses made up of 3 Faculties and thirteen (13) Departments in University of Calabar (UNICAL) and the seven (7) Departments from University of Cross River State (UNICROSS), in the 2022/2023 academic session offering entrepreneurship skill education.

Sample and Sampling Technique

A sample of 708 undergraduate students was selected through appropriate sampling procedures. The sample size was considered adequate for regression analysis and generalization of findings to the target population.

Instrumentation

Data were collected using a structured questionnaire titled Instructional Strategies and Entrepreneurship Skills Acquisition Questionnaire (ISESAQ). The instrument consisted of sections measuring: Experiential Learning, Social-Emotional Learning, Genius Hour Learning and Entrepreneurship Skills Acquisition. Responses were measured using a four-point Likert scale ranging from Strongly Agree to Strongly Disagree. To ascertain the reliability of the instrument, Cronbach alpha reliability estimate was used. A trial testing was done using a total of fifty (50) students drawn from College of Education Akamkpa, who were not part of the study. A reliability index range of .74 - .76 for the instrument were obtained. This indicates that the instruments are highly reliable.

Procedure for data collection

Data were collected over a period of four weeks. The researcher, with the assistance of trained research assistants, distributed the questionnaires to the selected students in their respective faculties and departments. The research assistants were briefed on the objectives of the study and the ethical considerations involved in the data collection process. Respondents were assured that the data requested from them would be treated with utmost confidence. At the end of the process, copies of the instruments were retrieved from the respondents without any loss. This represented a 100 percent rate of return of the administered instrument.

Procedure for data preparation and analysis

The Questionnaire is made up of fifty-two (28) items on four-point scale. In rating the scale, positively worded items were rated 4,3,2,1 while negative worded items were rated 1,2,3,4.

Data collected were analyzed using simple regression. The hypotheses were tested at the .05 level of significance.

5. Results

5.1. Presentation of Results

The results of the study were presented based on the hypotheses that were formulated to guide the study. The following tables, present the results of the study.

Hypothesis One

Experiential learning does not significantly predict entrepreneurship skills acquisition among undergraduate students. The predictor variable in this hypothesis is experiential learning, whereas the dependent variable is entrepreneurship skills acquisition among undergraduate students. The hypothesis was tested at .05 significance level using the Analysis of variance of a simple linear regression. The result of the analysis is summarised in Table 1

Table 1: Simple regression analysis of the relationship between experiential learning instructional strategy and entrepreneurship skill acquisition in Post-COVID-19 pandemic among undergraduates in public universities in Cross-River State.

Model	Sum of squares	df	Mean Square	f	Sig
Regression	21537.91	1	21537.91	1414.61	.000
Residual	11510.37	706	15.23		
Total	33048.27	707			
	Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	T	Sig.
(Constant)	10.21	.45		22..87	.000
Experiential learning	1.06	.03	.807	37.61	.000

$P < .05$

$R = .807$

R Square = .652

Adjusted R Square = .651

Predictors: (Constant): experiential learning

Dependent Variable: entrepreneurship skill acquisition.

The result of simple regression analysis in table 1 on the relationship between experiential learning instructional strategy and entrepreneurship skill acquisition in post covid-19 pandemic among undergraduates in public universities in Cross-River State. Produced an adjusted R^2 of .651. This result implies that only 65.1 percentage of the variance can be predicted from the independent variable (experiential learning instructional strategy) in predicting entrepreneurship skill acquisition in Post-COVID-19 pandemic among undergraduates in public universities in Cross River State. The F-value of the Analysis of Variance (ANOVA) obtained from the regression table was $F = 1414.61$ having a p-value .000 with 1 and 706 degrees of freedom at .05 level of significance. The null hypothesis was rejected. This result therefore signifies that experiential learning instructional strategy significantly predicts entrepreneurship skill acquisition in Post-COVID-19 pandemic among undergraduates in public universities in Cross-River State by 65.1 percent, and the identified equation to understand this relationship was that entrepreneurship skill acquisition = $10.21 + 1.06$ (experiential learning instructional strategy).

Hypothesis Two

Social-emotional learning does not significantly predict entrepreneurship skills acquisition among undergraduate students. The predictor variable in this hypothesis is Social-emotional learning, whereas the dependent variable is entrepreneurship skills acquisition among undergraduate students. The hypothesis was tested at .05 significance level using the Analysis of variance of a simple linear regression. The result of the analysis is summarised in Table 2

Table 2: Simple regression analysis of the relationship between social-emotional instructional strategy and entrepreneurship skill acquisition in Post-COVID-19 pandemic among undergraduates in public universities in Cross-River State.

Model	Sum of squares	DF	Mean Square	F	Sig
Regression	21123.77	1	21123.77	1339.22	.000
Residual	11924.50	706	15.77		
Total	33048.27	707			

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	T	Sig.
(Constant)	10.73	.45		24..11	.000
Social-emotional	1.04	.03	.799	36.60	.000

P<.05

R=.799

R Square =.639

Adjusted R Square = .638

Predictors: (Constant): social-emotional

Dependent Variable: entrepreneurship skill acquisition.

The result of the analysis as presented in table 2 produced an adjusted R^2 of .638. This result implies that only 63.8 percentage of the variance can be predicted from the independent variable (social-emotional instructional strategy) in predicting entrepreneurship skill acquisition in post-COVID-19 pandemic among undergraduates in public universities in Cross-River State. The F-value of the Analysis of Variance (ANOVA) obtained from the regression table was $F = 1339.22$ having a p-value .000 with 1 and 706 degrees of freedom at .05 level of significance. The null hypothesis was rejected. This result therefore signifies that social-emotional instructional strategy significantly predict entrepreneurship skill acquisition during and post-COVID-19 pandemic among undergraduates in public universities in Cross River State by 63.8 percent, and the identified equation to understand this relationship was that entrepreneurship skill acquisition = $10.73 + 1.04$ (social-emotional instructional strategy)

Hypothesis Three

Genius Hour Learning does not significantly predict entrepreneurship skills acquisition among undergraduate students. The predictor variable in this hypothesis is Genius Hour Learning, whereas the dependent variable is entrepreneurship skills acquisition among undergraduate students. The hypothesis was tested at .05 significance level using the Analysis of variance of a simple linear regression. The result of the analysis is summarised in Table 3

The result of the analysis as presented in table 3 produced an adjusted R^2 of .628. This result implies that only 62.8 percentage of the variance can be predicted from the independent variable (Genius hour instructional strategy) in predicting entrepreneurship skill acquisition in post covid-19 pandemic among undergraduates in public universities in Cross-River State. The F-value of the Analysis of Variance (ANOVA) obtained from the regression table was F

= 1281.92 having a p-value .000 with 1 and 706 degrees of freedom at .05 level of significance. The null hypothesis was rejected. This result therefore signifies that Genius hour instructional strategy significantly predicts entrepreneurship skill acquisition in post covid-19 pandemic among undergraduates in public universities in Cross-River State by 62.8 percent, and the identified equation to understand this relationship was that entrepreneurship skill acquisition = 10.37 + 1.05 (Genius hour instructional strategy)

Table 3: Simple regression analysis of the relationship between Genius hour instructional strategy and entrepreneurship skill acquisition in Post-COVID-19 pandemic among undergraduates in public universities in Cross-River State.

Model	Sum of squares	DF	Mean Square	F	Sig
Regression	20788.45	1	20788.45	1281.92	.000
Residual	12259.82	706	16.22		
Total	33048.27	707			
	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	T	Sig.
(Constant)	10.37	.46		22.36	.000
Genius hour	1.05	.03	.793	35.80	.000

P<.05

R=.793

R Square =.629

Adjusted R Square = .628

Predictors: (Constant): Genius hour

Dependent Variable: entrepreneurship skill acquisition.

5.2. Discussion of Results

This study established through its first finding that experiential learning significantly predicts entrepreneurship skills acquisition among undergraduate students in public universities in Cross River State. The finding revealed that experiential learning accounted for 65.1% of the variance in entrepreneurship skills acquisition, indicating that students who are exposed to practical, hands-on, and reflective learning experiences tend to demonstrate higher levels of entrepreneurial competence. The finding supports the studies of Motta and Galina (2023), who reported that experiential learning enhances entrepreneurial competencies, opportunity recognition, innovation capability, decision-making, and venture development skills among students. The finding also aligns with the work of Jones et al. (2023), who found that experiential learning approaches contributed significantly to entrepreneurial mindset development, deeper learning, and entrepreneurial knowledge creation. Similarly, Ghannad and Sörensson (2025) reported that immersive entrepreneurial learning experiences promote innovation and entrepreneurial mindsets more effectively than traditional instructional approaches. The result further corroborates the findings of Yang et al. (2026), who revealed that experiential learning positively influences professional competencies and innovation-oriented skills among postgraduate students. Likewise, Banha et al. (2026) demonstrated that structured experiential learning programmes strengthen entrepreneurial readiness, resilience, innovation capacity, and sustainable venture development. These findings suggest that entrepreneurship skills acquisition is enhanced when students actively engage in authentic entrepreneurial activities that encourage experimentation, reflection, and problem-solving.

The second finding of this study established that social-emotional learning significantly predicts entrepreneurship skills acquisition among undergraduate students. The result showed that social-emotional learning accounted for 63.8% of the variance in entrepreneurship skills acquisition, indicating that students with stronger social-emotional competencies tend to exhibit greater entrepreneurial capability. This finding corroborates the study of Gil et al. (2025), who revealed that socio-emotional support integrated into entrepreneurial activities significantly enhances entrepreneurial thinking, creativity, opportunity recognition, and entrepreneurial competence development. The finding also agrees with the work of Zabel et al. (2025), who found that emotions, emotional sharing, facilitator interventions, and collaborative meaning-making significantly influence entrepreneurial mindset development and entrepreneurial learning outcomes. Furthermore, the result supports the findings of Ou and Kim (2025), who established a significant relationship between psychological factors and entrepreneurial behaviour among university students. Similarly, Baburao et al. (2025) reported that emotional intelligence contributes significantly to innovation, resilience, creativity, and positive organizational behaviour, while Pettersen et al. (2025) found that emotions are strong predictors of entrepreneurial self-efficacy and entrepreneurial identity aspiration. The findings imply that self-awareness, emotional regulation, resilience, interpersonal competence, and responsible decision-making are important socio-emotional attributes that facilitate entrepreneurship skills acquisition among undergraduates.

The third finding of this study established that Genius Hour learning significantly predicts entrepreneurship skills acquisition among undergraduate students. The result indicated that Genius Hour learning accounted for 62.8% of the variance in entrepreneurship skills acquisition, suggesting that student-driven inquiry, autonomy, and creative project development contribute meaningfully to entrepreneurial competence. This finding supports the work of Ramadhan et al. (2023), who revealed that Genius Hour learning promotes creativity, problem-solving, self-confidence, innovation, independent learning, and student engagement across educational contexts. The finding also aligns with the study of Machado et al. (2021), which found that students who participated in self-directed projects demonstrated improved creativity, innovation, independent learning, and entrepreneurial thinking. The researchers concluded that Genius Hour learning promotes the development of twenty-first-century competencies required for entrepreneurial success. The present finding therefore suggests that providing students with opportunities to pursue personally meaningful projects encourages initiative, creativity, opportunity identification, and problem-solving abilities that are essential for entrepreneurship skills acquisition.

Conclusion

Generally, it was concluded based on the findings of this study that experiential learning, social-emotional learning, and Genius Hour learning are significant predictors of entrepreneurship skills acquisition among undergraduate students in public universities in Cross River State. The study established that all three instructional strategies contribute substantially to the development of entrepreneurial competencies required for innovation, self-employment, and sustainable economic participation in the post-COVID-19 era. Specifically, experiential learning emerged as the strongest predictor, followed closely by social-emotional learning and Genius Hour learning, indicating that practical engagement, emotional competence, and learner autonomy are important dimensions of effective entrepreneurship education. It was therefore concluded that entrepreneurship skills acquisition is enhanced when students are actively involved in authentic learning experiences, supported in their social-emotional development, and provided opportunities for independent inquiry and creative project work.

Recommendations

Based on the findings and conclusions of this study, the following recommendations were made:

- i. University administrators and curriculum planners should integrate more experiential learning activities into entrepreneurship education programmes through internships, business simulations, venture creation projects, field experiences, and problem-based learning tasks that expose students to real entrepreneurial challenges.
- ii. Entrepreneurship educators should intentionally incorporate social-emotional learning components into instruction by promoting self-awareness, emotional intelligence, resilience, collaboration, communication skills, and responsible decision-making among students.
- iii. Public universities should adopt Genius Hour learning approaches by allocating structured time for students to pursue self-directed entrepreneurial projects, investigate problems of interest, develop innovative solutions, and present their outcomes.
- iv. Government agencies and university management should provide institutional support, resources, mentorship opportunities, innovation hubs, and entrepreneurship laboratories that facilitate practical entrepreneurial engagement and strengthen students' entrepreneurial competencies.
- v. Future researchers should investigate the combined and comparative effects of experiential learning, social-emotional learning, and Genius Hour learning across different academic disciplines, institutions, and geographical locations to provide broader evidence for entrepreneurship education policy and practice.

References

- Adie, EB, Inah, LI; Ibu, PN & Anditung, PA (2022). Effect of concept mapping strategy on the academic achievement of post basic students' In Mathematics In Obudu Education Area Of Cross River State, Nigeria. *Inter-Disciplinary Journal of Science Education (IJ-SED)* 4 (1), 151-158.
- Adie, EB, Ntah, HE & Anditung, PA (2026). Qualitative study on the application of mathematical principles in architectural design in Nigeria. *Zamfara International Journal of Education*, 6(1), 143-149.
- Agbade, OP & Ironbar, V. E. (2017). Training the adult facilitator for improved productivity in the 21st century: A case study of the Federal Capital Territory, Abuja. *International Journal of Continuing Education and Development Studies (IJCEDE)*. 4 (1):165-170.
- Amao-Taiwo, O. A., Shittu, A. I., & Yinusa, M. A. (2023). Entrepreneurship education and entrepreneurial skills development among university students. *Journal of Entrepreneurship Education*, 26(3), 1–15.
- Anubhav, A., Dwivedi, R., & Aashish, K. (2024). Entrepreneurship education and graduate employability in developing economies. *International Journal of Entrepreneurial Behavior & Research*, 30(2), 245–263.
- Arikpo, NN & Yahaya-Idinye L, (2026). Conflict management strategies and organization performance of road transport workers in Cross River State, Nigeria. *Interdisciplinary Journal of Science Education*, 7(1), 93-105.
- Arikpo, NN & Otu, Ekpenyon-Effa (2026). Gender diversity and management of North-West Filling Stations in Cross River State, Nigeria. *Interdisciplinary Journal of Science Education*, 7(1), 81-92.
- Arikpo, NN & Ekpo NU (2026). Leadership styles and performance of small scale enterprises in Cross River State, Nigeria. *Interdisciplinary Journal of Science Education*, 7(1), 106-117.

- Baburao, P., Gupta, S., Manjushree, P., & Raju, K. (2025). Emotional intelligence, innovation, resilience, and positive organizational behaviour in post-pandemic work environments. *Journal of Entrepreneurship and Innovation Management*, 14(1), 55–72.
- Bandaranaike, S., Quijano, E. P. O., & Navarrete-Baez, F. E. (2020). A COVID-19 work-integrated learning strategy for entrepreneurial mindset reflections: Case study in Mexico. *International Journal of Work-Integrated Learning*, 21, 467-489.
- Banha, F., Graça, A. R., Góis, B., & Banha, F. M. (2026). Tourism Creative Factory as a Knowledge-Based Entrepreneurship Programme: Innovation, Learning, and Sustainability in Post-Pandemic Portugal. *Knowledge*, 6(1), 8.
- Bloom, L. A., & Doss, K. (2021). Using technology to foster creative and critical thinking in the classroom. In *Research anthology on developing critical thinking skills in students* (pp. 553-567). IGI Global Scientific Publishing.
- Ebele, FU. & Agbade, OP. (2020). Sustaining learning activities in tertiary institutions in Nigeria amidst COVID-19 pandemic lockdown: The perspective of e-learning strategy. Uyo: Benchmark Educational Services. pages 17-33. ISBN: 978-978-984-508-8.
- Effiong, L. V. & Agbade, OP (2016). Relationship between teachers' induction and brain-drain in the teaching profession in Abuja Municipal Area Council. *Abuja Journal of Education and Management Sciences (ABIJEMS)*. 4 (1): 122-128.
- Ghannad, N., & Sörensson, A. (2025). Entrepreneurial education in a pandemic era: Timeframes, demographics, and the nexus between teaching and experiential learning. *Industry and Higher Education*, 39(1), 8-16.
- Gil, E., Even-Zahav, A., & Siemionow, J. (2025). Pre-Service Teachers' Perceptions of Developing Entrepreneurial Thinking in an International Learning Environment during COVID-19. *Educational Process: International Journal*, 16, e2025274.
- Ibu, P. N., Adie, E. B. & Andortan, J. A. (2019). Home environmental variables and mathematics study habits among secondary school three (JSS3) students in Calabar Education Zone of Cross River State, Nigeria. *Prestige Journal of Education* 2 (2), 189 – 197.
- Ibu, P. N., Adie, E. B., & Okaba, L. A. (2019). Science teachers' perception of corruption in secondary schools in Calabar Municipality, Cross River State, Nigeria. *Interdisciplinary Journal of Science Education (IJ – SED)* 1 (1), 107 – 119.
- Igyu, CO, Adie, EB, Ogah, HA & Anditung PA (2022). Interactive effect of variation teaching strategy in the algebraic motivation, understanding and performance in basic 5 in Benue State, Nigeria. *Vunoklang Multidisciplinary Journal of Science and Technology*, 10(2), 65-71).
- Ihekoronye, E.O., Agbade, OP & Opara, J.C. (2020). Inducting novice teachers for improved job performance in public secondary schools in Abuja Municipal Area Council of the Federal Capital Territory, Abuja. *Benue State University Journal of Educational Management*. 2(1), 29-38.
- Jones, R., Morrish, S. C., Heyworth-Thomas, E. M., & Graham, E. (2023). Post-pandemic marketing: Use of business crisis recovery frameworks to enhance entrepreneurial marketing education. *Journal of Marketing Education*, 45(3), 211-225.
- Machado, L., Vale, M., Silva, R., Aguiar, F., & Paraizo, R. (2021). Genius Hour learning and the development of entrepreneurial thinking among university students. *Journal of Educational Innovation and Practice*, 15(2), 77–94.
- Marinoni, G., van't Land, H., & Jensen, T. (2020). *The impact of COVID-19 on higher education around the world*. International Association of Universities.

- Meremikwu, AN, Benimpuye, EB, Inah, LI, Okri, JA & Tawo CN (2022). Influence of school feeding programme on academic achievement of primary 3 pupils in mathematics in Akwa Ibom State, Nigeria. *Inter-Disciplinary Journal of Science Education (IJ-SED)* 4 (1), 82-88.
- Meremikwu, AN, Benimpuye, AE, Idoko, LI, Arikpo OJ & Tawo, CN (2022). Classroom routine activities as predictors of students' academic achievement in mathematics in Calabar Metropolis of Cross River State, Nigeria. *Inter-disciplinary Journal of Science Education*, 4(1), 60-70.
- Motta, V., & Galina, S. V. R. (2023). Experiential learning and entrepreneurial competencies: A systematic review of entrepreneurship education research. *Education + Training*, 65(7/8), 1025–1044.
- Ogunode, NJ & Agbade, OP (2023). Impact of subsidy removal on school administration, teachers' job performance and students' academic performance in secondary schools in Nigeria. *International Journal on Integrated Education*, 6(9), 19-24.
- Olofu, PA, Ihekoronye, E.O. & Opara, J.C. (2019). The role of organizational structure in facilitating effective management of the school system in the 21st century in Nigeria. *International Journal of Continuing Education and Development Studies (IJCEDE)*, 5 (1):153-163.
- Opara, J.C., Olofu, PA & Ihekoronye, E.O. (2020). Assessment of parents' perception on the impact of covid-19 pandemic school closure on secondary school students in Gwagwalada Area Council, Abuja. *Benue State University Journal of Educational Management*. 2(1), 93-102.
- Ou, Y., & Kim, H. (2025). Psychological factors and entrepreneurial behaviour among university students: Implications for entrepreneurship education. *Journal of Small Business and Enterprise Development*, 32(1), 84–101.
- Pettersen, I., Van Der Lingen, E., & Åmo, B. W. (2025). Emotions as predictors of entrepreneurial self-efficacy and entrepreneurial identity aspiration among students. *Entrepreneurship Research Journal*, 15(2), 175–194.
- Ramadhan, M., Kuswandi, D., & Soepriyanto, Y. (2023). Genius Hour learning: A literature review of its effects on creativity, engagement, and independent learning. *Journal of Educational Technology and Innovation*, 8(2), 45–60.
- Rodrigues, M. (2023). Entrepreneurship education and entrepreneurial competence development in higher education institutions. *Education Sciences*, 13(5), 467–482.
- Rojas Chacaltana, J. C., Etchart-Puza, M. E., Cardenas-Zedano, E. M., & Herencia-Escalante, J. S. (2023). Socioemotional competencies and student development in higher education. *Sustainability*, 15(14), 11234.
- Yang, R., Yang, X., & Shabbir, M. S. (2026). Experiential learning in postgraduate education: Fostering professional skills and entrepreneurial mindsets. *International Journal of Educational Development*, 122, 103534.
- Zabel, C. M. K., Meister, A., Van De Sandt, N., & Mauer, R. (2025). An emotional learning process? The role of socially induced and regulated emotions for the development of an entrepreneurial mindset. *International Journal of Entrepreneurial Behavior & Research*, 31(8), 2137-2163.
- Usua, O. B., Patrick, E. O., James, J. J., Emenyi, J. H. & Odok, L. A. (2026) Blended learning instructional strategy and entrepreneurship skills acquisition in post-covid-19 pandemic among undergraduates of public universities in Cross River State, Nigeria. *Inter-Disciplinary Journal of Science Education (IJ-SED)*. 7(1), 35-48