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DEVELOPMENT OF ENTREPRENEURIAL MINDSET FOR CREATIVE AND INNOVATIVE PEDAGOGICAL APPROACH AMONG SECONDARY SCHOOL STUDENT IN PORT HARCOURT LGA OF RIVERS STATE

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ABSTRACT

This study was conducted to examine development of entrepreneurial mindset as a pedagogical approach to fostering creativity and innovation. Two objectives and two hypotheses guided the study. The study adopted the descriptive survey research design. The population of the study consisted of 2,125 students in 16 public senior secondary schools in Port Harcourt Local Government Area of Rivers State. The sample size for the study comprised of 336 respondents through the use of the Taro Yamen sample size formula. The sampling technique employed was the simple random sampling technique to select the respondents in the schools. A self-structured questionnaire titled: Developing Entrepreneurial Mindset Questionnaire (DEMQ) was used for data collection. The Pearson Product Moment Correlation coefficient was used for the reliability of the instrument which yielded a reliability coefficient of 0.85. Mean and standard deviation were used to answer the research questions while T-test was used to test the hypotheses at 0.05 level of significance. The findings of the study revealed that innovative and interactive pedagogical methods foster entrepreneurial mindset among students and there is significant impact of entrepreneurial education on students' creativity and innovation. Based on the findings of the study, it was recommended amongst others that the government should incorporate entrepreneurial modules across various disciplines to ensure that all students, regardless of their major, gain exposure to entrepreneurial thinking; establish partnerships with local businesses and startups to provide students with opportunities for internships and apprenticeships; promote interdisciplinary courses that bring together students from different fields to work on joint projects, encouraging diverse perspectives and innovative solutions.

Keywords: Entrepreneurial Mindset, Pedagogical Approach, Creativity, Innovation

Background to the study

Education must now prioritize the development of an entrepreneurial mindset in view of the world economy's rising complexity and dynamic nature. This type of thinking is necessary for success in both the personal and professional spheres since it is marked by the capacity to see possibilities, take reasonable risks, and innovate. Education institutions must encourage students' creativity and invention in order to equip them to survive and prosper in an uncertain future, as economies throughout the world change (Neck, Greene, & Brush, 2014). Matzler, Fugenschott, and Enkel (2013) drew attention to the expanding understanding that entrepreneurial abilities are beneficial for those pursuing a variety of professional routes and are not just important for those who hope to launch their own businesses. This is in line with the focus on 21st-century skills, which give priority to problem-solving, critical thinking, and teamwork—all fundamental components of an entrepreneurial mentality (Gregson, Riding & Byng, 2013).

The concept of an entrepreneurial mindset comprises a range of dispositions, proficiencies, and actions that empower people to effectively navigate and seize chances within vague and unpredictable contexts (Kuratko, 2016). Over the last twenty years, entrepreneurship education has become more popular due to the necessity to give students skills that regular education frequently ignores. Studies show that learning about entrepreneurship may greatly improve students' capacity for original thought, problem-solving, and initiative (Pittaway & Cope, 2007). Additionally, it

encourages students to take charge of their own professional and personal development by fostering a proactive attitude toward learning and career development. Moreover, its significance has been repeatedly emphasized by a number of researches. The importance of entrepreneurial education in promoting creativity and innovation is emphasized by Vesper & Gartner (2012). In a similar vein, Cai, Li, and Wang (2016) emphasized the connection between critical thinking and problem-solving abilities development and entrepreneurship education. These studies demonstrate how an entrepreneurial mindset and attitude may provide students with useful skills that go beyond starting their own businesses.

Globally, educational systems are beginning to understand the value of entrepreneurial education. Fayolle and Gailly (2015) stated that the three primary competences that should be developed in entrepreneurship education are entrepreneurial attitudes and behaviours, entrepreneurial skills, and knowledge about entrepreneurship. This all-encompassing strategy guarantees that students are capable and driven to participate in entrepreneurial activities, in addition to being informed. Experiential learning, in which students participate in practical exercises that mimic real-world business issues, is a popular educational strategy for developing an entrepreneurial mentality (Kolb, 2014). These methods improve the learning process by promoting active engagement, introspection, and knowledge application. For example, case studies and project-based learning offer real-world settings where students may put theory into practice and hone their critical thinking abilities (Bell, 2010).

Innovation and creativity are the foundation of enterprise. According to Hynes, Costin, and Birdthistle (2014), educational initiatives that prioritize creativity and innovation help students learn how to think creatively and from a variety of angles. Furthermore, Amabile (1996), submitted creativity is the process of coming up with new and practical ideas, whereas innovation is the application of these ideas to produce something valuable. Activities that foster experimentation, teamwork, and diverse thinking are frequently included in educational practices that support creativity and innovation.

Several educational strategies have been investigated to promote an entrepreneurial attitude. According to Rasmussen and Nybye (2013), acquiring the dynamic and useful abilities related to entrepreneurship cannot be accomplished just through traditional lecture-based education. Rather, they support experiential learning, in which students work on real-world projects, participate in role-playing, and communicate with entrepreneurs. This method is consistent with constructivist learning theory, which holds that knowledge is created by students via experiences and reflections (Kolb, 2014). The core of this problem lies in the pedagogical approaches employed within educational institutions. Conventional teaching methods do not typically encourage the risk-taking, problem-solving, and critical thinking skills essential for entrepreneurship. As a result, many students complete their education without having developed the mindset necessary to innovate and thrive in entrepreneurial settings.

Addressing this problem is crucial not only for individual career success but also for broader economic growth and societal progress. A well-developed entrepreneurial mindset empowers individuals to create new ventures, drive technological advancements, and contribute to economic resilience. Thus, it takes a change in pedagogical approaches to foster an entrepreneurial mindset through pedagogical approaches. Teachers can equip children to succeed in a complicated, dynamic environment by encouraging creativity and innovation.

Entrepreneurship and Entrepreneurial Mindset

The inception, growth, and administration of new businesses are all part of entrepreneurship. It is distinguished by creativity, daring, and initiative. To launch and expand their companies, entrepreneurs find holes in the market, provide creative solutions, and gather resources. The process of entrepreneurship involves identifying opportunities, obtaining resources, and establishing and overseeing ventures. However, because of increased globalization and technical improvements in the twenty-first century, this idea has changed significantly (Kotler and Keller, 2009).

Entrepreneurship is the process of starting, building, and running a new firm, as noted by Acs and Varga (2005). Additionally, the capacity and willingness to develop, plan, and oversee a firm while taking all necessary risks in order to turn a profit are characteristics of entrepreneurship. These companies are typically started as little single proprietorships, and the people who start them are referred to as entrepreneurs.

As an area of study, entrepreneurship covers a wide range of activities, from starting new enterprises to managing already existing ones. The core of entrepreneurship is the ability to see opportunities, gather resources, and negotiate uncertainty in order to provide value. Despite the fact that entrepreneurship is dynamic and context-dependent, scholars have long struggled to define it. The 'creative destruction' of pre-existing economic institutions via innovation and business is a key component of entrepreneurship, as noted by Schumpeter (Arcs & Audretsch, 2010).

Economic development is greatly aided by entrepreneurship, which also generates jobs, innovation, and competitiveness. It has long been understood that innovation and economic progress are fueled by entrepreneurship. However, beyond the founding of new businesses, an increasing amount of study centers on the idea of the "entrepreneurial mindset" the collection of attitudes, convictions, and actions that support the success of entrepreneurs (Mathisen & Arnulf, 2014). An individual with an entrepreneurial mentality possesses a certain set of attitudes, abilities, and actions that help them see and take advantage of opportunities. It encompasses qualities like proactivity, risk tolerance, resilience, and inventiveness. Scholarly discourse characterizes the entrepreneurial mindset as a multifaceted concept. Core elements include opportunity awareness, creativity and invention, proactiveness and initiative, risk-taking, and self-efficacy, according to a major assessment by Mathisen and Arnulf (2014). These elements are dynamic; research by Dweck (2016) indicates that cultivating a "growth mindset" that prioritizes learning and persistence might help promote entrepreneurial mindsets.

Fostering an Entrepreneurial Mindset: Pedagogical Approaches

Being an entrepreneur starts with a mindset. From elementary school through university, education may play a significant role in promoting entrepreneurial mindsets, as attitudes are formed at a young age. Raposo and Do Paco (2009) observed that fostering entrepreneurial attitudes and abilities in kids and teenagers is crucial for their creative and personal growth. As demonstrated, for example, by the Norwegian strategic plan for entrepreneurship in education and training (Ministery of Education and Research, 2004), such concept may be defined and measured. The role of the educational system is to encourage attitudes and behaviors that support children's and young people's ability to collaborate, be creative, and innovate. This has to happen through consistent, long-term labor with good advancement. The youth must be given the freedom to trust in their own creative abilities and to recognize and make use of local resources as a foundation for establishing workplaces, forming moral bonds with one another, and accepting responsibility for their local communities.

Pedagogical approaches are a broad category of instructional strategies and tactics that teachers employ to support student learning and guarantee that knowledge is effectively transmitted. These methods have changed over time as a result of shifting student demands, technology breakthroughs, and philosophies in education. Globally, there is a growing emphasis on education systems to help students develop their entrepreneurial talents. The realization that traditional educational paradigms, which place a high value on rote learning and standardized testing, are unable to prepare pupils for the complexity of the modern world, is what is driving this change. Institutions of higher learning are essential for fostering entrepreneurial attitudes. Mentorship, practical learning, and curricular integration with entrepreneurial education are examples of effective educational strategies.

The concept of an entrepreneurial mindset has garnered considerable attention in contemporary scholarly discussions (Kuratko & Hodgetts, 2014). It is described by academics as a collection of behavioral and cognitive traits that people use to see opportunities early on, take measured risks,

and adjust to change (Cope, 2013). One viable way to develop these attributes is through entrepreneurial education (Liñán et al., 2013). This is where traditional, lecture-based instruction frequently fails. Rather, it is imperative to move toward participatory and immersive learning (Fayolle, 2013). Numerous educational strategies have the potential to foster an entrepreneurial attitude. For example, problem-based learning pushes students to solve real-world issues and inspires them to come up with original ideas and creative solutions (Kort et al., 2014). Project-based learning encourages initiative, cooperation, and risk-taking by having students collaborate on projects that imitate actual commercial endeavors. Learning via experience and reflection is the main focus of experiential learning, which is based on Kolb's Experiential Learning Theory (ELT). This method incorporates practical exercises and active engagement, both of which are essential for fostering entrepreneurial abilities. This strategy makes use of internships, business plan contests, and simulations. Collaborative learning is another educational strategy that fosters an entrepreneurial attitude by having students work together to solve issues and generate knowledge. This method fosters collaboration, interpersonal skills, and the capacity to take advantage of other viewpoints.

The success of creative instructional techniques in fostering an entrepreneurial attitude has been demonstrated by recent studies. Research indicates that student entrepreneurial abilities, such as creativity and resilience, are greatly improved by experiential learning (Neck, 2014; Pittaway & Thorpe, 2016). Studies show that critical thinking and problem-solving skills, which are crucial elements of an entrepreneurial mindset, are enhanced through problem-based learning (Savery, 2015; Hmelo-Silver, 2015). Empirical evidence suggests that design thinking fosters creativity and the capacity to provide solutions that are focused on the needs of users (Rauth, 2015; Meinel & Leifer, 2018). Research has demonstrated that fostering cooperation and varied thinking in collaborative learning contexts enhances entrepreneurial abilities (Laal & Ghodsi, 2012; Prince, 2016).

Theoretical Framework

The study is anchored on two theories namely: experiential learning theory developed by David Kolb (1984) and constructivist theory as proposed by Jean Piaget (1973) and Lev Vygostsky (1978).

Experiential learning theory by David Kolb (1984) emphasizes learning through experience, which is crucial for entrepreneurship education. Experiential learning theory emphasizes learning through direct experience and reflection. Entrepreneurs often learn best by engaging directly with real-world challenges, experimenting with ideas, and reflecting on outcomes hence the relevance of this theory of the study. Entrepreneurship requires creativity and innovation. Experiential learning encourages individuals to explore new ideas, take risks, and learn from both successes and failures. This approach fosters an entrepreneurial mindset by encouraging individuals to think critically, adapt to changing circumstances, and innovate in response to market needs. Experiential learning theory suggests that active engagement in learning leads to deeper understanding and retention of knowledge. For aspiring entrepreneurs, actively engaging in real-world projects, simulations, or entrepreneurial ventures can enhance motivation and commitment to learning the skills necessary for success.

The constructivist theory, which was put out by Lev Vygotsky in 1978 and Jean Piaget in 1973 stated that students build their own knowledge and understanding of the world by reflecting on and gaining experiences. The development of entrepreneurial mindsets through instructional techniques that aim to stimulate creativity and innovation is strongly justified by constructivist theory. Constructivist philosophy places a strong emphasis on active learning, in which students build their knowledge and comprehension by experiences. This implies that students actively participate in entrepreneurial activities, problem-solving, and decision-making all of which are essential for fostering the growth of entrepreneurial abilities. Learning by doing is a common part of entrepreneurship, and constructivist methods fit in nicely with this idea. Teachers can provide students real-world experiences that match the possibilities and problems faced by entrepreneurs by including them in

case studies, simulations, or real-world entrepreneurial ventures. Constructivist teaching methods frequently encourage cooperative classroom settings where students solve issues and exchange viewpoints. This is similar to how networking and teamwork are crucial in entrepreneurship, as cooperation frequently results in creative ideas and business chances.

Aim and Objectives

The aim of the study is to examine developing entrepreneurial mindset: a pedagogical approach to fostering creativity and innovation. The study specifically sought to:

1. identify how innovative and interactive pedagogical methods foster an entrepreneurial mindset among students.
2. evaluate the influence of entrepreneurial education on students' creativity and innovation.

Research Questions

1. How do innovative and interactive pedagogical methods foster an entrepreneurial mindset among students?
2. What is the influence of entrepreneurial education on student's creativity and innovation?

Hypotheses

1. There is no significant difference in the mean scores of respondents on the innovative and interactive pedagogical methods applied to foster entrepreneurial mindset among students' secondary schools in Phalga.
2. There is no significant difference in the mean scores of respondents on the influence of entrepreneurial education on students' creativity and innovation in secondary school in Phalga

METHODOLOGY

The study was conducted in public secondary schools in Rivers State's Port Harcourt Local Government Area using a descriptive survey research design. It was chosen with the intention of precisely and methodically describing the traits of the population under investigation, devoid of any changes to the independent variable. All 2,125 students enrolled in the 16 senior secondary schools in the Port Harcourt Local Government Area made up the study's population. Using the Taro Yamen sample size calculation, 336 respondents make up the study's sample size. The simple random sample technique was used for sampling. 21 respondents were chosen at random from each of the 16 senior secondary schools in the Port Harcourt Local Government Area using the aforementioned approach. The instrument used for data collection tagged: Developing Entrepreneurial Mindset Questionnaire (DEMQ), was a well-structured questionnaire patterned after a modified 4 points rating scale. The questionnaire was used to collect data from respondents in relation to the objectives of the study. The questionnaire was divided into two sections namely; A and B, while A comprises of demographic data, section B comprises questions relating to the objectives of the study. Validation of the instrument was duly certified while test retest method was used to ascertain the reliability of the instrument. The result when subjected to Pearson Product Moment Correlation method yielded a reliability index of 0.85 thus adjudged reliable for the study. The instrument was administered to the respondents directly by the researchers with the help of two research assistants who were instructed on how to administer the instrument. To guarantee a high return rate, the researcher used the research assistants' services to immediately get the completed questionnaire from the respondents. The study's research questions were addressed using the mean and standard deviation, and the hypothesis was tested at the 0.05 level of significance using the t-test statistics. Item with mean value > 2.50 was considered "agree" for study questions; item with mean value < 2.50 was considered "disagree". At the 5% level of significance, accept the alternative hypothesis and reject the null hypothesis if the significant value for the hypothesis is less than 0.05. Conversely, at the 5% level of significance, accept the null hypothesis and reject the alternative hypothesis if the significant value is higher than 0.05.

RESULTS

The result of the study is presented below.

Research Question 1: How do innovative and interactive pedagogical methods foster an entrepreneurial mindset among students?

Table 1: Response of how innovative and interactive pedagogical methods foster an entrepreneurial mindset among students

S/N	Fostering entrepreneurial mindset among students through innovative and interactive pedagogical methods	$\overline{X}$	Std.D	Remark
1	Use of Technology in the Classroom	3.05	2.65	Agree
2	Engaging in Project-Based Learning	2.99	2.63	Agree
3	Case Studies and Real-World Scenarios	3.29	2.87	Agree
4	Inclusion of Guest Lectures from Industry Experts	2.57	2.29	Agree
5	Participation in Workshops and Hands-On Activities	2.79	2.44	Agree
6	Collaborative activities through Group Discussions and Debates	3.12	2.73	Agree
7	Engaging in Role-Playing and Simulations	3.36	2.91	Agree
8	Creative assignments and projects to think outside the box	3.38	3.39	Agree

The result in table 1 showed the mean response of how innovative and interactive pedagogical methods foster an entrepreneurial mindset among students. The table revealed that all items had mean scores above the criterion mean score of 2.50. This implies respondents agreed that innovative and interactive pedagogical methods foster entrepreneurial mindset among students.

Research Question 2: What is the influence of entrepreneurial education on student's creativity and innovation?

Table 2: Response of the influence of entrepreneurial education on students' creativity and innovation

S/N	influence of entrepreneurial education on student's creativity and innovation	$\overline{X}$	Std. D	Remark
9	Entrepreneurial education enhances ability to generate new and useful ideas.	3.51	294	Agree
10	Entrepreneurial courses enhance problem-solving skills.	2.96	2.58	Agree
11	Entrepreneurial education prepared me to implement innovative ideas effectively.	2.71	2.39	Agree
12	Entrepreneurial education helps to see opportunities for innovation in everyday situations.	2.88	2.55	Agree
14	Learning about entrepreneurship increases interest in exploring innovative solutions to challenges.	2.53	2.26	Agree

The result on table 2 showed the mean response of the influence of entrepreneurial education on students' creativity and innovation. The table revealed that all the items had mean scores above the criterion mean score of 2.50. This implies that the respondents agreed that entrepreneurial education enhances ability to generate new and useful ideas; enhance problem-solving skills; implement innovative ideas effectively amongst others.

Hypotheses

The following null hypotheses were formulated and tested at 0.05 level of significance

HO_1: There is no significant difference in the mean scores of respondents on the innovative and interactive pedagogical methods applied to foster entrepreneurial mindset among students' secondary schools in Phalga.

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Fostering_Entrepreneurial_Mindset	8	3.0688	.28443	.10056

One-Sample Test

	Test Value = 0					
					95% Confidence Interval of the Difference	
	t	Df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Fostering_Entrepreneurial_Mindset	30.517	7	.000	3.06875	2.8310	3.3065

The given result demonstrated a positive mean difference (3.0688), meaning that the sample mean is much greater than the test value. The p-value (0.000) is extremely low, while the t-statistic (30.517) is quite high. This implies compelling evidence that refutes the null hypothesis. Because 0.000 is less than 0.05 (p = 0.000; 0.000<0.05), the value of t is significant. As a result, the alternative hypothesis is accepted and the null hypothesis is rejected. Thus, innovative and interactive pedagogical methods foster entrepreneurial mindset among students.

HO_2: There is no significant difference in the mean scores of respondents on the influence of entrepreneurial education on students' creativity and innovation in secondary school in Phalga

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Impact_of_Entrepreneurial_Education	5	2.8883	.33879	.13831

One-Sample Test

	Test Value = 0					
					95% Confidence Interval of the Difference	
	t	Df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Impact_of_Entrepreneurial_Education	20.883	4	.000	2.88833	2.5328	3.2439

The given result demonstrated a positive mean difference (2.8883), meaning that the sample mean is much greater than the test value. The p-value (0.000) is extremely low, while the t-statistic (20.883) is quite high. This implies compelling evidence that refutes the null hypothesis. Because 0.000 is less than 0.05 (p = 0.000; 0.000<0.05), the value of t is significant. As a result, the alternative hypothesis is accepted and the null hypothesis is rejected. Thus, there is significant impact of entrepreneurial education on students' creativity and innovation.

Discussion of Findings

The first findings of the study revealed that innovative and interactive pedagogical methods foster entrepreneurial mindset among students, Also, among other cutting-edge and dynamic pedagogical techniques, using technology in the classroom, project-based learning, taking part in workshops and hands-on activities, and collaborative activities like debates and group discussions help students develop an entrepreneurial mindset. This result supports the claim made by Kort et al. (2014) that a number of educational strategies have potential for fostering an entrepreneurial attitude. For

example, problem-based learning pushes students to solve real-world issues and inspires them to come up with original ideas and answers. Prince (2016) added support to the idea that collaborative learning environments may foster varied thinking and collaboration, which in turn can enhance entrepreneurial abilities.

The second finding revealed that there is significant influence of entrepreneurial education on students' creativity and innovation. This demonstrated that, among other things, the influence of entrepreneurial education on students' creativity and innovation included the capacity to produce original and practical ideas, improved problem-solving abilities, and a heightened curiosity about investigating creative solutions to difficulties. To bolster this assertion, Linan et al. (2013) said that entrepreneurial education has become a viable means of cultivating these particular attributes in students with the goal of advancing creativity and innovation. Additionally, Mathisen and Arnulf (2014) listed the following as essential elements of the impact of entrepreneurial education: self-efficacy, proactiveness and initiative, innovation and creativity, risk-taking, and opportunity recognition.

CONCLUSION

The results of this study offer strong proof that innovative and interactive pedagogical methods can help students develop an entrepreneurial mentality. Through the use of experiential learning, problem-based learning, and other active learning methodologies, educators may effectively augment students' capacity for creative and innovative thought processes. These teaching strategies foster critical thinking and problem-solving abilities while also instilling the resilience and self-assurance required for success in the business world. The cultivation of an entrepreneurial attitude and the augmentation of creativity and invention in students are contingent upon the implementation of inventive and interactive educational approaches in entrepreneurial education. These teaching techniques help students grow both personally and professionally in addition to giving them the knowledge and attitude needed to pursue entrepreneurship.

RECOMMENDATIONS

Based on the findings of the study, it was recommended that:

1. The Government should incorporate entrepreneurial modules across various disciplines to ensure that all students, regardless of their major, gain exposure to entrepreneurial thinking.
2. Establish partnerships with local businesses and startups to provide students with opportunities for internships and apprenticeships.
3. Use business simulations and role-playing exercises to allow students to experience decision-making in a controlled environment, fostering critical thinking and innovative problem-solving.
4. Promote interdisciplinary courses that bring together students from different fields to work on joint projects, encouraging diverse perspectives and innovative solutions.
5. Leverage e-learning platforms and online resources to provide students with access to a wide range of entrepreneurial content and interactive learning materials.
6. Establish mentorship programs where experienced entrepreneurs and industry experts can guide students, providing insights, advice, and feedback on their entrepreneurial ideas and projects.

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