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FACTORS AFFECTING TEACHING AND LEARNING OF CREATIVITY AND INNOVATION IN COLLEGES OF EDUCATION IN SOUTH-WEST NIGERIA

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Abstract
Technical Education is vital for equipping individuals with the skills and competencies required to foster innovation and drive economic growth in Nigeria. However, in many Colleges of Education in South-West Nigeria, the emphasis remains largely theoretical, with limited opportunities for practical skill development. This study examined factors affecting the teaching of creativity and innovation in technical education programmes within five Colleges of Education in Oyo State, Nigeria. A descriptive survey design was employed, involving 210 participants: 20 technology instructors, 25 lecturers, and 165 students, selected through a multistage sampling technique. Data were collected using a validated questionnaire titled Creativity and Innovation Questionnaire (CIQ), with a reliability coefficient of 0.78 determined via Pearson Product Moment Correlation. Descriptive statistics, including frequencies and percentages, were used for analysis. Findings indicated key challenges such as inadequate instructional time, large class sizes, incomplete curriculum delivery, insufficient resources, students' misuse of mobile devices, and pursuit of instant wealth, heavy teaching workloads, staff shortages, and lack of in-service or hands-on training. The study recommends targeted policy and institutional interventions to strengthen creativity and innovation teaching in Technical Education.

Keywords: *teaching and learning, creativity, innovation, technical education, colleges of education*

Introduction

Technical Education plays a crucial role in developing the skills and competencies needed to drive innovation and economic growth in Nigeria. Education is a crucial social institution that is necessary for the survival and prosperity of society. It must not only be thorough, long-lasting, and excellent, but it must also constantly adapt to keep up with the rapidly changing and unpredictable globalized world. This transformation must be systematic, reliable, and expandable. Therefore, school teachers, college professors, administrators, researchers, and policy makers are required to innovate in the theory and practice of teaching and learning as well as all other aspects of this intricate organization to guarantee that all students are well-prepared for life and work with high-quality education (Okebukola, 2018). The achievement of nation in a dynamic global economy is obviously reliant on the caliber and amount of knowledge, innovation, and creativity skills that their human resources possess (Alshammari and Thomran, 2023).

Effective strategies employed by modern economies are centered on creativity, innovation and quality systems. These strategies aim to generate and adopt new knowledge to enhance the worth of products, processes, and services provided to consumers. Policymakers and industry professionals worldwide have acknowledged these factors as a means of gaining a competitive edge (Nold, 2017). Creativity is the ability and agility to develop, originate and generate new ideas, concepts, or solutions to problems. It involves thinking outside the box and breaking away from conventional ways of thinking. Creativity is not limited to artistic expression but can be applied in various fields such as science, technology, business, and education (Garibay, 2015). Creativity is one of the topics that have drawn the attention of man since ancient times, due to its importance in developing what civilization has produced in the material or intellectual aspects, or inventing what was not present in it (Amegbanu and Mpuangnan, 2023)

Innovation can be described as a way of doing new things. Its processes have emerged as key strategies for raising the caliber of social services, including education (Organization for Economic Cooperation and Development (OECD), 2010). In the past ten years, both national and international agents working to improve education have prioritized developing and implementing policies for the education sector's innovation, defining and measuring educational innovation, and fostering innovative pedagogies (Ahmed, Ahmed and Thomran, 2023; Muzeyin et al., 2022). Innovation is defined as new or modified learned behaviour that enables individuals or systems to solve problems and adapt to changing environments (Rawlings & Reader, 2024).

Innovation can be understood as the introduction or transformation of practices and systems to create new forms of participation, solutions, or improvements in societal or organizational contexts (York & Jochmaring, 2024). Innovation refers to the process of generating and implementing new ideas, products, or methods that provide value and improve existing systems (Kang, 2024). The role of innovation in colleges of education is not just confined to the classroom but can also be extended to all sub-systems from the lowest to the highest levels of a school's management and administrative structure Baregheh, Rowley and Sambrook (2009).

Colleges of education are the tertiary institutions designed and founded to provide full time courses in teaching, instruction and training of students after their secondary school level. The graduates of college of education would be holders of Nigeria Certificate in Education (NCE). At the college of education, technical education which is the focus of this study is a department in which students are offering technology related disciplines like Automobile technology, building technology, Electrical/Electronic technology, Metalwork technology and Woodwork technology education including workshop organization and management (Oyedoja and Amuda, 2019). Due to these inspiring technology courses available at the technical education department, teachers, lecturers and instructors in those fields are expected to teaching creativity and innovation to the students which would assist them to possess cutting edge skills which in turn help them to be self-reliant, employer of labour and be employee in the industry.

Statement of the Problem

The current technical colleges of education curriculum in South-West Nigeria focuses primarily on theoretical knowledge and general education studies, with little emphasis on practical skills and hands-on experience. This has resulted in graduates who are not adequately prepared to meet the needs of the industry let alone be employer of labour, simply because you cannot give what you do not have. Furthermore, the curriculum does not encourage innovation and creativity, which are essential skills for success in the 21st century. These half-baked graduates have to stop at a point and there is no other time but now, graduates with no creativity and innovation end up become nuisance to the society by engaging in illegal activities. This made the researchers investigated on the factors affecting teaching of creativity and innovation in colleges of education in Southwest Nigeria.

Purpose of the Study

The purpose of the study investigated the factors affecting teaching of creativity and innovation in colleges of education in South-West Nigeria.

The study investigated the:

1. factors affecting both creativity and innovation in teaching technical education students.
2. strategies to be adopted to enhance both creativity and innovation in teaching technical education students.

Research Questions

The following research questions were raised for the study:

1. What are the factors affecting creativity and innovation in teaching technical education students?
2. What are the strategies to be adopted to enhance creativity and innovation in teaching technical education students?

Method

A descriptive survey design was employed for the study. The population of the study is three hundred and fifty (350) which consisted technical education instructors, Lecturers and students. The participants were selected by using a multistage sampling technique. The sample involved Technology instructors (20), Lecturers (25) and students (165) making total of two hundred and ten (210) from five Colleges of Education in Southwest Nigeria. The instrument for the study was questionnaire containing closed and open-ended questions titled**:** Creativity and Innovation Questionnaire (CIQ) was used for data collection. The questionnaire was face and content validated by three experts in Technology education Department of Emmanuel Alayande University of Education, Oyo. Reliability coefficient of the instrument was determined for both purposes using Pearson Product Moment Correlation Coefficient for the study to obtain 0.78 reliability coefficients index indicating that the instrument is reliable for the study. Descriptive statistics, frequencies and percentages were used to analyze the data collected.

Results

Research Question 1

What are the factors affecting creativity and innovation in teaching technical education students?

Table 1: The factors affecting creativity and innovation in teaching technical education students.

Statement	N=45	SA	A	N	D	SD
Creativity and Innovation are new terms to me	F	10	5	2	20	8
	%	22.22	11.11	4.44	44.44	17.78
The time/period allocated for teaching creativity and innovation do not affect its delivery	F	7	8	1	15	14
	%	15.56	17.78	2.22	33.33	31.11
Curriculum designed for teaching creativity and innovation is standard	F	5	5	4	15	16
	%	11.11	11.11	8.89	33.33	35.56
While teaching creativity and innovation students were participated in hands-on skills	F	15	10	1	13	6
	%	33.33	22.22	2.22	28.89	13.33
Students attitude towards hands-on activity is encouraging	F	2	3	4	16	20
	%	4.44	6.67	8.89	35.56	44.44
Availability of resources materials does not affect teaching of creativity and innovation.	F	2	3	4	16	20
	%	4.44	6.67	8.89	35.56	44.44
Over workload do not affect teaching of creativity and innovation	F	8	13	2	12	10
	%	17.78	28.89	4.44	26.67	22.22

Table 1 shows the responses of both the instructors and lecturers view in the factors affecting the teaching of creativity and innovation in the technical colleges of Education. They were given seven statements on the items related to teaching creativity and innovation using a 5-point Likert scale; strongly agree (SA), agree (A), neutral (N), disagree (D) and strongly disagree (SD) as responses.

Research Question 2

What are the strategies to be adopted to enhance creativity and innovation in teaching technical education students?

Table 2: The strategies to be adopted to enhance creativity and innovation in teaching technical education students.

Statement	N=210	SA	A	N	D	SD

Subjecting students to practical activities will enhance teaching and learning of creativity and innovation	F %	100 47.61	80 38.10	3 1.43	19 9.05	8 3.81
Implementing modern teaching methods like browsing, YouTube, video, google classroom, Blackboard etc. will enhance teaching and learning of creativity and innovation.	F %	90 42.86	92 43.81	5 2.38	15 7.14	8 3.81
Introducing periods to promote imaginative processing of information where students are allowed to brainstorm and bring out new ideas in creativity.	F %	98 46.67	82 39.05	2 0.95	19 9.05	9 4.29
Putting students to self-study through hands-on activities and problem-solving skills assists students in creativity and innovation	F %	91 43.33	89 42.38	2 0.95	20 9.52	8 3.81
Giving the students emotional support through classroom interactions sections do not assist them to be interested in creativity and innovation	F %	20 9.52	10 4.48	2 0.95	90 42.86	88 41.91
Using illustration and demonstration methods often during practical lessons promote creativity and innovation	F %	98 46.67	82 39.05	2 0.95	19 9.05	9 4.29

Table 2 shows the responses of both the instructors, lecturers and students view in the strategies to be adopted to enhance creativity and innovation in teaching technical education students in the technical colleges of Education. They were given seven statements on the items related to teaching creativity and innovation using a 5-point Likert scale; strongly agree (SA), agree (A), neutral (N), disagree (D) and strongly disagree (SD) as responses.

Discussion

Table 1 reveals that most of the lecturers and instructors 20(44.44%) disagreed that creativity and innovation are new terms to them. However, a few of the them 10 (22.22%) shared different views (strongly agreed) of this assertion. These findings imply that creativity and innovation are not totally new although it is new to some lecturers because they have not been involving in teaching it to the students. Niemi (2002) stated that for students to develop creative skills, they need to be given opportunities to do analytical skills through their active involvement in the lessons. This is not possible when students have not been involved in the activities.

Table 1 also shows that most of the respondents 14 (31.11%) strongly agreed that the time/period allocated for teaching creativity and innovation do not affect its delivery whilst 7 (15.56%) strongly disagreed about this claim. This suggests that time/period allocated for teaching creativity and innovation still somehow affect its delivery. As it was further revealed that Curriculum designed for teaching creativity and innovation is not standard by 16 (35.56%) both instructors and lecturers. Although there are 5 (11.11%) of them confirmed that Curriculum designed for teaching creativity and innovation is standard. Even if the lecturers teach all the syllabus according to its original design, the objectives would not be achieved. This is consistent with the finding of Adu et al. (2017).

It was also revealed on the Table 1 that some of the lecturers 6 (13.33%) strongly disagreed that while teaching creativity and innovation students were participated in hands-on skills and 15 (33.33%) of them strongly disagreed that while teaching creativity and innovation students were participated in hands-on skills. 20 (44.44%) lecturers strongly disagreed that Students attitude towards hands-on activity is encouraging. This implies that even with some lecturers teaching and introducing creativity and innovation inform of hands-on activities some students attitudes are not encouraging. There is need for lecturers to do everything possible in making sure that all students are fully participated in the hands-on activities being giving to them. Likewise, 20 (44.44%) of the both instructors and

lecturers are strongly disagreed that availability of resources materials does not affect teaching of creativity and innovation while 2 (4.44%) of them strongly agreed that availability of resources materials does not affect teaching of creativity and innovation. It means that with availability of resources material, with one reason or the other creativity and innovation still affected in achieving its goal. This finding is slightly in against the findings of Garibay (2015) which stated that learning beliefs, lack of motivation, and lack of training facilities are challenges that do not promote creative teaching and learning among the students in the Colleges of Education.

Table 2 indicated that the majority of the combination of instructors, lecturers and students 100 (47.61%) strongly agreed with the statement " Subjecting students to practical activities will enhance teaching and learning of creativity and innovation" and 8 (3.81%) of them strongly disagreed to the strategy. This means that students need to be subjecting to practical activities which will in turn enhance teaching and learning of creativity and innovation. The findings also revealed that majority of respondents 90 (42.86%) strongly agreed that implementation of modern teaching methods like browsing, YouTube, video, google classroom, Blackboard etc. will enhance teaching and learning of creativity and innovation but 8 (3.81%) strongly disagreed. This implies that both instructors and lecturers should be willing to imbibe the modern method of using browsing, YouTube, video, google classroom, Blackboard etc. while teaching their students in the classroom and outside the classroom. This finding of the study supports the work of Akyeampong (2017) which revealed that educators who adopt varied teaching strategies would have motivated well-behaved students leading to higher achievements in creative skills. Majority of the respondents 98 (46.67%) strongly agreed to the strategy that ''introducing periods to promote imaginative processing of information where students are allowed to brainstorm and bring out new ideas in creativity''. Some of them 9 (4.29%) strongly disagreed. It implies that students should be allowed to brainstorm and bring out new ideas in creativity and innovation.

Majority of respondents 91 (43.33%) strongly agreed, 89 (42.38%) agreed, 2 (0.95%) neutral, 20 (9.52%) disagreed and 8 (3.81%) strongly disagreed to the assertion that "putting students to self-study through hands-on activities and problem-solving skills assists students in creativity and innovation". This means that students are needed to be put into self-study for self-realization during practical related activities. This is in line with finding of Nold (2017). It can be established that experiments are important for developing the creativity and innovation of both lecturers and students.

Table 2 also showed that the majority of the respondents 88 (41.91%), strongly disagreed that giving the students emotional support through classroom interactions sections do not assist them to be interested in creativity and innovation and 20 (9.52%) of them strongly agreed. This means that students are needed emotional support through interactions sections in order to be interested in creativity and innovation. This method of teaching supports the research work of Ahmed et al (2023). It was established that the impression of students practices in the classroom (interactions) emphasizes students developing learning expectations in the classroom.

Conclusion

This study concludes that even with some lecturers teaching and introducing creativity and innovation inform of hands-on activities some students attitudes are not encouraging. There is need for lecturers to do everything possible in making sure that all students are fully participated in the hands-on activities being giving to them. Also, that with availability of resources material, with one reason or the other creativity and innovation still affected in achieving its goal. And that both instructors and lecturers should be willing to imbibe the modern methods of using browsing, YouTube, video, google classroom, Blackboard etc. while teaching their students in the classroom and outside the classroom.

Recommendations

Based on the finding above, the following recommendations could be made:

i. Government should assist in building more classrooms and employ more qualified lecturers who can handle creativity and innovation in the classroom and outside the classroom.
ii. Creativity and innovation resources with adequate facilities are essential. Therefore, all the stakeholders should furnish resource rooms with resources to facilitate the teaching of creativity and innovation.

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