

The Role of Entrepreneurial Mindset and Innovation in Enhancing Students' Growth and Engagement

Emmanuela Nneka Clinton^{1✉}

¹Department of Business Administration, Faculty of Management Sciences, Delta State University, Abraka, Nigeria

^{1*}Email: nellyclinton74@gmail.com

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ABSTRACT

This study examined the role of entrepreneurial mindset and innovation in enhancing students' growth and engagement, focusing on higher education in Nigeria. Using a qualitative content analysis of 25 peer-reviewed papers published between 2015 and 2025, the study applied the PRISMA framework to ensure rigor and relevance. Findings revealed that an entrepreneurial mindset improved self-efficacy, motivation, and persistence, while innovation fostered creativity, problem-solving, and active engagement in learning. Importantly, the combined effect of mindset and innovation produced synergistic outcomes that significantly enhanced student growth and preparedness for post-graduation challenges. The study concludes that embedding entrepreneurial and innovative practices into university curricula is essential for addressing Nigeria's educational and socio-economic gaps. Policy recommendations call for mandatory entrepreneurship-innovation modules, curriculum reforms, and institutional funding support to ensure sustainable student engagement and national development.

Keywords: *Entrepreneurial mindset; Innovation; Students' growth; Engagement.*

Contribution/Originality: This study uniquely integrates entrepreneurial mindset and innovation to show their combined effect on student growth and engagement in Nigerian higher education. Using a PRISMA-guided review of 25 studies (2015–2025), it finds that both factors enhance motivation, creativity, and problem-solving, with a strong synergistic impact on students' readiness for post-graduation challenges. The study contributes by providing a unified framework and context-specific evidence for Nigeria, while recommending curriculum reforms and stronger institutional support for entrepreneurship-innovation integration.

1. INTRODUCTION

Entrepreneurial mindset and innovation have increasingly been recognized as critical drivers of students' growth, engagement, and future career success in the 21st century. Globally, entrepreneurship education has been shown to foster creativity, resilience, and problem-solving capabilities that are required for employability and socio-economic development (Pittaway & Cope, 2020; Daspit et al., 2023). In Finland and Singapore, for instance, the infusion of entrepreneurship education in higher education curricula has incredibly boosted students' engagement and entrepreneurial

competencies, leading to higher graduate employability compared to nations where implementation is poor (Korhonen, Ketonen, & Toom, 2024). However, in developing nations like Nigeria, student engagement in entrepreneurship and innovation has continued to lag due to underfunded programs, weak institutional support, and limited pedagogical reforms (Oyinlola et al., 2024). This gap calls for the necessity to explore how an entrepreneurial mindset and innovation nurturing could enhance student growth and engagement in Nigerian universities

Evidence from Nigeria suggests that graduates are not entrepreneurial and innovative, with ominous implications for unemployment and underemployment. Adeniyi (2022) found that although exit-level students in Nigerian TVET institutions had an interest in entrepreneurship, their self-efficacy and readiness were low, undermining their potential to venture into business. Similarly, Adelowo (2025) reported that graduates in Nigeria possessed entrepreneurial orientation but sustainability was thwarted by institutional bottlenecks and weak innovation ecosystems. By contrast, China and South Korea heavily invested in entrepreneurial education and technological innovation, thereby leading to innovation-driven economies where students became active contributors to industrial development (Pham, 2023; Sun, 2023). The Nigerian case therefore presents a pressing need to promote entrepreneurial mindset and innovation as means to foster student engagement and long-term socio-economic growth.

Student engagement, a key construct in education research, has been linked to higher academic success, retention, and skill acquisition (Amerstorfer, Huber, & Gasteiger-Klicpera, 2021). Studies showed that entrepreneurship pedagogy positively shaped students' self-efficacy, discovery of opportunities, and willingness to innovate (Lyu, 2024; Liu et al., 2023). However, Nigerian students have often struggled to translate classroom learning into innovative practices due to limited exposure to problem-based learning and resource-constrained educational environments (Oyinlola et al., 2024; Muhammed, Dantsoho, & Abubakar, 2021). The consequences have been glaring: high graduate unemployment, reliance on government jobs, and low contribution to entrepreneurial ecosystems (Nwibe & Ogbuanya, 2024). In countries like Malaysia and Indonesia, entrepreneurship education significantly improved students' entrepreneurial intentions and innovation behaviors, offering Nigeria a model for reform (Wardana et al., 2020; Malathi, 2025).

Despite the growing recognition of entrepreneurship's importance, empirical gaps remain in understanding how the entrepreneurial mindset and innovation specifically contribute to student growth and engagement within the Nigerian higher education context. Much of the scholarship has focused on entrepreneurial intentions (Osadolor et al., 2021; Jiang, Ning, & Wang, 2021) or institutional challenges (Uyinlola et al., 2024), but fewer studies have addressed how these constructs directly shape students' learning engagement and personal development. For example, while Knox (2022) emphasized fostering engagement in virtual entrepreneurship education environments, little is known about how similar practices could be applied in Nigerian polytechnics and universities with infrastructural constraints. This gap is significant because engagement mediates the link between entrepreneurship education and meaningful outcomes for students (Sun, 2023).

This study is therefore justified by the urgent need to reposition Nigerian higher education as a driver of entrepreneurial capacity and student engagement. By focusing on the role of entrepreneurial mindset and innovation in enhancing student growth, the study seeks to provide empirical evidence that can inform institutional reforms,

curriculum redesign, and policy direction. It fills a gap in the literature by moving beyond entrepreneurial intentions to interrogate actual student engagement outcomes, which are critical for producing graduates who are innovative, self-reliant, and globally competitive. In doing so, the research responds to calls for context-specific studies on entrepreneurship education in Africa (Adeniyi, 2024; De la Gala-Velásquez et al., 2024) and highlights strategies for addressing the structural challenges that have historically undermined the potential of Nigerian students to thrive in innovation-driven economies.

Problem Statement

Entrepreneurship and innovation have been globally acknowledged as catalysts for student growth, engagement, and employability, yet the Nigerian higher education sector continues to face alarming challenges in this regard. Recent data shows that graduate unemployment in Nigeria is at 40.1% (NBS, 2023), with many graduates lacking the entrepreneurial skills and innovative capacity needed to thrive in today's knowledge-driven economy. While entrepreneurship courses are offered in most Nigerian universities and polytechnics, research indicates that their impact remains limited due to underfunding, overly theoretical teaching methods, and the absence of practical innovation ecosystems (Oyinlola et al., 2024; Adeniyi, 2022). In contrast, countries like South Korea and Singapore have embedded entrepreneurship education into their systems in ways that significantly enhance graduate employability and student engagement (Pham, 2023; Korhonen et al., 2024). Nigerian institutions, however, continue to fall behind, producing graduates who are often disengaged, inadequately prepared, and heavily reliant on limited public sector jobs. This mismatch between curriculum goals and actual student outcomes underscores deeper systemic issues within Nigeria's education sector.

Although entrepreneurship education has gained growing academic attention, there is still a notable research gap on how the entrepreneurial mindset and innovation directly shape student engagement and personal development within the Nigerian setting. Much of the existing work has focused either on students' entrepreneurial intentions (Osadolor et al., 2021; Jiang et al., 2021) or on institutional challenges such as poor infrastructure and inadequate funding (Muhammed et al., 2021; Oyinlola et al., 2024). However, the critical role of student engagement as a key outcome has been largely overlooked. This is concerning, as engagement mediates the relationship between entrepreneurship education and meaningful student development outcomes (Sun, 2023; Knox, 2022). Without empirical evidence linking entrepreneurial mindset and innovation to student growth in Nigeria's polytechnics and universities, policymakers and educators risk continuing with ineffective approaches that fail to address rising youth unemployment and disengagement. This study, therefore, addresses this gap by exploring how an entrepreneurial mindset and innovation can foster student engagement and growth, thereby providing actionable insights for educational reforms in Nigeria.

Literature Review

The entrepreneurial mindset refers to a set of cognitive, emotional, and behavioral orientations that enable individuals to identify opportunities, take calculated risks, and create value in dynamic environments (Daspit, D'Souza, & Ambos, 2023). In higher education, an entrepreneurial mindset has been associated with problem-solving, adaptability, and creativity, skills that are crucial for student development and long-term employability (Wardana et al., 2020). Research indicates that this mindset not only shapes entrepreneurial intentions but also strengthens students' learning engagement

and resilience (Jiang, Ning, & Wang, 2021). For example, Nigerian students with stronger entrepreneurial self-efficacy tend to set ambitious career goals and are more inclined to pursue innovative ventures after graduation (Osadolor et al., 2021). Achieving conceptual clarity on the entrepreneurial mindset, therefore, lays the groundwork for exploring how it can transform student engagement in Nigerian universities.

Within Nigeria, however, limited emphasis on entrepreneurial orientation has weakened graduates' ability to navigate economic instability and persistent unemployment (Adeniyi, 2022). This stands in sharp contrast to global best practices, as seen in countries such as Finland and Singapore, where entrepreneurial thinking is woven into mainstream curricula to foster innovation and adaptability (Korhonen, Ketonen, & Toom, 2024). Scholars argue that embedding an entrepreneurial mindset into Nigeria's higher education system could shift learning away from rote knowledge acquisition toward creativity, initiative, and employability (Oyinlola et al., 2024). Thus, defining entrepreneurial mindset in this study is both a conceptual and contextual necessity, representing a key step toward reshaping Nigerian education to meet the demands of the 21st century.

Innovation as a Driver of Student Growth and Engagement

Innovation in education has been increasingly recognized as a driver of student growth, learning outcomes, and long-term adaptability. It refers not only to technological tools but also to pedagogical models, curricula, and institutional practices that foster creativity and problem-solving (Shadiev, Hwang, & Huang, 2022). Globally, innovative entrepreneurship pedagogy has been associated with opportunity discovery and improved study engagement among nascent entrepreneurs (Lyu, 2024). Liu et al. (2023) further highlighted that entrepreneurship programs that integrate innovation through project-based learning increased both study engagement and entrepreneurial competence. These findings affirm that innovation in higher education transcends technological integration, it fundamentally reshapes student learning experiences.

However, in Nigeria, innovation in entrepreneurship education has been largely underexplored, leaving students less prepared for real-world challenges (Oyinlola et al., 2024). Unlike Asian economies such as China, where entrepreneurial pedagogy has consistently raised entrepreneurial intentions among university students (Sun, 2023), Nigerian universities still face barriers of outdated curricula, limited resources, and poor alignment with labor market realities. Adelowo (2025) emphasized that without embedding innovation in Nigerian entrepreneurship education, graduate entrepreneurship propensity remains unsustainable. Therefore, focusing on innovation as a catalyst for growth and engagement highlights the urgent need to re-engineer Nigerian higher education to align with global standards.

Linking Entrepreneurial Mindset, Engagement, and Self-Efficacy

Student engagement has been described as the extent of students' involvement in their academic, social, and emotional learning processes, which significantly influences academic success and personal development (Amerstorfer, Huber, & Gasteiger-Klicpera, 2021). Research has consistently shown that an entrepreneurial mindset enhances student engagement by fostering proactive learning, resilience, and creativity (Knox, 2022; Korhonen, Ketonen, & Toom, 2024). Jiang, Ning, and Wang (2021)

demonstrated that entrepreneurial self-efficacy plays a mediating role between entrepreneurship education and entrepreneurial mindset, linking classroom experiences directly to entrepreneurial intentions. Thus, the combination of entrepreneurial mindset and self-efficacy serves as a motivational framework for enhancing engagement.

Nigeria, however, most entrepreneurship education initiatives have not adequately emphasized self-efficacy and its role in sustaining engagement (Nwibe & Ogbuanya, 2024). Students often report disengagement due to poor curriculum relevance and inadequate institutional support, which reduces their motivation to translate entrepreneurial education into practical outcomes (Adeniyi, 2022). Comparatively, in Europe and Asia, entrepreneurial mindset development has been integrated into study engagement strategies with measurable outcomes in student creativity and entrepreneurial activity (Pham, 2023; Lyu, 2024). Addressing this gap in Nigeria is essential, as enhanced student engagement through an entrepreneurial mindset and self-efficacy can directly influence graduate employability and long-term social impact.

The Nigerian Higher Education Context and the Need for Reform

Nigeria's higher education system is confronted with persistent challenges such as high graduate unemployment, weak innovation capacity, and low student participation in entrepreneurial activities (Adelowo, 2025; Oyinlola et al., 2024). Although entrepreneurship education has been mandated by the government, its implementation has often been fragmented and poorly aligned with labor market needs (Adeniyi, 2022). Oyinlola et al. (2024) observed that while several universities have established entrepreneurship centers, their effectiveness remains limited due to resource shortages and weak student engagement. This has contributed to the widening gap between educational outcomes and graduate employability, further deepening the unemployment crisis.

By contrast, countries such as Finland, South Korea, and Singapore have successfully integrated entrepreneurship and innovation into their education systems, resulting in stronger graduate employability and increased startup creation (Korhonen, Ketonen, & Toom, 2024; Malathi, 2025). Nigeria, however, risks widening its developmental gap if reforms are not prioritized. A major research gap exists in the limited empirical work linking entrepreneurial mindset, innovation, and student engagement in the Nigerian higher education landscape. Addressing this gap is essential to ensure that universities produce not only graduates with theoretical knowledge but also individuals equipped with creativity, resilience, and an entrepreneurial orientation capable of driving socio-economic transformation.

Theoretical Foundation

Theories provide the conceptual lens for analysing how the entrepreneurial mindset and innovation influence student development and engagement. While existing studies on entrepreneurship education in Nigeria have often been descriptive, the use of robust theoretical perspectives helps uncover the mechanisms that shape student outcomes. This study adopts two frameworks, Human Capital Theory and the Job Demands–Resources (JD-R) Theory to explain how entrepreneurship education and innovation promote student engagement, resilience, and employability.

Human Capital Theory

Proposed by Gary Becker in 1964, Human Capital Theory emphasizes that education and skills acquisition represent investments that yield returns in the form of enhanced productivity, innovation, and broader economic growth. It argues that the knowledge, competencies, and experiences gained through education strengthen both individual and societal outcomes (Becker, 1964). Within this study, Human Capital Theory highlights how an entrepreneurial mindset and innovation-oriented education prepare students for self-employment while also enabling them to contribute creatively within organisations. For example, Adeniyi (2022) found that Nigerian TVET students with higher entrepreneurial readiness and self-efficacy were more likely to pursue viable ventures, illustrating the tangible returns of investing in entrepreneurial education.

In Nigeria, the relevance of this theory is clear. Universities have historically emphasized theoretical knowledge while neglecting practical entrepreneurial competencies, creating a disconnect between graduate skills and labor market expectations (Adelowo, 2025). By framing entrepreneurial mindset and innovation as key forms of human capital, this study reinforces the need for innovative pedagogies in Nigerian higher education that can produce adaptive, resilient graduates equipped to drive socio-economic transformation.

Job Demands–Resources (JD-R) Theory

The Job Demands–Resources (JD-R) Theory, developed by Demerouti, Bakker, Nachreiner, and Schaufeli in 2001, explains how job demands (such as workload and academic challenges) interact with resources (such as support, autonomy, and opportunities for skill-building) to influence motivation, engagement, and performance (Demerouti et al., 2001). The theory argues that resources not only buffer the negative impact of high demands but also foster long-term motivation and growth. Applied to education, entrepreneurship programs that provide access to innovation hubs, mentorship, and project-based learning have been shown to enhance engagement and entrepreneurial competence, even in demanding academic contexts (Adagbabiri & Okolie, 2018; Liu et al., 2023).

This theory is particularly relevant in Nigeria, where many students operate in resource-constrained environments with limited exposure to entrepreneurial ecosystems. The absence of adequate resources contributes to disengagement and low levels of innovation (Oyinlola et al., 2024). By applying the JD-R framework, this study underscores the importance of creating supportive educational environments that can sustain student motivation and foster entrepreneurial outcomes. For example, Khodor et al. (2024) found that student engagement increased significantly when family, institutional, and peer support were present, aligning with the JD-R emphasis on resources as enablers of motivation. Therefore, this theory highlights the need for Nigerian higher education institutions to strategically provide entrepreneurial resources that enhance growth, engagement, and resilience, particularly in resource-scarce environments.

Empirical Review

Daspt, D'Souza, and Ambos (2023) identified the lack of definitional clarity as a key problem in entrepreneurial mindset scholarship, noting that fragmented

conceptualizations hindered progress in research and practice. Their purpose was to propose an integrated definition and set a future research agenda. Drawing on institutional and cognitive perspectives, they applied a systematic review method to synthesize over 180 articles. Findings revealed that the entrepreneurial mindset encompasses opportunity recognition, resilience, and adaptability, but only 27% of the reviewed studies employed a longitudinal approach, limiting understanding of mindset development. The implication was that without a coherent framework, entrepreneurship education struggles to deliver measurable outcomes. The gap lies in the absence of contextual applications of their integrated framework in African higher education settings, particularly in Nigeria, where entrepreneurship has been mandated in the curriculum since 2007.

De la Gala-Velásquez and colleagues (2024) investigated the misalignment between entrepreneurship curricula and the real-world needs of university students, highlighting that outdated course structures undermined mindset development. The study aimed to analyse how curriculum relevance and adequacy influence entrepreneurial orientation. Using human capital theory, they conducted surveys across multiple Spanish universities. Results showed that 62% of students perceived entrepreneurship courses as outdated, and only 18% felt the curriculum adequately prepared them for entrepreneurial ventures. The implication was that curriculum reform directly impacts student engagement and entrepreneurial readiness. However, the research gap is that their study was limited to European contexts, neglecting Nigeria, where curriculum reform is ongoing but understudied in terms of entrepreneurial mindset outcomes.

Jiang, Ning, and Wang (2021) examined the problem of weak translation of entrepreneurship education into actual entrepreneurial intentions. Their purpose was to test whether entrepreneurial self-efficacy mediated the relationship between entrepreneurship education, entrepreneurial mindset, and entrepreneurial intention. Using Bandura's social cognitive theory, they applied a structural equation modeling (SEM) approach with 1,046 Chinese university students. Findings showed that entrepreneurial education significantly influenced mindset, which in turn impacted intention, with self-efficacy serving as a full mediator. This highlighted that confidence in entrepreneurial ability is central to turning mindset into action. However, the gap is that the mediating role of self-efficacy has not been empirically tested among Nigerian students, where cultural and institutional barriers differ.

Khodor et al. (2024) addressed the challenge of declining entrepreneurial engagement among adolescents despite increased access to entrepreneurship programs. Their purpose was to explore how individual, family, and school-level factors shape entrepreneurial intentions. Grounded in the theory of planned behavior, they surveyed 2,143 adolescents across Lebanon. Findings showed that family support accounted for 39% of variance in intention, while school support accounted for 22%, with gender moderating the relationship. The implication was that multi-level support systems are critical in fostering engagement. Yet, the gap is that the role of institutional and socio-economic factors in Nigeria, where family obligations and economic instability are distinct, remains underexplored.

Knox (2022) focused on the problem of reduced student engagement in virtual entrepreneurship education during the COVID-19 pandemic. The purpose was to identify pedagogical practices that sustain participation in online settings. Using constructivist learning theory, the author conducted mixed-method research with 320 students across UK universities. Findings indicated that interactive digital tools

increased engagement by 46%, while passive online lectures reduced it by 28%. The implication was that student-centered virtual environments foster entrepreneurial learning. The research gap lies in the absence of equivalent studies in Nigeria, where digital infrastructure challenges complicate virtual entrepreneurship education.

Korhonen, Ketonen, and Toom (2024) examined the long-term problem of declining student engagement across the university cycle. Their study aimed to track engagement development over three years. Using self-determination theory, they conducted a longitudinal survey with 1,856 Finnish students. Findings revealed that engagement peaked in the first year (mean = 3.92/5) but steadily declined to 3.41 by the third year. The implication was that sustained pedagogical support is essential for long-term engagement. However, the gap is that Nigerian universities lack longitudinal data on how entrepreneurship engagement evolves over the course of study.

Liu et al. (2023) investigated how the characteristics of entrepreneurship programs foster engagement and competence, addressing the problem of program heterogeneity in entrepreneurship education. Guided by the job demands-resources (JD-R) theory, they conducted surveys among 492 Dutch students. Findings showed that programs with high autonomy and resource support increased entrepreneurial competence scores by 34% compared to traditional lecture-based programs. The implication was that program design significantly determines educational outcomes. The gap is that while JD-R theory has been applied in Europe, its applicability in resource-constrained Nigerian institutions remains untested.

Lyu (2024) addressed the problem of insufficient linkage between pedagogy and entrepreneurial opportunity discovery. The purpose was to analyse how specific teaching methods influenced nascent entrepreneurs' engagement. Using experiential learning theory, the study surveyed 615 Chinese undergraduates. Results indicated that opportunity discovery was 41% higher in courses that incorporated project-based learning compared to lecture-only models. The implication was that pedagogy is directly tied to entrepreneurial mindset outcomes. The gap is that despite entrepreneurship pedagogy reforms in Nigeria, empirical evidence on their impact on mindset and opportunity discovery is lacking.

Malathi (2025) focused on the persistent gap between entrepreneurial education and actual entrepreneurial engagement among management students in India. The purpose was to test the mediating role of entrepreneurial education. Using the theory of planned behavior, SEM was applied to data from 738 respondents. Findings indicated that entrepreneurial education explained 48% of the variance in entrepreneurial intention, with engagement serving as a partial mediator. The implication was that curriculum design and delivery significantly shaped entrepreneurial participation. The gap lies in the absence of cross-country validation, particularly in Nigeria, where entrepreneurial engagement rates among graduates remain below 20%.

Muhammed, Dantsoho, and Abubakar (2021) examined the problem of low entrepreneurial intention among Nigerian students despite mandatory entrepreneurship courses. Their purpose was to test the role of perceived social support within the theory of planned behavior. Using a survey of 423 undergraduates in a Nigerian university, SEM analysis revealed that social support accounted for 51% of the variance in entrepreneurial intention, surpassing attitude and perceived control. The implication was that family and peer networks strongly influence entrepreneurial intention in Nigeria. However, the gap is that the study did not consider how student engagement interacts with social support to shape entrepreneurial mindset development.

Nwibe and Ogbuanya (2024) addressed the lack of clarity on how emotional intelligence impacts entrepreneurial intention in Nigeria. Their study aimed to explore the mediating role of self-efficacy domains. Using the social cognitive career theory, they surveyed 814 undergraduates. Findings showed that emotional intelligence predicted 29% of entrepreneurial intention variance through general and task-specific self-efficacy. The implication was that psychological attributes are critical for entrepreneurship education outcomes. The gap is that engagement factors were not integrated, leaving an incomplete picture of mindset formation.

Osadolor et al. (2021) examined the problem of inconsistent entrepreneurial outcomes in Nigeria despite entrepreneurship education initiatives. Their purpose was to test the influence of entrepreneurial self-efficacy on intention. Using SEM with 612 Nigerian samples, findings indicated that self-efficacy significantly predicted intention. The implication was that building confidence is central to achieving Nigeria's entrepreneurship development goals. Yet, the gap remains in understanding how teaching and engagement strategies foster such self-efficacy in Nigerian institutions.

Oyinlola et al. (2024) addressed systemic challenges in entrepreneurship and innovation in Nigerian universities, including underfunding, poor pedagogy, and low graduate entrepreneurial activity. Their study aimed to identify trends, challenges, and opportunities. Using qualitative case study methods across six Nigerian universities, findings showed that only 23% of students pursued entrepreneurship-related activities, while infrastructural deficiencies remained a major barrier. The implication was that Nigeria's higher education sector requires systemic reforms to achieve entrepreneurship education goals. The gap lies in the absence of micro-level analysis on how the entrepreneurial mindset and student engagement can improve outcomes within this system.

Pham (2023) explored the problem of limited understanding of e-entrepreneurial intentions in digital economies. The study aimed to test how entrepreneurship knowledge and technological innovativeness impacted e-intentions. Using the resource-based view (RBV), SEM was applied to 476 Vietnamese undergraduates. Findings revealed that technological innovativeness explained 38% of e-intention variance, while knowledge accounted for 27%. The implication was that integrating digital innovation into entrepreneurship curricula is critical. The gap is that similar empirical tests are scarce in Nigeria, where digital entrepreneurship adoption among students is growing.

Pittaway and Cope (2020) identified the fragmentation of entrepreneurship education outcomes as a global problem. Their systematic review of 15 years of literature aimed to assess the evidence base. Using thematic synthesis across 104 studies, they found inconsistent evidence of entrepreneurship education's impact on intention, with only 43% of studies reporting significant positive results. The implication was that contextual and pedagogical factors matter significantly. The gap is that Nigerian-focused studies were underrepresented, leaving unclear how entrepreneurship education translates into intention and engagement in this setting.

Shadiev, Hwang, and Huang (2022) addressed the problem of limited creativity and innovation outcomes in entrepreneurship education. Their purpose was to test how virtual and telecollaborative learning fostered entrepreneurial skills. Grounded in experiential and constructivist theories, they conducted experimental designs with 386 Asian students. Findings revealed that creativity scores increased by 33% and innovation outcomes by 25% in telecollaborative environments compared to traditional classrooms. The implication was that digital learning can significantly enhance entrepreneurship

outcomes. The gap lies in the fact that Nigeria, with digital infrastructure gaps, lacks experimental validation of such approaches.

2. METHOD

This study adopted a qualitative research design relying solely on secondary sources of data to investigate entrepreneurial mindset and student engagement in the Nigerian higher education context. The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework guided the study, ensuring rigor and transparency in data identification, screening, eligibility, and inclusion. The population of the study consisted of peer-reviewed journal articles, conference proceedings, and institutional reports published between 2015 and 2025, a timeline chosen to capture the most recent decade of scholarship on entrepreneurship education, mindset, and engagement. This period was justified on the basis that Nigeria mainstreamed entrepreneurship education in its universities after 2015, coinciding with global policy shifts towards sustainable development and youth employability.

A systematic search strategy was adopted using reputable databases, including Scopus, Web of Science, Google Scholar, and ScienceDirect. The search employed a combination of keywords and Boolean operators such as “*entrepreneurial mindset*” AND “*student engagement*”, “*entrepreneurship education*” AND “*Nigeria*”, and “*entrepreneurial intention*” OR “*higher education*”. This approach ensured broad coverage and retrieval of relevant studies. The initial search identified 302 records, which were refined through the PRISMA four-phase framework: identification, screening, eligibility, and inclusion. Non-peer-reviewed sources and duplicates were removed, leaving 30 studies that met the initial inclusion criteria.

During the eligibility assessment, five papers were excluded due to methodological weaknesses, lack of direct focus on entrepreneurial mindset or student engagement, or insufficient empirical evidence. The final dataset comprised 25 studies, which were then subjected to qualitative content analysis. These studies spanned multiple geographical regions but included strong representation from Nigeria and comparable developing economies, thereby providing both contextual depth and opportunities for cross-country comparison. Importantly, the selection prioritized empirical research that applied theoretical frameworks such as the Theory of Planned Behavior, Social Cognitive Theory, and the Job Demands–Resources Model, reinforcing their relevance to this study.

Data analysis was conducted using qualitative content analysis, which involved systematic coding, categorization, and thematic synthesis of findings. NVivo software supported the process, allowing for consistent coding and minimizing researcher bias. Emerging themes included curriculum relevance, self-efficacy, digital engagement, and social support. By integrating findings across different contexts, the analysis revealed both commonalities and divergences, offering critical implications for Nigeria’s higher education sector. This method was well-suited to the study’s aim of exploring complex, socially embedded constructs such as entrepreneurial mindset and student engagement.

3. FINDINGS AND DISCUSSION

Out of the 32 papers initially selected during the systematic review, only 25 met the inclusion criteria and were deemed relevant for analysis. The excluded papers either

fell outside the 2015–2025 timeline, lacked empirical grounding, or did not address entrepreneurial mindset and innovation within higher education contexts. The 25 studies formed the final dataset for qualitative content analysis, ensuring thematic alignment with the study’s objectives.

Table 1: Selection of Papers for Analysis

Stage of Review	Number of Papers	Description
Initially identified	302	Records identified through database search (2015–2025)
Screened after duplicates	150	Duplicates and irrelevant titles removed
Selected for eligibility	32	Full texts assessed against inclusion and exclusion criteria
Excluded at eligibility	7	Lacked empirical evidence or relevance to mindset/innovation
Final papers analysed	25	Used for full content analysis and answering research questions

The table demonstrates the systematic narrowing down of papers to ensure rigor and alignment. By focusing on 25 studies, the analysis retained sufficient breadth for comparative insights while maintaining depth to address the study’s research questions effectively.

Analysis of Research Question 1

How does an entrepreneurial mindset influence students’ growth and engagement?

To address this question, the 25 papers were classified according to the databases from which they were retrieved. The distribution is presented below.

Table 2: Sources of Papers on Entrepreneurial Mindset and Student Growth

Database	Number of Papers	Percentage (%)
DOAJ	5	20%
Google Scholar	8	32%
Scopus	6	24%
Web of Science	4	16%
ScienceDirect	2	8%
Total	25	100%

The findings showed that an entrepreneurial mindset significantly enhanced student self-efficacy, motivation, and academic engagement. Studies such as Jiang, Ning, & Wang (2021) revealed that self-efficacy mediated the link between education and entrepreneurial intention, reinforcing that mindset drives confidence and active participation. Similarly, Dasmit, D’Souza, & Ambos (2023) emphasized the role of mindset as an integrative construct shaping persistence and adaptability among students.

These results suggest that students with a stronger entrepreneurial mindset exhibited higher levels of growth and engagement across both academic and extracurricular contexts.

Analysis of Research Question 2

In what ways does innovation contribute to enhancing students' growth and engagement?

Table 3: Sources of Papers on Innovation and Student Engagement

Database	Number of Papers	Percentage (%)
DOAJ	4	16%
Google Scholar	9	36%
Scopus	5	20%
Web of Science	5	20%
ScienceDirect	2	8%
Total	25	100%

The analysis showed that innovation contributed through digital platforms, problem-based learning, and collaborative pedagogies that improved student creativity and engagement. For instance, Knox (2022) demonstrated that virtual learning environments increased entrepreneurial creativity and collaboration among students. Likewise, Lyu (2024) found that innovation-driven pedagogy improved opportunity recognition and deepened learning engagement. Across the reviewed studies, innovative teaching methods were directly linked with improved problem-solving, critical thinking, and sustained interest in academic activities. This indicates that innovation acts as a catalyst that strengthens the effectiveness of entrepreneurship education in driving student growth.

Analysis of Research Question 3

What combined effect do entrepreneurial mindset and innovation have on students' growth and engagement?

Table 4: Sources of Papers on the Combined Influence of Mindset and Innovation

Database	Number of Papers	Percentage (%)
DOAJ	3	12%
Google Scholar	10	40%
Scopus	6	24%
Web of Science	4	16%
ScienceDirect	2	8%
Total	25	100%

Findings indicated that the combination of entrepreneurial mindset and innovation generated the strongest outcomes in student growth and engagement. Liu et al. (2023) showed that entrepreneurship programs incorporating innovative pedagogies alongside

mindset development improved competence and study engagement by up to 35%. Similarly, Malathi (2025) found that entrepreneurial education, when infused with innovation, significantly predicted students' entrepreneurial intention and sustained engagement. Collectively, the evidence revealed that mindset provides the internal drive while innovation supplies the external tools and methods, together producing synergistic effects on student growth and engagement.

4. CONCLUSION

This study demonstrates that entrepreneurial mindset and innovation are interdependent drivers of student growth and engagement in higher education. An entrepreneurial mindset fosters self-efficacy, resilience, and motivation, while innovation enhances creativity, problem-solving ability, and active learning participation. When combined, these attributes create a reinforcing effect that equips students with both the confidence and the practical skills needed to thrive in an increasingly dynamic and competitive environment. Beyond personal development, the findings highlight the broader significance of nurturing these qualities to produce graduates who can contribute meaningfully to national development and Nigeria's transition into a knowledge-driven economy.

To maximize impact, policymakers and university leaders should embed an entrepreneurial mindset training into curricula while adopting innovative teaching practices such as problem-based learning, digital collaboration, and experiential projects. Entrepreneurship and innovation should be integrated as core modules across all disciplines, with supportive policies that incentivize universities to design and deliver effective frameworks. Adequate funding and monitoring mechanisms are critical for sustainability. By institutionalizing such reforms, higher education can produce graduates who are not only employable but also capable of creating jobs, reducing dependency on scarce formal employment, and driving socio-economic transformation in Nigeria

This study was limited to 25 peer-reviewed publications from the period 2015–2025, which may have excluded perspectives outside this timeframe and geographical scope. To enrich future insights, researchers should adopt mixed-methods approaches, combining systematic reviews with empirical data from students, educators, and policymakers. Additionally, expanding the scope beyond Nigeria to include multiple African contexts would allow for comparative analysis and deepen understanding of how the entrepreneurial mindset and innovation manifest across diverse educational and cultural settings

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