

THE EFFECT OF ENTREPRENEURSHIP EDUCATION DIMENSIONS ON ENTREPRENEURIAL MINDSET OF PUBLIC UNIVERSITY STUDENTS IN PLATEAU STATE

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ABSTRACT

Entrepreneurship is key to contributing to innovation, job creation, and a nation's economic and societal advancement. This study borrows from social cognitive and engagement learning theories to establish a position that explains the entrepreneurial mindset among university graduating students, owing to the rate of graduates' engagement in entrepreneurial activities. Similarly, since a positive entrepreneurial mindset promotes participation in entrepreneurial activities, this study examines the effects of an entrepreneurial mindset among university students in Nigeria. A cross-sectional design was adopted to achieve the study objectives, using a sample of 369 graduating students (400 levels) across the University of Jos and Plateau State University, Bokokos, in Plateau State. The quantitative data analysis involved descriptive statistics and structural equation modeling using SPSS 25 and AMOS 23, based on 349 usable observations. The findings indicate that entrepreneurship education in terms of active learning, curricular content, and extracurricular activity is a significant predictor of entrepreneurial mindset. The primary conclusion is that the integration of entrepreneurship education dimensions, which predict entrepreneurial mindset dimensions at a composite level, is essential to the entrepreneurial mindset model of students in Nigerian universities. As a result, the study's findings lend credence to the theoretical framework chosen. In addition, policymakers should develop and implement an active entrepreneurship education program with the goal of encouraging university students to adopt an entrepreneurial attitude. The policy implication is that universities in the twenty-first century should employ and train lecturers who are resourceful and have the skills and competence in teaching entrepreneurship that will enhance the active engagement of students and entrepreneurial mindset. Also, providing an enabling environment that fosters lifelong learning for students by Nigerian universities is a policy implication.

Key words: Entrepreneurship education, Active learning, extracurricular activities, curricular content, entrepreneurial mindset.

1.0 INTRODUCTION

Globally, the economic growth and development of nations is shaped by entrepreneurship activities (Cui & Bell 2022; Jingweng et al., 2022; Noor 2022; Zemlyak 2022). Engagement in entrepreneurial activities is unevenly distributed across nations, in spite of its significance to the development of a nation (Aceytuno et al., 2017). Nations that engage in entrepreneurial activities achieve a high level of economic growth and development with an attainable reduction in the graduate unemployment rate (Farid et al., 2020; Kritikos, 2014). Additionally, numerous scholars have pointed out that variation in participation in entrepreneurial activities across the world is connected to a positive entrepreneurial mindset (Allen, 2020; Ajor & Alikor, 2020; Cui et al., 2019; Kouakou et al., 2019; Schaefer & Minello, 2019).

To encourage more participation in entrepreneurial activities, universities all over the world are involved in teaching entrepreneurship (Lackeus, 2015; Lv et al., 2021). Entrepreneurship education (EE) is based on the assumption that entrepreneurship is teachable and entrepreneurs can be developed (Erikson, 2003). Prominently, the Harvard University entrepreneurship class of 1947 in the U.S. inspired students to pursue their own businesses (Farid et al., 2020; Katz, 2003). Today, entrepreneurship education (EE) is instituted and emphasized within the context of developing economies with the aim of shifting the students' mindset from job seeking to job creation (Hartono, 2021; Hindle, 2007). Similarly, the development of students' entrepreneurial mindset dimensions (alertness to opportunities, risk-taking propensity, tolerance for ambiguity, and dispositional optimism) increases their chances of success in entrepreneurship, even in ambiguous and extremely difficult circumstances (Cui et al., 2019; Cui, 2021; Johnson et al., 2013).

Given the foregoing, it is clear that nations with strong entrepreneurial-minded individuals perform well in entrepreneurial activities (Hua et al., 2022). This is further strengthened by the global ranking of countries with the most entrepreneurial activities, which revealed that; U.S.A. 42.88%, Germany, 41.05%, UK 35.8%, while in Africa, South Africa 15.12%, Nigeria 14% (CEO Magazine, 2022). The ranking assesses the entrepreneurial activities of world economies based on a variety of entrepreneurial mindset factors that have impacted positively in reducing the unemployment rate in developed countries like the USA (3.6% for the fourth consecutive month), the UK (3.8%), Germany (2.8%), Spain (13.2%), Iraq (14.2%), Morocco (11.8%), and South Africa (32.7%) (OECD, 2022; NBS 2022). In Nigeria, the state of the economy is worrisome, with an unemployment rate of 33.3% (NBS, 2022), which has pushed Nigerians, particularly university students and graduates, to start choosing a career in entrepreneurship before graduation by developing a mindset that leads to participation in entrepreneurial activities in the near future (Aladejebi, 2020).

Further, the renewed emphasis on entrepreneurship has given the government a priority to discuss graduate unemployment and economic development (Farid et al., 2020; Maklu et al., 2020). Consequently, the Nigerian government rolled out policy measures to tackle unemployment, including entrepreneurship education (EEed) as a compulsory course for all students with effect from the 2007–2008 academic session (Aliu, 2008). This was incorporated into the 2007 Benchmark Minimum Academic Standards (BMAS), aimed at equipping tertiary students with entrepreneurial mindsets, skills, and competencies in order to be job creators and not just job hunters. Moreover, the NUC curriculum has just been revised and renamed as the Core Curriculum and Minimum Academic Standards (CCMAS) 2022. Although the revised CCMAS is about to be implemented, it is also aimed at meeting the global needs for entrepreneurial skills development. Similarly, the Industrial Attachment or Student Industrial Working Experience Scheme (SIWES) was established by the Industrial Training Funds (ITF) in 1973 to boost the practical and entrepreneurial skills of undergraduate students in science-related disciplines. In fact, researchers have discovered a positive link between these policy programs and reductions in unemployment (Aminu & Onimisi, 2014; Ekong & Ekong, 2016; Waziri & Abu, 2019). However, assessing these programs' effectiveness in reducing unemployment indicates that inherent obstacles, including government commitment, inadequate funding, corruption, bad leadership, etc., lead to their failure (Agwu, 2019; Waziri & Abu, 2019).

In this study, we established a model of entrepreneurship education and entrepreneurial mindset based on social cognitive and engagement learning theories to examine how entrepreneurship education dimensions—active learning, curricular content, and extracurricular activities—influence the entrepreneurial mindset of students. Fayolle and Lyon (2009) viewed entrepreneurship education as involving all the activities that tend towards instilling an entrepreneurial mentality, attitudes, and competences, covering a broad range of areas such as ideation, start-up, growth, and creativity. A review of extant literature revealed limited empirical evidence in the relationships between entrepreneurship education and entrepreneurial mindset (Chronaki, 2021; Cui et al., 2019; Cui 2021; González, 2019; Jiatong et al., 2021; Li et al., 2019; Wardana et al., 2020). However, in view of the paucity of research in this direction, it is unclear if existing findings are possible in a turbulent and

uncertain context like Nigeria, since only a few studies in the Nigerian context, for instance, Olokundun et al. (2018), Olutuase, (2017) established that the majority of the students in the selected university are able to develop critical thinking abilities and business idea generation competencies as a result of the entrepreneurial curriculum.

The extant literature above, mostly emanated from the western contexts which revealed that entrepreneurship education is positively and significantly correlated with entrepreneurial mindset. This is going well with the arguments in Daspit et al. (2023) who asserts that most pedagogical studies conducted in the context of higher education focusing on entrepreneurial mindset (EM) are conducted in European countries. Additionally, findings have suggested the need to emphasize designing HE programs that focuses on teaching approaches and strategies that spurs students critical thinking, as a result of actively participating in the process. This assertion is drawn from the findings of Igwe et al 2019; Igwe et al.2022; Okolie et al. (2019) who have explored the active learning pedagogical dimension of EE using qualitative and conceptual approaches. This affirmed the existence of the gap for this study, hence, seeks to address a call that future studies in pedagogy are clamored for, to concentrate on methods of enhancing students' EM exploring quantitative design. In addition, Nabi et al. (2017) called for EM studies after examining 159 studies, discovering that 51% addressed only the intention outcome of EE.

Similarly, EE scholars in the Nigerian context have created a gap for this study by focusing on other outcomes rather than EM, except for the findings in Katura & Dakung 2014 whose study revealed non-significant finding between EE and EM among female students which suffers the limitation of generalization. Example of scholars who explored other outcomes of EE include; Dakung et al. (2022), who highlighted that entrepreneurship education and inclusion make significant contributions to physically disabled students' entrepreneurial action. Maklu et al. (2020) sought to establish the impact of entrepreneurship education and the development of personal initiative in higher institutions of learning on the self-employment intention of graduates, using Plateau State University, Bokkos, as the study setting. The study found a significant relationship between entrepreneurship and self-employment intention. Also, Iyortsuun et al. (2020) highlighted the role of EE programs in students' attitudes towards self-employment. The study found that the learning and inspiration dimensions of EE account for the variation in students attitudes towards self-employment. Consequently, this study leverages on the obvious gaps in extant literature to explore extra-curricular, active learning, and course content and to examine the extent to which the three dimensions can predict the entrepreneurial mindset of university students in Plateau State.

This study offers theoretical, policy, and practical significance. Theoretically, the study seeks to improve the understanding of factors that explain why university students exhibit an entrepreneurial mindset. Similarly, the study hopes to contribute to the existing theoretical debate on social cognitive theory, engagement learning theory, and the roles of competence and mindset. In terms of policy significance, it provides useful information that can facilitate the development of policies and programs for stakeholders and policymakers in the educational sector. Practically, the significance of this evidence would provide the necessary justification to those in the field and practitioners alike (e.g., educators, students). The findings will enable tertiary institutions to develop strategies that, upon successful implementation, will reduce a negative entrepreneurial mindset among students.

Finally, the paper is structured as follows: literature review and hypothesis development, research framework, methodology, including research design, population, and samples. The demographic results are presented, along with a test of hypothesis, result interpretation, discussion of findings, and conclusions or implication, which offer the basis for further suggestions for future studies

2.0 LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

In this section, we reviewed entrepreneurship education and its three dimensions; active learning, curriculum content and extracurricular activity as seen below.

2.1 Entrepreneurship education (EE)

Entrepreneurship education (EE) has accordingly experienced rapid and global development within higher education over decades (Cui et al., 2021; Nabi et al., 2016 & 2017). Garavan and O’Cinneide (1994) defined entrepreneurship education as an entrepreneurial activity that equips learners to acquire knowledge that is relevant to entrepreneurship and also acquire skills in the use of techniques, the analysis of business situations, and the synthesis of action plans. Similarly, Hynes (1996) argued that entrepreneurship education is a process involving a series of activities tailored towards the assimilation and development of knowledge, capabilities, values, and insights that are not simply related to a narrow field of activity but allow a broad range of problems to be defined, analyzed, and solved. Further, the meaning of EE as advanced in literature by Secundo et al. (2021) and Gautam and Singh (2015) describes a person's capacity to translate ideas into action and encompasses risk-taking, creativity, invention, and the capacity to organize and oversee tasks to meet goals. This definition emphasizes the place of Innovation in the development and effective delivery of an entrepreneurship education curriculum. Thus, increasing the relevance of EE requires pedagogically responsible EE revolution more than ever before at all levels of education. This to create an inclusive society, positive entrepreneurship, good governance, and social responsibility by enhancing problem-solving, creativity, innovation and entrepreneurial skills (Igwe et al.2019; Igwe et al.2022). The conceptualization of EE above gave an insight into the gap for this study. Therefore, we reviewed three EE dimensions: active learning, curriculum content, and extracurricular activity, as seen below.

2.1.1 Active learning (AL)

Active learning in this study is defined as an experiential pedagogy, an approach to engaging learners in a meaningful and interesting educational task towards learning about entrepreneurship. This is theoretically grounded in the definition of active learning provided by Shroff et al. (2021) as a learning theory and instructional model that emphasizes students actively participating in their education by immersing themselves in an experience that they find meaningful and relevant to their tasks and learning objectives. Active learning uses a student-oriented approach by challenging the idea of "teaching by telling" and emphasizing the idea of knowledge retention through peer engagement (Bavishi et al., 2022).

Similarly, Ismail and Sawang (2021) argued the conceptualization of active learning approach and passive learning. While active learning is an experiential approach to learning where students engage in some activities that force them to reflect upon their experiences, ideas, and how they use those ideas over a long period of time (Daspit et al.2023). Passive learning is an approach where the educator or teacher plays the main role that initiates the learning process, while the student is meant to absorb the information that the educator transmits. The learning takes place only in the static classroom intended to develop the students’ capacity to understand the information provided. Educators can present a large amount of material in a relatively brief amount of time, impart knowledge, and introduce basic principles to large classes of students. This is a one-way communication, also known as teacher-centered, where the educator talks whilst the audience listens.

This further affirmed previous definitions by Prince (2004), who defined AL as any instructional method that engages students in the learning process. Also, according to Fink (2013), active learning is a method of instruction that emphasizes critical thinking and involves students engaging in class activities while also thinking about what they are doing. Thus, AL is a student-centered approach that emphasizes the use of action learning and experiential learning.

2.1.2 Curriculum content (CC)

Bilić et al. (2011) described a curriculum as a mechanism employed for the structured reproduction of entrepreneurial culture with an emphasis on critical independent thinking and entrepreneurship development. Thus, the entrepreneurship curriculum is a structured learning point that provides information and knowledge on how students may recognize and shape possibilities, evaluate business concepts, create operational plans, get capital, start up, and expand new businesses, according to Courilsky (1995). In other words, an entrepreneurship curriculum reflects any structured teaching of

entrepreneurship that aims to facilitate students' entrepreneurial knowledge, skills, and mindset (Cui, 2021). An organized method of reproducing entrepreneurial culture is through the use of an entrepreneurship curriculum. Additionally, it ought to emphasize autonomous, critical, and creative thinking in the context of the growth of entrepreneurship. Lastly, an entrepreneurship curriculum should, in general, involve reconstructing entrepreneurially connected knowledge and experiences in order to help learners become more adept at exerting intelligent control over related knowledge and experiences in the future (Olokundun et al., 2017).

2.1.3 Extracurricular activity (ECA)

Extracurricular activities are described by Bartkus et al. (2012) as academic or non-academic activities that are conducted under the auspices of the school but occur outside of normal classroom time and are not part of the curriculum. University students are given access to a wide range of educational resources and supports, including extracurricular activities, which are crucial in fostering entrepreneurship (Doan & Sung, 2018). These activities, according to Cui et al. (2019), include business competitions, networking events, business incubation, seminars, workshops, and interactions with role models.

2.2 Entrepreneurial mindset (EM)

McGrath and MacMillan (2000, P15) defined entrepreneurial mindset as the "ability to rapidly sense, act, and mobilize, even under highly uncertain conditions". This definition explains that uncertainties can be used to a person's advantage, that is, if one creates the avenue for entrepreneurial thinking to be able to identify uncertain yet high-potential business opportunities and exploit these opportunities continuously. In other words, an entrepreneurial mindset is the inclination to discover, evaluate, and exploit opportunities. Additionally, Lynch and Corbett (2021) argued that an entrepreneurial mindset is the sum total of cognitive processes that lead to an individual's desire to take risks in uncertain situations, making errors and learning from failures, and focusing learning on specific goals that best solve entrepreneurial problems. This definition allows an individual with an entrepreneurial mindset to pursue an entrepreneurial goal by practically deploying cognition to handle the tasks at hand. This study focused on four dimensions: alertness to opportunity, dispositional optimism, tolerance for ambiguity, and risk-taking mindset, as conceptualized in Cui et al. (2019).

2.3 Theoretical Review

2.3.1 Social Cognitive Theory (SCT)

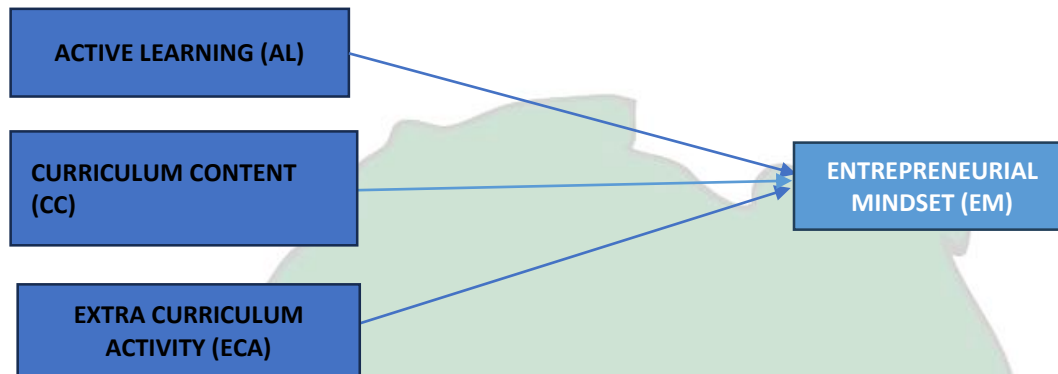
Social Cognitive Theory by Bandura (1986) explains the role of thinking in the learning process. The major assumption of this theory is that all learning occurs by observing the behaviors of other people and the consequences of such behaviors (Bandura, 1991, 1986). Bandura (1986) emphasizes the dynamic interaction between personal factors such as emotions and cognition, their behavior, and their environments, which do not have to reside unconsciously within individuals since people change and enhance their emotional functioning (Yeoh et al., 2018). This is important to the growth mindset argument of Dwek (1999), which states that mindsets can be changed or enhanced. The Social Cognitive Theory in this study provides a framework that acknowledges the role of behavioral factors on personal factors, which explains the way individuals learn and behave through a triad of reciprocal (personal determinants, environmental conditions, and behavioral factors) influences from observing the behavior of others (Kuratko, 2020; Bécharde & Grégoire, 2005). Moreover, the theory seeks to explain the concept of entrepreneurial mindset and how it is influenced by actively engaging in entrepreneurship education.

2.3.2 Engagement Theory of Learning (ETL):

The Engagement Theory of Learning is a model for learning in a technology-based environment. The theory is based on the assumption that when students find lessons meaningful and have a high level of interest in the course tasks, they learn effectively, with a tendency to retain the knowledge acquired and be able to contribute to others (Karsley & Shneiderman, 1998; Miliszewska, I., & Horwood, 2006). This implies that students must be meaningfully engaged in learning activities by interacting with others when carrying out educational tasks. In this study, the engagement theory of learning seeks

to explain the construct of entrepreneurship education dimensions (active learning, curriculum/course content, and extracurricular activity). Students who are actively engaged in learning entrepreneurship and actively participating in entrepreneurial curriculum and extra-curriculum activities are able to acquire competencies that influence their mindset (Macfarlane & Tomlinson, 2017; Malik, 2021).

Figure 1; Conceptual Framework Entrepreneurship Education



2.4 Empirical review

2.4.1 Active learning and entrepreneurial mindset

Several studies have confirmed that when students are actively engaged in learning about entrepreneurship activities, the result is an increased positive entrepreneurial mindset. Thus, active learning has a great deal of positive influence on the educational process and enhances the critical thinking skills of students. Curwen (2013). The concept of AL has been found to have significant influence on entrepreneurial mindsets. For instance, scholars Lena et al. (2016), in their submission, conceptualized EE in terms of active learning pedagogy. The study found a significant influence of active learning on the entrepreneurial mindset of students. Also, Harsy et al. (2019) whose explored students' perceptions of pedagogical methods in terms of mindset. The analysis showed that students indicated a growth-mindset view of learning mathematics through the active learning approach. This is similar to the findings of Saragih & Napitupulu (2015), who found a significant amount of influence of AL on the mindset of students. This shows that the higher the implementation of active pedagogy in teaching entrepreneurship, the higher the entrepreneurial mindset of students and the more they interact skillfully with peers in the class. This is in line with a similar study by Igwe et al. (2021) that qualitatively unraveled the usefulness of active learning in enhancing students critical thinking skills. Based on the theoretical and empirical review, we hypothesize that:

H1: There is a significant relationship between active learning and entrepreneurial mindset

2.4.2 Extracurricular activities and entrepreneurial mindset

Extracurricular activities (ECA) among students and academic achievement have been linked in numerous studies. According to Pittaway et al. (2011), one of the best practices for developing students' general cognitive and intellectual abilities is to increase their participation in ECA. Participation in ECA is a crucial strategy for enhancing students' mentality (Bécharde & Grégoire, 2005). Learning tends to be more effective when students have the opportunity to encounter and engage in experiences (Arranz et al., 2017).

Extant literature has empirically established the relationship between EE and entrepreneurial mindset. For instance, Chronaki (2021) proposed a comprehensive model that seeks to explore entrepreneurship education and the development of an entrepreneurial mindset by engaging in extra-curricular activities. Similarly, González (2019) also examined the impact of EE in terms of extracurricular activities on EM. The findings demonstrate that extracurricular activities enhance students' entrepreneurial mindsets. Similarly, Cui et al. (2019) found that engaging in extracurricular activities significantly influences students' entrepreneurial mindset. This study proposes a

comprehensive model that explores how engaging in extracurricular activities helps the development of an entrepreneurial mindset. Therefore, we hypothesized that:

H2: There is a significant relationship between extracurricular activities and entrepreneurial mindset

2.4.3 Curriculum and entrepreneurial mindset

There is established empirical evidence on the relationship between curriculum content and entrepreneurial mindset. Extant studies such as Cui (2021) and Olokundun et al. (2018) found that entrepreneurship education curriculum positively impacts entrepreneurial mindset (EM). Results revealed that educators opined that the majority of the students who attend a given entrepreneurial curriculum at the selected university developed critical thinking (mindset) abilities and business idea generation competence; hence, the entrepreneurship course enables students to enhance their opportunity identification. We therefore proposed a hypothesis that:

H3: There is a significant relationship between curriculum content and entrepreneurial mindset

3.0 RESEARCH METHODOLOGY

This section presents the methodology that addressed the study objectives and hypotheses, which covers the research design, study population, sample and sampling technique, and the tool for data analysis. Also, results interpretation and discussions of findings are presented as seen below:

3.1 Research Design, Population and Sample

This study employed a cross-sectional design, which involved the collection of data at a point in time (Vera & Timothy 2013). Data was collected from the respondents of two universities (University of Jos and Plateau State University Boko) with a sample of 369 graduating students for the 2022-2023 academic year, drawn from a population of 8896 students of two public universities, determined using the Krejcie and Morgan (1970) table as the technique for sample determination. The sample size is distributed as follows: 271 for the University of Jos and 78 for Plateau State University Boko. According to Waheed (2015), the more questionnaires administered than the calculated sample size, the better for the researcher. Therefore, in this study, a total of 370 questionnaires were issued against a sample size of 369, and 350 were returned, and only one was rejected because of respondents' inability to respond to key questions. This suggests that 349 were fit for analysis, constituting 92.9% of the entire questionnaires distributed. The study instrument was designed on a 5-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = undecided, 4 = agree, 5 = strongly agree), which measured the relevance and suitability of the measurement items. These students having undertaken an entrepreneurship education course as GST in 200 level and any other form of entrepreneurial experiences gathered as a result of their interface with the entrepreneurship environment through engaging in entrepreneurial mind spurring activities such as; seminar, role modelling outside the university (Cui, et al., 2019).

3.2 Data analysis

Data were cleaned, followed by parametric assumptions and diagnostic tests. The results obtained from hybrid methods of analysis, such as confirmatory factor analysis (CFA) and structural equation modeling, to test hypotheses revealed that the parametric assumptions were met. Descriptive statistics were used to determine the sample characteristics. Zero-order correlations between the dependent variable and the independent variables were performed using the Statistical Package for Social Sciences (SPSS 25) and are presented in Table 3. Before testing research hypotheses using structural equation modeling, CFA was required to ensure that the proposed model was a satisfactory structural equation model and evaluate the goodness of fit indices for the reliability and validity of the theoretical model. The structural equation model (SEM) was performed using AMOS 23 to establish the relationship between the formulated hypotheses.

Table 1; Total Response Rate

Item	No. of questionnaires
Distributed	370
Returned	350
Discarded	1
Usable	349
Total response rate	94.6%

(Source: Field survey, 2023)

The questionnaire was administered directly by the researcher. It was difficult to achieve a 100% response rate. However, as seen in Table 1, out of a total of 370 questionnaires administered, 350 were returned as completed. The usable questionnaires were three hundred and three, with only one case with insufficient responses. This constitutes a response rate of more than 94.6%, which is adequate for the study because it is within the threshold for accepting self-administered questionnaires of 60% (Fincham 2008).

Table 2: Descriptive Statistics of respondents

Item code		Frequency	Percentage (%)
Age	Under 30years	256	73.4
	31-35	73	20.9
	36-40	19	5.4
	41 above	1	0.3
	Total	349	100
Gender	Male	180	51.6
	Female	169	48.4
Institution		349	100
	UNIJOS	271	77.7
	PLASU	78	22.3
TOTAL		349	100

Table 2 is concerned with the basic attributes of students from the University of Jos and Plateau State University Bokkos. These attributes include the gender, age, and institutions of respondents. The ages 30 and below constitute 256 (73.4%) of the sample, which suggests that 256 students exhibit an entrepreneurial mindset as a result of participation in entrepreneurship education. While on the gender of students, 180 (51.6%) are male, which implies that entrepreneurship education dimensions among university students' entrepreneurial mindsets reside more with the male students. The respondents from the University of Jos constitute 272 (77.7%), while 78 respondents were from Plateau State University Bokkos, constituting 22.3%. The 78 responses issued to PLASU were all filled and returned, while only 272 were returned from Unijos, for a total of 350 responses.

Table 4: Convergent Validity

Construct	Factor Loading	Cronbach's Alpha	Composite Reliability (CR)	AVE
Active learning				
AL2	0.78			
AL3	0.81	0.89	0.88	0.645
AL4	0.84			
AL6	0.78			
Curriculum content				
CC2	0.71			
CC4	0.77	0.81	0.82	0.595
CC5	0.83			
Extracurricular				
ECA4	0.70			
ECA5	0.71			
ECA6	0.79	0.78	0.78	0.539
Entrepreneurial mindsets				
AO2				
AO3				
AO5	0.65			
RP2	0.67			
RP3	0.67			
TA3	0.75			
TA4	0.72	0.82	0.89	0.464
TA5	0.55			
DO1	0.80			
DO3	0.63			
	0.69	0.65		

Fornell and Larcker's (1981) threshold for the average variance extracted is 0.51-0.59. However, when the AVE is less than or close to 0.5, on the basis of composite reliability, the convergent validity of the construct is adequate if the composite reliability is above 0.6, even though more than 50% of the variance is due to error (Lam 2012). In this study, the AVE for entrepreneurial mindset is 0.46, which is below but close to 0.5 with a composite reliability of all constructs above the threshold of 0.6 (Hair et al., 2010), hence the internal reliability of the measurement items is acceptable.

3.3 Discriminant validity

To determine the Discriminant validity and associations among dimensions of entrepreneurship education and entrepreneurial mindset of graduating students. Table 3 shows the inter-variable correlation analysis. Comparing the correlations to its average variance extracted (AVE) estimations provides insight into its discriminant validity.

Table 3: Correlations

	CC	ECA	AL	EM	VIF	Tolerance
CC	(0.772)				.605	1.652
ECA	.500**	(0.734)			.532	1.879
AL	.623**	.383**	(0.803)		.742	1.348
EM	.486**	.489**	.442**	(0.681)		

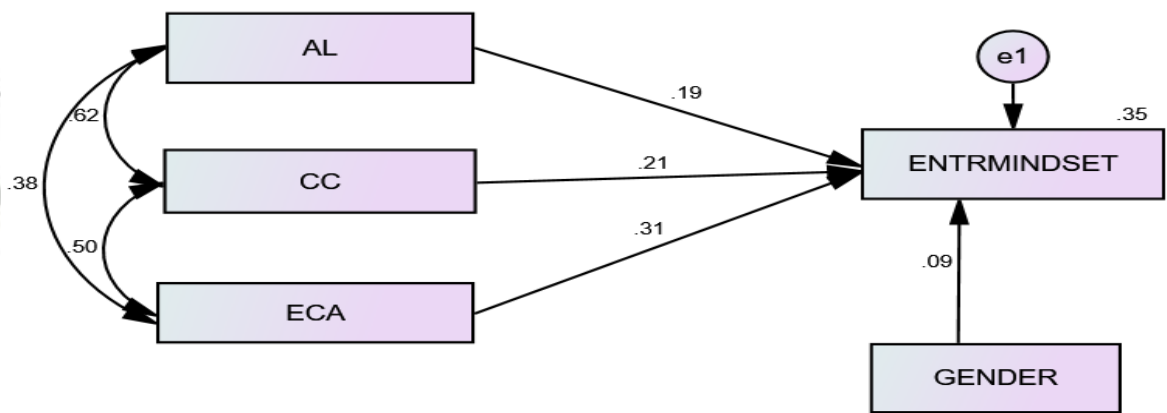
** Correlation is significant at the 0.01 level (2-tailed).

The results of the association among the studied variables in Table 3 reveal AL to be significantly correlated with entrepreneurial mindset ($r = 0.442, p \leq 0.01$). Curriculum content (CC) correlates with entrepreneurial mindset ($r = 0.486, p \leq 0.01$). More so, extracurricular activity (ECA) correlates with entrepreneurial mindset (EM) ($r = 0.489, p \leq 0.01$). Fornell and Larcker's (1981) criteria for assessing discriminant validity revealed that if the inter-variable correlation values are less than the square root of the AVE, it is an indication of discriminant validity. Table 3 indicates that variables' correlations were less than the square root of the AVE; hence, the concepts studied are different. The values in bold represent the AVE, while the non-bolded values are Pearson correlation coefficients based on the factor loadings.

Structural Model

Before testing research hypotheses, CFA was required to ensure that the proposed model was a fit structural equation model. Thus, the model in this study is a satisfactory model to test our hypotheses.

Based on the Structural Equation Modeling (SEM) calculations, a fitting model was calculated with a Chi-square score of 1.755, Goodness of



Fit Index (GFI) score of 0.998, Adjusted Goodness of Fit Index (AGFI) score of 0.990, RFI score of 0.986, Comparative Factor Index (CFI) score of 1.000 and Root Mean Square Error of Approximation (RMSEA) score of 0.04. In Table 5, it can also be seen that H1, H2 and H3 revealed an estimate of H1 (0.19), H2 (0.21) and H3 (0.31) with t values of 3.421, 6.156, 3.568 respectively. These scores indicate significance according to (Hair et al., 2020).

Regression Analyses

A regression analysis was carried out to establish a relationship between Entrepreneurship Education dimensions and the criterion (dependent) variable Entrepreneurial Mindset. The table below shows the prediction of independent variables on the dependent variable. It could be seen, there is a significantly positive relationship between the variables.

Table 5: Results of Hypotheses Testing

Hypotheses	Relationships	Estimated	SE	T-value	P-value	Decision
H ₁	AL --> EM	0.191	.083	3.421	0.001	Supported
H ₂	ECA--> EM	0.213	.061	6.156	0.001	Supported
H ₃	CC-> EM	0.310	.058	3.568	0.001	Supported

Interpretation of results

The decision rule for this interpretation is that, if the p-value is less than the level of significance of 0.05, the null hypothesis will be rejected while the alternate hypothesis is accepted. But if the p-value is greater than the level of **significance 0.05**, fail to reject the null hypothesis.

Hypothesis H1 investigated the relationship between AL and EM. The results show that the relationship is positive and statistically significant ($\beta=0.191, t\text{-value}=3.421, p<.05$), and thus the H1 was supported.

The result revealed a positive relationship between active learning and entrepreneurial mindset which is significant since t-statistics is greater than the 1.96 threshold for a two-tailed test. This implies that positive changes in EE by 1, increases entrepreneurial mindset by 20%.

Further, the result of H2 revealed that ECA is positively related to EM. The results show that the relationship is positive and statistically significant ($\beta=0.310$, $t\text{-value}=6.156$, $p<.05$), and thus since the p-value (0.001) is less than sig p (0.05), the alternative hypothesis was supported. This implies that positive changes in EE by 1, increases entrepreneurial mindset by 31%.

Similarly, H3 investigated the relationship between CC and EM. The results show that the relationship is positive and statistically significant ($\beta=0.213$, $t\text{-value}=3.569$, $p<.05$), and thus the alternative hypothesis was accepted. This implies that positive changes in CC by 1, increases entrepreneurial mindset by 21%.

DISCUSSION OF FINDINGS

The study focused on investigating how the dimensions of entrepreneurship education (EE)-active learning, curricular, and extracurricular-activities influence entrepreneurial mindset (EM). By drawing on social cognitive theory and engagement learning theory, the study offers insights into the potential influence of EE dimensions (active learning, curricular, and extracurricular activity) on EM, a yet neglected area since only a few studies (Cui et al., 2019; Cui et al., 2021; Jiatong et al., 2021; Wardana et al., 2020) have tested such an effect. Cui et al. (2019), for example, highlighted EM as a new type of impact and thus expanded the EE impact framework by confirming the direct effect of EE on EM. This study indicated that active learning was positively linked to an entrepreneurial mindset. This is similar to the findings of Wardana et al., (2020) whose study investigated the relationship between EE and student entrepreneurial mindset. The findings indicated that EE influences EM.

In recent years, researchers have highlighted the importance of AL in this regard, touting its various implications for an improved entrepreneurial mindset (Ismail & Sawang, 2021; Shroff et al., 2021). Hence, H1 revealed that active learning significantly and positively influences students' alertness to opportunity, tolerance for ambiguity, risk propensity, and optimism. This implies that active engagement in an entrepreneurship course enables students to identify unique and profitable opportunities and be keen on looking for information. This finding corroborates the study of Lena Nuryanti et al. (2016), Saragih and Napitupulu (2015) who found that AL and EM are significantly related. It shows that students who work hard during the course are able to take risks with higher optimism. Furthermore, this result aligns with the study by Harsy et al. (2019). This student always expects the best in uncertain times. Hence, the level of tolerance for ambiguous conditions is high after actively giving focused attention to the course. This implies that when students are exposed to engaging actively in entrepreneurship programs, it boosts their mindset in terms of alertness to business opportunities, tolerance for ambiguities, risk-taking propensity, and optimistic disposition.

Therefore, universities that attach relevance to the entrepreneurship syllabus and consider engaging students to meaningfully contribute in the process of delivery will achieve a high level of dispositional optimism towards entrepreneurship. The assertion aligns well with Engagement Learning Theory (Kearsley & Schneiderman, 1999), which strengthens teaching and learning where learners are meaningfully engaged in learning activities as they interact with one another.

In the same vein, extracurricular activity contributes significantly to an entrepreneurial mindset. This implies that engaging in enterprise visits and internships, face-to-face communication with entrepreneurs, and attending conferences and workshops are good means of acquiring a positive dispositional optimism and a tolerance for ambiguities. This finding is consistent with Cui et al. (2019), whose study established a positive relationship between entrepreneurship education and entrepreneurial mindset. Similarly, this finding has also proven that engaging in ECAs such as workshops, seminars, and interfacing with entrepreneurs is vital to spurring a positive mindset among students.

Moreover, curriculum content is also found to be significant in influencing students' entrepreneurial mindset. Particularly when students attend the entrepreneurship course, they gain the

experiences that inspire their entrepreneurial minds to think about self-sufficiency. Moreover, by attending the entrepreneurship course, their knowledge increased with entrepreneurial skills, which can help them be alerted to profitable opportunities and willing to take risks. These findings align with Cui (2021) and Olokundun et al. (2018).

This suggests that entrepreneurship education dimensions—active learning, curriculum content, and extracurricular activity—are capable of spurring students to think positively towards opportunities, tolerating ambiguous situations, and expressing optimism. This is because entrepreneurship education enables students to have the capability, providing them with understanding about how to identify opportunities and develop their mindset towards entrepreneurship. Therefore, the study offers an insight into Nigerian entrepreneurship education, which aids students in learning about entrepreneurship and developing the skills necessary to succeed in it, which is one of the emphases of Bandura's Social Cognitive Theory (1986) to develop the skills necessary to create a desired mindset among the students.

CONCLUSION/IMPLICATIONS

From the results of the analysis, the following conclusions are drawn: Entrepreneurship education dimensions—active learning, curriculum content, and extracurricular activities—play a significant role in shaping students' intellectual capacity and also equip students with knowledge that can help them take risks by exploring opportunities. The findings show a direct contribution towards the entrepreneurial mindset of students, thereby suggesting that active engagement in entrepreneurship curricular activities can boost the growth mindset of students towards being alert to opportunities and entice them to be tolerant of ambiguous situations. When they discover that business opportunities abound in tough situations, rather than seeing problems, they will always express a disposition of optimism and curiosity to learn during entrepreneurship class.

To understand this, we concluded that the students who demonstrate commitment in an entrepreneurship course have the tendency to develop more competence, which will spur their entrepreneurial mindset. By implication, when students perceive that a course is interesting, they are moved to actively engage in the course activities and tend to identify opportunities. From the foregone discussion, the entrepreneurial mindset model involves the integration of active learning, curricular content, and extracurricular activity.

Theoretical Implications

The integration of engagement learning theory and social cognitive theory facilitates the entrepreneurial mindsets of students, which have been supported by this study. The findings showed that entrepreneurship education dimensions (AL, CC, and ECA) are associated with the EM of university students. These findings bridged the gap in the literature, such as Cui et al. (2019; Cui 2021), calling for studies in pedagogical approaches.

With regard to engagement learning theory, it was reviewed in this study to provide a theoretical foundation or explanation for addressing entrepreneurship education in terms of the dimensions of active learning, curriculum, and extracurricular activity. It suggests that students who are meaningfully and actively engaged in entrepreneurship education will be able to achieve a goal or will develop a positive entrepreneurial mindset. To this extent, the findings validate the theoretical assertion of the engagement learning theory.

Methodological Implication

This study provides an accurate methodological process attempting to clearly define each of the underlying constructs, where reliability and validity tests were conducted to purify the measurement scales using confirmatory factor analysis. The results confirmed the correspondence rules between both empirical and theoretical concepts. Therefore, combining these methodologies with the purified measurement items, this study provides a useful direction for future empirical research into entrepreneurial mindset. The quantitative approach employed contributes to the development of literature relating to entrepreneurial Mindset of university students in Plateau State.

Managerial and Policy Implications

For policy makers in government and higher education institutions, the research findings have significant practical implications. First, it validates the importance of governments' policy on entrepreneurship education (EE) programs, which incites government's attention to universities and to ensure that EE is available to all students. Second, in order to better prepare more entrepreneurial students for their future studies, employment, and way of life, EE should be incorporated into the coherent framework of general education in universities in order

LIMITATION/DIRECTION FOR FUTURE STUDIES

Although this work has satisfied all stated objectives in its evaluation, it is limited in some ways, to mention a few:

Firstly, not surveying the social characteristics of students could determine their mindset in all categories of institutions, not just the university.

Secondly, because the study was a cross-sectional survey design, it was limited to a time frame of measurement. Since the perceptions and beliefs of students change over time, the study therefore creates a gap for a longitudinal study for a more comprehensive picture for researchers and practitioners to understand when entrepreneurship education dimensions and entrepreneurial mindset have the strongest relationship.

Thirdly, this study focused on only students of universities rather than the entire tertiary institutions in the plateau state. Due to contextual factors, the findings may not entirely apply to all university students in the country. Hence, the model should be tested in a wider context for reliability and validity.

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