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Influence of Critical Thinking on The Academic Performance of Students in Economics in Secondary Schools in Abia State

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Abstract

The study was carried out to investigate the influence of critical thinking on the academic performance of students in Economics in Abia State. The sample size of the study was 309 SS II students which comprised 117 male and 192 female students. The sample size of the study was 195 comprising of 95 male and 100 female. The study was guided by two research questions and two corresponding null hypotheses which were tested at 0.05 alpha level of significance. The study adopted the descriptive survey research design. The instrument used for data collection was a questionnaire titled; influence of critical thinking on students' performance in Economics "ICTSPE" with two clusters addressing the two questions that guided the study. The instrument was face validated by three experts, two in Economics Education and one expert from Measurement and Evaluation unit all from Michael Okpara University of Agriculture, Umudike. While the reliability of the instrument was determined using the test-retest method, a reliability index of 0.77 obtained. The mean and standard deviation were used to answer the research questions while t-test statistic was used to test the hypotheses at 0.05 level of significance. The finding revealed that that there was no significant influence in the mean responses of male and female students on how critical thinking influence students' problem-solving skills in Economics. Also, the finding showed that there was no significant difference in the mean responses of male and female students on how critical thinking influence students' performance in Economics. Therefore, it was recommended that the Ministry of Education should train teachers on how to use critical thinking in teaching student since this can increase academic performance among others.

Keywords: critical thinking, problem-solving, analytical skills, Economics, performance.

Introduction

Education is imperative for everyone in the society to contribute towards nation building. The aim of education is to empowering citizenry to be discipline and responsive and remove inequality (Okam, 2012). Consequently, various subjects are taught to students in secondary schools. Ntamu, Owulu and Monity (2016) and Boit, Njoki and Chang'ach (2012) are of the opinion that every subject taught in secondary school has its unique value and important to the educational process. One of such subjects is Economics. Economics as a school subject is taught at the senior secondary schools' level in Nigeria. It utilizes statistical and mathematical models to analyze real-life economic problems (Onah, Amaechi & Nosike, 2017). Economics is a social science that studies or examines human behaviour as regards using limited/scarce resources to satisfy unlimited wants. It involves understanding how the forces of demand and supply allocates scarce resources (Amaechi, 2019).

Economics is one of the subjects which the secondary school education curriculum cannot be relegated because of its importance or the role it plays in the development and improvement of the nation's economy. Economics as a secondary school subject is expected to help students understand the trends of the nation's economy as well as enable them to make their own positive contributions to their nation's economy to be better than what it is. Amaechi (2019) saw Economics as the study of human behavior in an effort to allocate scarce resources efficiently and effectively in order to minimize cost. It is a subject concerned with the efficient utilization or management of limited productive resources for the purpose of attaining the maximum satisfaction of human wants. A sound knowledge of Economics is a pre-requisite for entrance into such areas of specializations; sociology, political science, history and international relations, accounting, marketing, anthropology among others. The importance of studying Economics to any nation cannot be overestimated. Economics helps both students and teachers to understand the basic economic concepts, principles and theories, and seeks to improve the economic situation for their own social good. Economics is not strictly beneficial to the learner only but also

relevant to other professions. This realisation of the laudable benefits calls for the engagement of students in the development of the critical thinking ability.

Critical thinking is a metacognitive process, consisting of a number of skills and dispositions that, through purposeful, self-regulatory reflective judgment, increases the chances of producing logical solutions to a problem or making valid conclusion to an argument (Dywer, Stupple, Cheung, & Aubecleck, 2017). Critical thinking is the ability to collect and analyze information to come to a conclusion. Critical thinking empowers individuals to approach decision-making and problem-solving with clarity, logic, and systematic approach (Delmia, 2022). This leads to more informed choices, innovative solutions, and better outcome. According to Ryan (2022), critical thinking is the ability to effectively analyze information and form a judgment. Critical thinking is the analysis of available facts, evidence, observations and arguments in order to form a judgment by the application of rational, skeptical and unbiased analysis and evaluation. Thus, critical thinking is at the epicenter of learning that allows students to reflect and comprehend their perspectives. Based on personal reflections and understanding, critical thinking skills assist students in determining and understanding the world around them.

Education is aimed at inculcating in the learner appropriate skills to live in and contribute to the development of the society. This cannot be achieved without effective teaching. The implementation of the curriculum lies in the hands of teachers. No matter how good a curriculum design is, its success is dependent on the teachers' ability to implementing it (Ndukwe, 2021). Educationists and modern scholars agree that the development of cognitive intellectual abilities is of utmost importance and critical thinking is central to both personal success and national need (Paul in Elkins, 2014). Hence, educators are beginning to explore those pedagogical practices that would effectively develop students' critical thinking knowledge, skills, and dispositions across the academic discipline especially in the field of

Economics, to develop competencies that will serve them throughout their lives. This has become necessary because critical thinking can help students understand themselves better and in turn help them avert any kind of negative or limiting beliefs and focus more on their strengths. More so, critical thinking enables students to increase their quality value judgement on economic issues. Thus, critical thinking is required for academic success because it allows students to comprehend and synthesise information, ideas and arguments. This skill is a vital tool for learners to accurately evaluate information and to make rational decision based on evidence (Brian, 2019).

As the concept of critical thinking is highly complex, it is absolutely necessary to encourage students to allow themselves to be influenced by critical thinking abilities in order to enhance their performances in Economics, especially in secondary school level. This is ingenious, because according to the American Philosophical Association, critical thinking is a process of purposeful self- regulatory judgment (Azar, 2010). The process gives reasoned consideration to evidence, context conceptualizations, methods and criteria. Facione in Brown (2016) contended that critical thinking involves both skills and habits of mind or dispositions. Similarly, to Facione and his concern with the necessity for an inclination towards critical thinking, Paul in Brandt (2015) asserted that critical thinking is an intellectually disciplined process of activity and skillfully conceptualizing, applying, analyzing, synthesizing or evaluating information. The author believes that critical thinking is "purposeful, reasoned and goal-directed". Conversely, the benefits of the utilization of critical thinking in instruction in order to influence of students' academic performance is through engaging students in activities in shaping their problem-solving and analytical thinking skills. Problem-solving skills is an investigative task whereby the solver explores the solution path to reach the goal from a given information. Udo (2015) described it as a cognitive learning strategy which is aimed at bridging the gap between conceptual understanding and the phenomena. The application of Problem-

solving skills involves self-directed, self-disciplined, self-monitored and self-corrective habits of the mind. This could be achieved through the development of analytical skills.

Analytical thinking skill is refers to the mode of thinking about any subject, concept or problem in which the thinker improves the quality of his or her thinking by skillfully taking charge of the structure inherent in thinking and imposing intellectual standards upon them (Karbalaei ,2012). It presupposes assent to rigorous standard of excellence and mindful command of the use in problem-solving. Educationists have called for renewed interest in problem solving and analytical thinking skills to teach learners how to logically analyze, compare, question and evaluate within content areas. Thinking is not separate from content; it should be an integral part of the learning process. Regardless of the educational pedagogical developments in Economics, critical thinking must be performed as an active part of human life endeavor or course curricula.

Conversely, in order to facilitate effective teaching and learning of Economics in schools, there is the need to develop in the students in problem-solving and analytical thinking skills which is the core ideology of critical thinking (Karbalaei (2012). Thus, the provision of learning environment that emphases thinking, objectives must include application and analysis of divergent thinking which gives the students the opportunities to organize ideas and support value judgments. Meanwhile, creating a productive learning environment in which students are actively involved in critical thinking foster educational advancement within the learning process. This is possible through the development of self-reflective skills. It prevents individuals from being susceptible to manipulation and allows them solve problems more creatively, independently, and effectively (Clark, 2019) This will not only help them learn fast, but it will help them develop critical thinking skills and foster co-operative learning **(**Stupple, Cheung, & Aubecleck, 2017).

Consequently, the major challenge facing the school system in Nigeria, is how to improve the dwindling students learning outcome. Poor achievement occurs yearly and more students are shying away from applying to read Economics in tertiary institutions. This alarming rate of poor achievement in Economics has generated growing concern from the parents, teachers, secondary school management and the government (Lineros & Hinojosa, 2012). The achievement of students in Economics at the end of the secondary school programme has not improved lately in the last decade where the percentage of passes in 2017 was 23.28%, in 2018 was 23.12%, in 2019 it fell to 18.11%, in 2020 it was 13.47%, and 12.28% in 2021 respectively (West African Examinations Council Chief Examiner's Report, 2021). The persistent poor achievement of students at Secondary Schools Certificate Examination (SSCE) leaves one doubt on the effectiveness of instructional delivery approaches popularly used by the teachers for the teaching and learning. This trend if not checked would spell doom for the scientific and technological development of the nation. To this effect, the WAEC (2021) chief examiner reported proffered remedies to solve this problem, one of which is adopting instructional practices that utilizes activity-oriented strategy; to effect, this need for this study; influence of critical thinking on the academic performance of students in Economics in secondary schools in Abia State.

Purpose of the Study

The study sought to ascertain the influence of critical thinking on students' academic performance in Economics in secondary schools in Abia State.

Specifically, the study sought to determine the extent the use of:

1. problem-solving as a critical thinking skill influences students' academic performance in Economics.

2. analytical thinking as a critical thinking skill influences students' academic performance analytical skill in Economics.

Research Questions

The following research questions guided the study:

1. To what extent the use of problem solving as critical thinking skill influences students' academic performance in Economics?

2. To what extent the use of analytical thinking as critical thinking skill influence students' academic performance in Economics in secondary school?

Hypotheses

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

$H0_1$: There is no significant difference in the mean response of male and female students on the influence of problem-solving skill on students' academic performance in Economics

$H0_2$: There is no significant difference in the mean response of male and female students on the influence of analytical thinking on students' academic performance in Economics

Methodology

The research design adopted for this study was a descriptive survey. It is a design in which a group of people or items is studied by collecting and analyzing data from people representing the entire population. The design is suitable for the study because the researcher used

questionnaire to collect data from respondents. The population of the study consisted of 309 students in Economics in government owned secondary schools in Abia state, which comprises of 117 male and 192 female students in Economics Abia State Education Management Board, 2023). The sample size for the study was 195 students in Economics which consisted of 95 male and 100 females purposively selected from three senior public secondary schools offering Economics in Umuahia education zone. These schools were selected for having a qualified Economics and having been presenting students for external examination for the past ten years.

A structured questionnaire titled "influence of critical thinking on students' performance in Economics "ICTSPE". The instrument consists of two sections. Section A, focused on the background information of the respondents and section B, focused on the problem of study and was divided into two clusters; A and B developed for the study. Cluster A focused on problem-solving skills while cluster B, focused on analytical skills. In order to ensure face validity of the instrument, the drafted copy was presented to three experts, two in Economics Education, Department of Agricultural and Vocational Education and one expert from Measurement and Evaluation unit, Department of Science Education, all in Michael Okpara University of Agriculture, Umudike. They were requested to validate the instrument on the bases of item clarity, item suitability and relevance to the study. The reliability of the instrument was determined using the test-retest method and a reliability index of 0.77 was obtained. The researcher administered the instrument directly to students in Economics in Government owned secondary schools selected for the study which yielded 100% return rate. The mean and standard deviation was used to answer the research questions while t-test statistic was used to test the hypotheses at 0.05 level of significance. Furthermore, the study used the 2.50 as the cut off in answering the research questions: thus, any item in the instrument with a mean rating of 2.50 and above was considered high extent while any mean rating below 2.50 was considered low extent. The null hypotheses were tested at 0.05 level of significance. Consequently, the following decision rules was used interpreting the results of data analysis: In testing the

hypothesis of no significant difference using t-test, the decision rule was that the null hypotheses were rejected when the t-calculated value is greater than the t-critical value whereas where the t-calculated value is less than the t-critical value, it was considered not rejected.

Results

Research question 1

To what extent the use of problem solving as critical thinking skill influences students' academic performance in Economics?

Table 1: Mean and standard deviation on the extent critical thinking enhance students' problem-solving skills in Economics in Abia State

S/NO	Item Statement	$\bar{X}$	SD	Remark
1.	Critical thinking enables students to distinguish between macro and micro Economics.	3.51	0.84	HE
2.	Critical thinking helps students to do economic analysis.	3.17	0.75	HE
3.	Critical thinking helps students to reflect and agree with the basic principles of Economics.	3.42	0.92	HE
4.	Critical thinking enables students to state the basic Economics problems of the society.	3.22	0.77	HE
5.	Critical thinking enables students to proffer solution to the basic Economics problems.	3.43	0.83	HE
	Grand Mean	**3.35**	**0.82**	**HE**

The result in table 1 shows that the respondents accepted the five-item statement on how critical thinking enhances students' problem-solving skills in Economics in secondary school, with respective mean of 3.51, 3.17, 3.42, 3.22 and 3.43. The items were accepted because the mean

scores were above 2.50 mean cut-off mark. So, what is the answer to the above research question?

$H0_1$: There is no significant difference in the mean response of male and female students on the influence of problem-solving skill influence students' academic performance in Economics

Table 2: t-test analysis of the difference in the mean responses of male and female on on the influence of problem-solving skill influence students' academic performance in Economics

Source of variance	Mean	S. D	Df	t-cal.	t-tab	Sig.
Male	22.65	0.19	107	1.10	2.14	NS
Female	32.33	0.78				

Table 2 presents the result that was obtained when hypothesis 2 was tested at 0.05 level of significance. From the table, t-cal. of 1.10 is less than the tabulated value (t-tab) of 2.14. This result shows that there is no significant difference in the mean responses of male and female students on how critical thinking enhances performances in problem solving in Economics.

Research Question 2

To what extent the use of analytical thinking as critical thinking skill influence students' academic performance in Economics in secondary school?

Table 3: Mean and standard deviation on the extent analytical thinking as critical thinking skill influence students' academic performance in Economics in secondary school

S/NO	Item Statement	$\bar{X}$	SD	Remark
6.	Critical thinking equips students to analyse present economic problems in order to proffer meaningful solution.	3.39	0.90	HE
7.	Critical thinking enables students to compare past economic policies of government with the present.	3.19	0.79	HE
8.	Critical thinking helps students to make economic representation using graphical knowledge.	3.16	1.02	HE
9.	Critical thinking enables students to update their knowledge of economic system and polices of societies.	3.09	0.88	HE

10.	Critical thinking helps students to draw comparison between the law of demand and supply.	3.25	0.93	HE
	Grand mean	**3.21**	**0.90**	**HE**

HE=High Extent

The result in table 3 shows that the respondents accepted the five-item statement on critical thinking enhancing students' analytical skills in Economic, with the mean of 3.39, 3.19, 3.16, 3.09 and 3.25 respectively. The items were accepted because the mean scores were above 2.50 mean cut-off mark.

$H0_2$: There is no significant difference in the mean response of male and female students on the influence of analytical thinking on students' academic performance in Economics

Table 4: t-test analysis of the difference in the mean responses of male and female on the influence of analytical thinking on students' academic performance in Economics

Source of variance	Mean	S. D	Df.	t-cal.	t-tab	Sig.
Male	40.27	0.87	107	0.19	2.14	NS
Female	32.93	0.56				

Table 4 presents the result that was obtained when hypothesis 1 was tested at .5 level of significance. From the table, the t-cal. of 0.19 is less than the tabulated value (t-tab) of 2.14. The result shows that there is no significant differences in the mean responses of male and female students on how critical thinking enhances analytical skills in Economics.

Discussion of Findings

The finding indicated that critical thinking influence students' problem-solving skills to a high extent. *The findings are in line with* Nwakpa (2017) who argued that critical thinking is the activity of analyzing ideas in a more specific direction, discerning things sharply, and developing in a more perfect direction. Providing critical thinking exercises to students in Economics in secondary schools is particularly important because they will have scientific attitude and the ability to solve problems both during their classes and in real life experiences.

This is also in agreement with the findings made by Paul in Facione (2012) who convincingly stated that development of cognitive abilities is of utmost important and critical thinking is central to both personal success and national need.

The finding showed that critical thinking enhances Economics students analytical thinking to a high extent. *The findings are in line with* Udo (2017) who described analytical skill as an activity that encourages students to evaluate some information they get. Through this activity, the student will be trained to think critically about the articles they obtained. This deeper understanding allows students to better analyze the circumstances surrounding the occurrence and differing point of view about the occurrence. This is developed through regular exercises – mind games.

Conclusion

The study concluded that the use of problem-solving and analytical thinking as critical thinking skills influence students' academic performance in Economics in secondary schools. Thus, there is need to holistically imbibe those pedagogical practices that could effectively develop students critical thinking knowledge in the field of Economics, to develop competencies that will serve them throughout their lives through creative, self-reflective and analytical skills. This cannot be achieved without effective teaching. This is absolutely necessary, since the application of critical thinking is goal-oriented and self-corrective habits of the mind.

Recommendations

Based on the study, the following recommendations are made by the researcher:

1. The Ministry of Education should train teachers on how to utilise problem-solving bring out the best in the students' learning for improved academic performance.
2. There is need for educators and other stakeholders to orgainse workshop and seminar to better teachers' pedagogy practices on application of analytical thinking to encourage students develop self-reflective skills in order to solve economic problems.

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