



UTILIZATION OF CREATIVE THINKING METHOD IN IMPLEMENTING ENTREPRENEURSHIP EDUCATION CURRICULUM IN TERTIARY INSTITUTIONS IN ENUGU EDUCATION ZONE, NIGERIA

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Abstract: Entrepreneurship education is globally seen as the answer to the growing socio-economic problem of unemployment and also a crucial element of growth and stability in any economy. Indeed, the prosperity of every country to a large extent is dependent on entrepreneurship. This study examined the extent to which creative thinking method has been utilized in implementing entrepreneurship education curriculum in tertiary institutions in Enugu State, Nigeria. The population for this study included all entrepreneurship students at Enugu State's four private universities. The total population of the study was made up of nine hundred and sixty-seven (967) respondents. The study's sample size was 322 respondents. This sample was determined using the formula recommended by Yamane (1973). Data for the study were collected through a structured questionnaire. The data collected were analyzed using mean and standard deviation to answer the research questions. The independent sample T-test was used to test the hypothesis. The study revealed that the utilization of creative thinking method in entrepreneurial skills is low. It is therefore the recommendation of this study that teachers should use an appropriate creative thinking method in teaching in schools and conduct more studies discussing this strategy and its relation to other variables such as critical thinking and teachers should use visual representations while teaching entrepreneurship lessons.

Keywords: Entrepreneurship education, Creative thinking method, Unemployment, Entrepreneurial skills, Critical thinking, Curriculum implementation

Introduction

Entrepreneurship education is globally seen as the answer to the growing socio-economic problem of unemployment and also a crucial element of growth and stability in any economy. Indeed, the prosperity of every country, to a large extent, is dependent on entrepreneurship (Chris, 2018). Accordingly, intensive efforts, backed by deliberate policies and strategies have been made by several nations of the world to ensure its development and sustenance

(Gregory, 2017). In Nigeria, the Federal government in collaboration with National Universities Commission (NUC) gave the directive for all Nigerian Universities to establish Entrepreneurial Development Centre (EDC) latest by the 2007/2008 academic session. Entrepreneurship education is the acquisition of knowledge, skills, and attitudes to enable the learner apprehend life challenges in whatever form and take decisive steps to realize new trends and opportunities for making those challenges

British International Journal of Education and Social Sciences

Official Publication of Center for International Research Development

Double Blind Peer and Editorial Review International Referred Journal; Globally index

Available <https://cirdjournal.com/index.php/bijess/>; E-mail: journals@cird.online



in all aspects of human life. Entrepreneurship education is a critical resource for whole life education.

Okon (2021) outlined ten areas in the core-curricula and minimum academic standards (CCBMAS) guide for implementing entrepreneurship education curriculum in Nigerian universities. They are as follows: (i) Introduction to entrepreneurship, (ii) Entrepreneurship in theory and practice (iii) types of business staffing, and marketing (iv) Capital requirement and raising capital, (v) Financial planning management, (vi) feasibility studies reports, (vii) innovations, (viii) Legal issues in business (ix) insurance and environmental consideration (x) Possible business opportunities in Nigeria.

In a developing country like Nigeria, education has been adopted as an instrument per excellence for positively influencing national development. One of the goals in the National Policy of Education is based on the belief that education is to be qualitative, comprehensive, functional and relevant to the needs of the society (Nwambam, Nnennaya & Nwankpu, 2018). It is in pursuance of this overall national objective that entrepreneurship education was introduced into the Nigerian education system. Entrepreneurship education is gaining national and local recognition as an established field of study in Nigerian universities as it is growing in parallel with the interest of policy makers and students in general. Both academic education and formal training interventions, share broad objective of providing individuals with the entrepreneurial skills to support participation and performance of university graduates and entire citizenry in a wide range of entrepreneurial activities for self-reliance (Adebayo, 2018).

Entrepreneurial education is indispensable for the economic survival of both students and graduates. According to Mgbonyebi and Olaniyi (2019), educating people on the need for making their own business decisions, acquiring some basic vocational skills, and using them with the knowledge gained in school is the bedrock of economic empowerment and development which is urgently needed. Information and Communication Technology which is one of the entrepreneurial skills is a veritable and essential tool in entrepreneurial education all over the world. Okereke and Okoroafor (2017) assert that entrepreneurial skills have been acknowledged worldwide as the pertinent and rewarding tools for job creation, self-employment, and economic survival of any nation. Effective and efficient skills development systems which connect education to entrepreneurial skills acquisition can help a nation sustain productive growth and development and when improved upon, can lead to the creation of good jobs which in turn enhances the people's standard of living. Ademiluyi (2017) defined entrepreneurial skills as business skills acquired by an individual to be able to function effectively as an entrepreneur in an unstable business environment or in self-employment.

Entrenching entrepreneurship education at all levels of Nigerian tertiary education system has a lot of benefits to offer. Ezeudu (2018) explains that it brings about entrepreneurial skills acquisition leading to reduction of unemployment among youths and will play a complementary role in developing the occupational knowledge, job skills and work experience among teachers and students. Other advantages include effective utilization of local resources, decentralization and diversification of business, promotion of science and technology,



capital formation and promotion of the spirit and culture of entrepreneurship among Nigerian youths and children.

Responding to the importance of entrepreneurship as the essential driver behind economic growth, Entrepreneurial Education Programmes (EEPs) have been booming across the globe in an effort to equip the countries' future entrepreneurs with the necessary skills set to respond to the uncertainties of today's economic realities. While EEPs are generally considered an effective means to promote entrepreneurial intention among students, they often fail to appropriately address and stimulate creative thinking, the other side of the EI-coin, thus leaving the curriculum focused on mere knowledge acquisition and the development of hard skills, such as writing a proper business plan (George, 2017). Yet, in order to succeed and persevere in the long term in an ever-changing environment, entrepreneurs need to amend their creative abilities, abilities that should be taught and trained within EEPs. One possible way to stimulate this creative side of entrepreneurial intentions is by putting students in real problem-solving situations. Utilizing the creative thinking method through creative teaching is one of the functional ways to make entrepreneurial education and skills formation effective. Based on the above, this study examined the extent of the utilization of creative thinking method in implementing entrepreneurship education curriculum in tertiary institutions in Enugu State Education Zone, Nigeria.

Statement of the Problem

The focus of entrepreneurship education was to equip graduates with the requisite skills for entrepreneurial success after school. The overarching objective of the programme was to reduce youths' unemployment;

especially among school leavers in Nigeria. Over the years, while graduates' unemployment has not abated, there is a growing national discontentment on the socio-economic relevance of the course in Nigeria education. This inability to meet its objectives has led to many uncoordinated revisions and changes in the pedagogical structure of the curricula over the years. However, it is widely observed that schools do not utilize creative thinking in their entrepreneurship education. Creative thinking is a fundamental skill that is most cherished in entrepreneurship education. It involves the ability to create new ideas out of existing situations. It also involves an individual's readiness to evolve a new way of doing things. Indeed, an intending student may recognize an opportunity and may be willing to take risks to be able to build a business venture, but lack creative and innovative skills. This perceived challenge may render their efforts ineffective.

Against this background, this study examined the extent at which creative thinking method has been utilized in implementing entrepreneurship education curriculum in tertiary institutions in Enugu State Education Zone, Nigeria.

Purpose of the Study

The main purpose of the study is to find out the extent of utilization of creative thinking method in implementing entrepreneurship education curriculum in tertiary institutions in Enugu State Education Zone, Nigeria. Specifically, the following purposes guided the study:

1. To establish the extent to which brainstorming method of creative thinking is applied in implementing entrepreneurship education curriculum.



2. To ascertain the extent to which mind mapping method of creative thinking is applied in implementing entrepreneurship education curriculum.

Research Questions

The following research questions guided the study:

1. To what extent is brainstorming method of creative thinking applied in implementing entrepreneurship education curriculum.
2. To what extent is mind mapping method of creative thinking applied in implementing entrepreneurship education curriculum.

Hypothesis

This null hypothesis guided the study and was tested at 0.05 alpha level of significance.

Ho₁: There is no significant difference in the mean responses of lecturers and students on the utilization of creative thinking methods in implementing entrepreneurship education curriculum in tertiary institutions in Enugu State, Nigeria.

Review Of Related Literature

Creative Thinking Method

Creativity is one of the most sought-after skills by employers. Companies and businesses are always looking for persons that could bring fresh ideas or unorthodox plausible solutions to problems. Businesses want to hire people who are problem solvers, those who would grow, not ground their services and activities (Ben, 2016). Companies are looking to employ those who would steer their businesses in profitable and productive directions.

Creative thinking refers to using abilities and soft skills to come up with new plausible solutions to problems. Creative thinking skills are techniques used to look at the issue from different and creative angles,

using the right tools to assess it and develop a plan (Arbert, 2015). Creativity has been defined as a result, as a process, as a construct derived from the influence of the context and as a personality feature of human nature. There is not a consensus about the definition of creativity, but it has been generally accepted as the ability to do creative products. A creative product is defined as something new, original and appropriate or valued in a particular context (Vivian, 2016).

Creativity is one of the most appreciated learning skills in the 21st Century. Creativity is conceived as a higher-order thinking skill based on complex and post formal thought concerned with the creation of new and valuable ideas. Higher-order thinking skills are those involved in proficient and strategic thought, and these skills comprise critical, creative and metacognitive thinking, also known as deep learning. In addition, the development of creativity is today considered essential in order to achieve an effective and a high-level learning outcome (Nwakaobi, 2016). Rih and Guedira (2014) think creativity and innovation should be intrinsic to undergraduate education, with a particular focus on graduates as creators of new activities in the business world. Indeed, Agboola (2018) does not see how education that is designed for the pursuit of certificate and the white-collar job can bring positive development especially if such is related to enterprise education. The crux of the matter is that a new curriculum is likely to be required, and teaching with a focus on creativity and innovation may have to be emphasized. Students stand the chance of exploring their creative minds in the pursuit of entrepreneurship if opportunities and freedoms are made available to them.



The concept of creative thinking focuses on creating new ideas, tools, styles, solutions...etc. that have four central items; i.e. flexibility, fluency, originality and sentiment to the problem. They can be used in producing new knowledge based on a basis of information and experiences. Here, creative thinking can be used to reuse or change the methods of using, eliminating or adding to them to produce a new effective idea (Adaku, 2017). Creative thinking skills are based on former experiences, information and knowledge on which creative ideas depend. They are also used in generating the different methods and means of problem-solving, handling surprising situations and benefiting from former experiences. Furthermore, creative thinking is far from stereotype and dullness and depends on flexibility. It can be consolidated by training. Its skills are characterized by originality, fluency, flexibility, sentiment to the problem, brainstorming, providing multiple solutions to problems and handling issues effectively. It is largely affected by the means followed by the faculty members to consolidate and develop its skills among students. The successful teacher does not only depend on curriculum and its content, but it tends to widen the circle and field of students' awareness behind the written text and using and merging imagination with previously studied information to achieve new knowledge and creative ideas. This is one of the most important objectives of the educational process that universities and higher education institutions aim to achieve. Students will move to a new stage in which creative thinking is a must and enables them to make decisions creatively. In addition, creative thinking skills enable them to obtain high academic marks and scientifically and practically achieve success in the future. It also enables them to face problems and

provide, prepare and predict creative solutions (Joseph, 2015).

The definition of entrepreneurship by Kuttim, Kallaste, Venesaar, and Kiis (2014), namely, “the students’ intentions of becoming a founder of an enterprise” (p. 659) requires innovation and creativity. Indeed, an intending student may recognize an opportunity and may be willing to take risks to be able to build a business venture, but lack creative and innovative skills. This challenge may render their efforts ineffective. The type of education required in this regard is that which asks students to go beyond the teacher’s activities in the class.

Brainstorming

Al-maghrawy, (2012) defines brainstorming as a group creativity forum for general ideas. According to Zayton (2011), brainstorming was developed by Alex Osborn to produce ideas without inhibition. Brainstorming technique involves oral and pre-writing exercises for helping the learner and for expressing ideas by the teacher. Brainstorming is a method of generating ideas and sharing knowledge to solve a particular commercial or technical problem, in which participants are encouraged to think without interruption. Brainstorming is a group activity where each participant shares their ideas as soon as they come to mind. At the conclusion of the session, ideas are categorized and ranked for follow-on action.

Osborn (2016) introduced brainstorming as a technique for solving problems. However, researchers have suggested a variety of definitions for the brainstorming technique, such as use of the brain, which represents the leadership center and control in humans when exposed to the stimulus or multiple stimuli that provoke the human senses, which is



linked to the brain intrinsically and morally in a very precise manner (Coombs, 2014).

When planning a brainstorming session, it is important to define clearly the topic to be addressed. A topic which is too specific can constrict thinking, while an ill-defined topic will not generate enough directly applicable ideas. The composition of the brainstorming group is important too. It should include people linked directly with the subject as well as those who can contribute novel and unexpected ideas. It can comprise staff from inside or outside the organization.

It is a technique that is used under the discussion method. Brainstorming has a great importance in the teaching process. Referred to its importance for students in (Sayed, 2009) as follows:

1. Helps students to solve problems, an innovative solution.
2. Helps students to benefit from the ideas of others through the development and build on them.
3. Helps the cohesion of the students and build relationships among them and assess the views of others. Helps the teacher to conclude ideas that are broader than students' thinking solutions making the teacher more democratic and respectful of views regardless of the different points of view.

The major purpose of brainstorming as a teaching strategy is to foster and enhance communication skills, help to promote thinking and decision-making skill as well as foster different viewpoints and opinions. It may equally be used in all key areas of learning. However, the major limitation is that it is generally not suitable for younger levels because of the level of reasoning required in order for it to work. The teacher must equally be able to guide and give aid as necessary considering the class environment as

such considerations often determine the outcomes. In brainstorming techniques, the instructor carefully plans the lesson to reach the desired learning outcomes. The group interacts in response to questions, and the instructor refrains from entering the discussion as an active participant. Students are encouraged to learn about the subject by actively sharing information, experiences, and opinions. The flow of communication is a transaction among all the students rather than recitation and response between individual students and the instructor.

Different Techniques of Brainstorming. The brainstorming technique can be implemented in a number of different ways as follows:

1. Negative (or reverse) brainstorming: The group thinks up opposites of the desired ideas. Reverse brainstorming is intended to open fresh perspectives and allow students to attack the original problem from a new point of view.
2. Group passing technique: Each person in a circular group writes down one idea, and then passes the piece of paper to the next person, who adds some thoughts. This continues until everybody gets his or her original piece of paper back. By this time, it is likely that the group will have extensively elaborated on each idea. This technique takes longer, but it allows individuals time to think deeply about the problem.
3. Team idea mapping method: The team idea mapping method is based on association. The benefit of this method is that it ensures a large volume of different ideas. It does also allow a broader perspective of the variety of ideas. The process begins with a well-defined topic. Each participant brainstorms individually, then all the ideas are merged onto one large idea map. During



this merge phase, participants may discover a common understanding of the issues as they share the meanings behind their ideas. During this sharing, new ideas may arise by the association, and they are added to the map as well. Once all the ideas are captured, the group can prioritize and/or take action.

4. Online brainstorming (electronic brainstorming): It is conducted in the same way as traditional brainstorming the only difference is the absence of physical or visual presence. It typically supported by an Electronic Meeting System (EMS) participants share a list of ideas over a network, ideas are entered independently. Contributions become immediately visible to all and are typically synonymized to encourage openness and reduce personal prejudice. Electronic brainstorming facilitates the coordination of a large group of participants in a session
5. Directed brainstorming: Is a variation of electronic brainstorming. It can be performed manually or with the computer. In this method, the criteria and conditions for evaluating an excellent idea is known before the session is conducted. The participants are given a sheet of paper (if manually done) or an electronic form. The brainstorming question (problem) is then communicated. The candidates are given a respond time, once the respond time is over the papers are swapped to other member's conduction the brainstorming. The other participant will evaluate the idea and try to improve the idea based on the initial criteria. The swapping process is continued for at least three to four consecutive rounds. In the laboratory, directed brainstorming has been found to almost triple the productivity of groups over electronic

brainstorming (Santanen, Briggs, and Vreede, 2014).

6. Individual brainstorming: In this type, brainstorming is done independently. The most common method of executing individual brainstorming is through free speaking, free writing, and spider web (Maheshwai, 2016), but tends not to develop the ideas as effectively, perhaps as individuals on their own run up against problems they cannot solve.

Theoretical Framework

The theories upon which this study is anchored on are the Jerome Bruner Learning Theory and Guilford's Theory of Creativity.

Jerome Bruner Learning Theory

The Jerome Bruner learning theory is a theory propounded by Jerome Bruner in 1961. Jerome Bruner is a developmental psychologist and cognitive psychologist from the United States. In his work, he combined psychological research and classroom practice. He conducted research to revive human interest in the "cognitive process" that is to receive, store and convey information ". Bruner has promoted a laboratory study of the problem of "cognitive processes" that involve thinking and learning abilities. The main center of his work is the concept of development. Bruner did not develop systematic learning theories. What matters to him is how to choose, maintain and transform information actively, and this is what he thinks as the essence of learning. The Bruner approach to learning is based on two assumptions. The first assumption is that the acquisition of knowledge as an interactive process, meaning that students learn to interact with the environment actively and the changes that occur not only in the environment but also in itself. The second



assumption is that students construct their knowledge by connecting incoming information with previously stored information. The theory is concerned with how knowledge is represented and organized through different modes of thinking (or representation). Bruner's work also suggests that a learner even of very young age is capable of learning any material so long as the instruction is organized appropriately, in sharp contrast to the beliefs of Piaget and other stage theorists. For Bruner (1961), the purpose of education is not to impart knowledge, but instead to facilitate a child's thinking and problem-solving skills which can then be transferred to adult stage and to a range of situations. Specifically, education should also develop symbolic thinking in children. Bruner (1961) proposed that learners construct their own knowledge and do this by organizing and categorizing information using a coding system. Bruner believed that the most effective way to develop a coding system is to discover it rather than being told by the teacher. The application of this theory to the present study is that since for Bruner (1961), the purpose of education is not to impart knowledge, but instead to facilitate a thinking and problem-solving skills, this study is on engaging creative thinking on teaching and learning entrepreneurial skills this time in higher/tertiary institutions. The essence of Bruner's theory to this study is that the teacher by applying this theory will understand need for creative thinking, problem solving skills in the teaching of Entrepreneurship Education in tertiary institutions in Enugu State Nigeria.

Review of Empirical Studies

Brainstorming Method of Creative Thinking in Curriculum Implementation

Naser (2015) investigated the effect of using brainstorm strategy in developing creative problem-solving skills among male students in Saud Al-Kharji School in Kuwait. The sample of the study consisted of (98) male students. The sample was distributed into two classes, the first represents the experimental group totaling (47) students taught through brainstorming strategy within the course of developing thinking skills in the academic year 2012/2013, and the second represents the control group totaling (51) students. The instruments of this study were a program to use brainstorming strategy and Torrance creative thinking test. Both validity and reliability were checked by the researcher. The findings of the study showed that there were statistically significant differences at the level of ($\alpha = 0.05$) between the experimental group and the control group in the total score and the sub scores of the creative thinking in the favor of the experimental group indicating the effectiveness of using brainstorming strategy in developing creative thinking skills. The reviewed study used regression analysis but the present study employed the instrumentality of mean and standard-deviation. Secondly; the reviewed study was carried out in far-away Kuwait but the present study was carried out in Enugu state, Nigeria.

Cobra and Shahla (2016) examined the effect of brainstorming teaching method on the educational achievement of grade-five students in the schools of district 7 of the city of Tehran, Iran in the educational year 2010–2011. In order to do so, 60 students were selected via cluster sampling method, and then one



class (n=30) was exposed to the independent variable (brainstorming method), while another class (n=30) was administered through the traditional method of giving lectures. At first, a researcher made pre-test was administered upon both groups. After that, the independent variable was applied for 10 sessions after which the researcher-made test was administered again. In order to test the research hypothesis, a t-test was used. The result was indicative of the effect of the brainstorming method, and the difference of means in both groups was significant at < 0.001 . The results showed that using brainstorming method had a positive effect on the students' educational achievement. The reviewed study employed a similar methodology with the present study (mean and standard deviation) but was carried out in far-away Iran but the present study was carried out in Enugu state, Nigeria.

AlMutairi (2015) conducted a study to investigate the effectiveness of brainstorming strategy in developing creative problem-solving skills among male students in Kuwait using the regression method. The sample of the study consisted of (98) male students. The sample was distributed into two classes, first experimental group (47) and second as control group (51) of the students. The tools used in the study were brainstorming program and Torrance Tests of Creative Thinking. The findings of the study showed that brainstorming strategy was more effective in comparison to traditional method of teaching. The reviewed study employed regression method while the present study employed the mean-standard deviation and the t-test statistics. In addition, the reviewed study was carried out in far-away Kuwait but the present study was carried out in Enugu state, Nigeria.

Zargham (2018) investigated the impact of brainstorming as a pre-reading strategy on reading comprehension ability as well as critical thinking (CT) ability of EFL learners in India. In so doing, the study used an experimental design applying regression method with 29 participants in the control group and 25 participants in the experimental one. The results of the pre-test confirmed the homogeneity of the participants in the two groups regarding their reading comprehension ability as well as critical thinking ability. Neither the control group nor experimental group had any previous experience in brainstorming strategies. The participants in the experimental group were instructed how to use brainstorming strategies before reading passages. A 45 multiple-choice reading items taken from Flash (2005) TOEFL Reading and the 'Watson-Glaser Critical Thinking Appraisal' (CTA) were employed to evaluate students' reading comprehension ability, besides their CT ability; respectively. The post test results indicated that brainstorming strategies have a positive significant effect on both CT ability as well as reading comprehension ability of the participants. The conclusions and implications of the research have been further pointed out with reference to foreign language teaching context. The reviewed study employed regression method while the present study employed the mean-standard deviation and the t-test statistics. In addition, the reviewed study was carried out in far-away India but the present study was carried out in Enugu state, Nigeria.



Mind Mapping Method of Creative Thinking in Curriculum Implementation

Ali (2019) compared the effects of the Mind Maps Teaching Method and the Conventional Teaching Method on tenth graders' immediate achievement and retention of electric energy concepts in Jordan. Participants (N= 111 students; M= 52, F= 59) were randomly selected from Bani Kenanah region, north of Jordan. One group was assigned to the Mind Maps Teaching Method (n=54) and other group was assigned to the Conventional Teaching Method (n= 57). A multiple-choice physics concept test and open-ended questions were developed and used. The results showed that the Mind Maps Teaching Method was more effective than the Conventional Teaching Method in immediate achievement and retention of electric energy concepts. There was a significant difference for students' gender on immediate achievement but not on retention. The reviewed study employed a similar methodology with the present study (mean and standard deviation) but study was carried out in far-away Jordan but the present study was carried out in Enugu state, Nigeria.

Al-Otaibi's (2016) study aimed at identifying the effectiveness of Non-Hierarchical electronic mind maps in developing the skills of visual thinking among primary-stage female learners in science course in Pakistan. The study consisted of two groups. The experimental group was instructed in the non-hierarchical electronic mind maps strategy, whereas the control group was taught in the traditional method of teaching. A pre- and post-visual thinking skill test was conducted. (if same test: The visual skill test was employed as pre-test and post test.) The study concluded that differences of statistical indication (at indication level < 0.01) between students' average

grades in both the experimental group and control group on the visual thinking skill test existed in favor of the experimental group. The reviewed study employed a similar methodology with the present study (mean and standard deviation) but study was carried out in far-away Pakistan but the present study was carried out in Enugu state, Nigeria.

Hariyadi, Corebima, and Ibrahim's (2018) study aimed to measure the benefit of summarizing and questioning in the Reading-Questioning-Answering Learning Model integrated with mind mapping on the genetic learning outcomes Algeria. This study was correlational research that analyzed via multiple regressions. Mind mapping, summarizing and questioning positioned as predictors, and genetic learning outcomes positioned as a criterion. The research results showed a strong correlation (97.4%) between mind mapping, summarizing, and questioning in the learning outcomes. The value of the relative contribution of each predictor (questioning, mind mapping, and summarizing) was 58.74%, 39.76%, and 1.50% respectively. The value of the effective contribution of questioning, mind mapping, and summarizing was 57.21%, 38.73%, and 1.46% respectively. Thus, the contribution of questioning was higher than that of mind mapping and summarizing on the genetic learning outcomes. The reviewed study employed correlation and regression methods while the present study engaged mean and standard deviation. The reviewed study was carried out in far-away Algeria but the present study was carried out in Enugu state, Nigeria.



Research Methods

Design of the Study

Descriptive survey design was adopted in the present study. This design is considered appropriate for this study because it enabled the use of reliable technique for data collection from the population. Above all, this study requested the opinions of students on the utilization of creative thinking methods in implementing entrepreneurship education curriculum in tertiary institutions in Enugu State, Nigeria.

Area of the Study

This study was carried out in tertiary institutions in Enugu Education Zone of Enugu State. Enugu State has four private universities namely; Coal City University, Caritas University, Renaissance University, and Godfrey Okoye University.

Population of the Study

The population for this study includes all the 200 level entrepreneurship education students and their lecturers from four private universities (; Coal City University, Caritas University, Renaissance University and Godfrey Okoye University) in Enugu Education Zone of Enugu State. The total number of students and lecturers for the study is nine hundred and sixty-seven (967) and seven (7) for students and lecturers respectively. (School's Registry, 2022).

Sample and Sampling Techniques

The study's sample size is 322 people. The sample size was calculated using the Taro Yamane Formula. The sampling method used in the study was Simple Random Sampling (SRS). The basic assumption underlying simple random sampling (SRS) is that the elements or individuals in the population are assumed to be homogeneous. The entire population is 967.

The sample for the study was chosen using simple random sampling by the researcher. To sample the respondents, the following procedures were used: each element in the sample was assigned a number; these numbers were written on small pieces of paper; they were folded and placed in a container and mixed; an assistant researcher was blindfolded and instructed to pick randomly from the container until the sample size was reached.

Instrument for Data Collection

A structured questionnaire served as the data gathering instrument. The questionnaire was created using a four-point rating system that the respondent could pick from. Very High Extent (VHE-4), High Extent (HE-3), Low Extent (LE-2), and Very Low Extent (VLE-1).

Validation of the Instrument

The instrument was validated by three specialists: one from measurement and evaluation, one from curriculum and the other from entrepreneurship education. They all were from the Faculty of Education, Godfrey Okoye University Enugu. These specialists were requested to: ascertain the appropriateness of the items of the instrument, ascertain the clarity of language, suitability, and its relevance to the purpose of the study. All their observations and corrections were incorporated in the final draft. Their ideas, corrections, suggestions and criticisms, contributed to the final draft of the instrument.

Reliability of the Study

To ascertain the reliability of the instrument, the researcher trial-tested the instrument by administering 21 copies of the validated instrument to students of Ebonyi state university in Abakaliki Ebonyi State. The university is located in Ebonyi state Nigeria. The



justification behind using this school was because the school has similar characteristics with the schools under study who were not part of the study. Data collected from the respondents was computed using Spearman reliability co-efficient which gave the value of 0.88 for cluster A, 0.91 for cluster B, 0.85 for cluster C, 0.79 for cluster D and 0.71 for cluster E.

Method of Data Collection

The researchers, were assisted by two enumerators, administered the questionnaire directly to the respondents. The data collection instrument was discussed with the research assistants to ensure that they were familiar with how to administer the instrument properly. To achieve 100% return, the instrument was administered and retrieved from the respondents on the spot.

RESULTS

Research Question One

To what extent is brainstorming method of creative thinking applied in implementing entrepreneurship education curriculum?

Method of Data Analysis

Mean and standard deviation were used to answer the research questions. The independent sample t-test was used to test the hypothesis. The decision mean remark for rating the applicability of creative thinking methods was given as: $4+3+2+1=10$, $10 \div 4 = 2.50$. Therefore, 2.50 was the criterion mean score for the pass mark. The data were presented in tables.

Decision Rule

For the mean, values higher than 2.5 were considered significant while below 2.5 were considered not significant. For the hypothesis, value higher than 0.05 were considered significant while less than 0.05 were considered not significant.



Table 2: Brainstorming Method

S/N	Items	\bar{X}	S	Dec
1	We write down ideas that relate to an entrepreneurial topic	2.41	2.144761	R
2	We critique, and discuss specific creative ideas during class	2.32	2.31724	R
3	We engage in figure storming. (How a well-known public figure <u>would approach the problem or think about an idea</u>)	2.47	2.269361	R
4	We employ visualization method employed during the teaching of entrepreneurship	2.40	2.132274	R
5	We teach or learn how to generate inspirational ideas	2.33	2.249575	R
6	We participate, <u>contribute and work on one idea during the brainstorming class</u>	2.42	2.136289	R
7	We teach or learn how best to executive ideas	2.30	2.106243	R
8	We are taken to an environment outside the conventional classroom to be instructed on creative thinking and idea generation	2.25	2.201562	R
Grand Mean		2.3625	2.194663	R

Key: N = Number of Subjects, \bar{X} = Mean, S = Standard Deviation, Dec = Decision, A = Rejected

The grand mean response of 2.3625 with its associated standard deviation of 2.194663 which is below the mean rating benchmark of 2.50 indicated that the respondents do not agree with the eight items under cluster B thereby concluding that, the extent of

the brainstorming method of creative thinking applied in implementing entrepreneurship education curriculum is very low.



Research Question Two

To what extent is mind mapping method of creative thinking applied in implementing entrepreneurship education curriculum.

Table 3: Mind Mapping Method

S/N	Items	\bar{X}	S	Dec
1	Ideas are thrown at you and you are asked how they can be achieved	2.32	2.244731	R
2	We are taught concerning the concept of mind-mapping	2.22	2.11711	R
3	We are given materials on mind-mapping techniques	2.13	2.017265	R
4	We are engaged with the mind-mapping materials that is being presented	2.42	2.339873	R
5	We are taught how to make connections between different ideas/areas, and delving in-depth into that area	2.33	2.226634	R
6	We work together on group projects or assignments using online mind-mapping study tools	2.29	2.111896	R
7	We are given the opportunity to express varied ideas about a topic in a Mind Map before and after a class	2.44	2.333112	R
8	We are instructed on how to connect two or more ideas simultaneously	2.23	2.108874	R
Grand Mean		2.2975	2.187437	R

Key: N = Number of Subjects, \bar{X} = Mean, S = Standard Deviation, Dec = Decision, A = Rejected

From table 2 cluster B, it can be clearly seen that the grand mean yielded 2.2975. Hence, the grand mean response of 2.2975 with its associated standard deviation of 2.187437 which is below the mean rating benchmark of 2.50 indicated that the respondents do

not agree with the eight items under cluster C. This, therefore, led to the conclusion that the extent of the mind-mapping method of creative thinking applied in implementing entrepreneurship education curriculum is also very low.



Hypotheses Testing

Hypothesis 1

H₀₁: There is no significant difference in the mean responses of lecturers and students in the utilization of creative thinking methods in implementing entrepreneurship education curriculum in tertiary institutions in Enugu state education zone, Nigeria.

Table 6:
Independent Samples t-test

	Levene's Test for Equality of Variances		T-test for Equality of Means						
	F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Lecturers Equal variances assumed	11.5277	.003	-0.221	56	.114	-.24511	.11358	-.47336	.06173
Students Equal variances not assumed			-2.833	47.000	.321	-.15783	.05148	-.34942	-.01229

The table above (table 6) is an analysis of the independent samples t-test. It was carried out to evaluate if there exists a difference in the mean responses of lecturers and students in the utilization of creative thinking methods in implementing entrepreneurship education curriculum in tertiary institutions in Enugu State, Nigeria.

From table 6, the independent sample t-test gave an f value of 11.277 and t value of -0.221 and this is insignificant given that the value is less absolute 2. This leads to the decision to that the null hypothesis is not rejected. This implies that there is no significant difference in the mean responses of lecturers and students in the utilization of creative thinking methods in implementing entrepreneurship education

curriculum in tertiary institutions in Enugu state, Nigeria.

Discussion of the Principal Findings from the Study

The major findings of this study were empirically discussed and are hereby objectively presented based on the major parameters and variables researched

The Extent to which brainstorming method of creative thinking is applied in implementing entrepreneurship education curriculum.

The second objective of the study investigated the extent to which the brain-storming method of creative thinking is applied in implementing entrepreneurship education curriculum. Data collected was analyzed with the mean score and standard deviation. The result revealed that to a low extent, the brain-storming method of creative thinking has not been applied in



implementing entrepreneurship education curriculum in tertiary institutions in Enugu State. This means that the brain-storming method of creative thinking has not been impressively applied in the teaching and learning of entrepreneurial skills in tertiary institutions in Enugu State. The finding was not however in tandem with the findings of Cobra and Shahla (2016) who examined the effect brainstorming teaching method on the educational achievement of grade-five students in the schools of district 7 of the city of Tehran, Iran, and found out that brainstorming method had a positive effect on the students' educational achievement. This study was also not in line with the findings of AlMutairi (2015) who conducted a study to investigate the effectiveness of brainstorming strategy in developing creative problem-solving skills among male students in Kuwait. The findings of the study showed that the brainstorming strategy was more effective in comparison to traditional method of teaching.

The extent to which mind mapping method of creative thinking is applied in implementing entrepreneurship education curriculum.

The third objective of the study was to ascertain the extent to which the mind mapping method of creative thinking is applied in implementing entrepreneurship education curriculum in tertiary institutions in Enugu State. Mind-mapping has been seen in literature and practical terms to be one of the effective strategies of creative thinking. However, based on the analysis conducted in this regard, the findings of the study revealed that the extent of the mind-mapping method of creative thinking applied in implementing entrepreneurship education curriculum is also very low. It was discovered that related studies in the literature were not in agreement with this finding. For

example, this finding is not however in line with the findings of Ali (2019) who compared the effects of the Mind Maps Teaching Method and the Conventional Teaching Method on tenth graders' immediate achievement and retention of electric energy concepts in Jordan. Participants. The study discovered that Mind Maps Teaching Method was more effective than the Conventional Teaching Method in immediate achievement and retention of electric energy concepts. It was not also in line with the findings of Balim (2013) who investigated the impact of using mind maps and concept maps on students' learning of concepts in science courses.

Conclusions

Based on the findings of the study, it was discovered that none of the creative thinking methods (brainstorming and mind-mapping) is impressively applied in the implementation of educational curriculum in tertiary institutions in Enugu State Education Zone. Based on this, it can be concluded that the educational system in Nigeria today puts too much emphasis on blind obedience to the teacher in the classroom, conformity to the age-old established norms and practices in the school, and reproduction of ideas in the examination. This is the legacy of the inherited colonial education whose aims were geared toward producing white-collar jobs that would sustain the colonial administration. In the current dispensation and situation, this system is not favorable to the generation of new ideas and full realization of human creative potential.

Implications of the Findings of the Study

Entrepreneurship education is important to students of tertiary institutions because they are expected to acquire knowledge, skills, and attitudes that would enable them to become self-reliant and adapt to



changing needs of society due to globalization and integration processes (Rhoda, 2018). However, with the absence of engaging creative thinking methods in the teaching and learning of entrepreneurial skills in tertiary institutions in Enugu State, the implication is that these students will graduate as half-baked entrepreneurs and may not be fully competent and trained to effectively launch into the world of entrepreneurship. This will most likely lead to unemployment. Another implication of these findings is that these students will end up being filled with theoretical entrepreneurship which is not sufficient for global relevance and survival.

Recommendations for Action

Based on the findings of the study, the following recommendations were suggested:

1. Teachers should use a brainstorming strategy in teaching in schools and conduct more studies discussing this strategy and its relation to other variables such as critical thinking.
2. Teachers should use visual representations while teaching entrepreneurship lessons. The visual representation is very helpful for generating ideas as well as graphically organizing and summarizing students' thoughts. These kinds of maps are very helpful to make students gradually build their creative thinking skills.

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