



Experiential Learning Components as Predictors of Students' Creativity in an Electric Circuit

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Abstract

Motivated by the rich roles experiential learning plays in cultivating students' creativity, the study explored the dynamic interplay between experiential learning, its components, and creativity in an electric circuit. A correlational survey design was adopted for the study. The study was conducted in Ogoja Education Zone, Cross River State, Nigeria. A sample of 314 students participated in the study. The Electric Circuit Creativity Test (ECCT) and the Physics Experiential Learning Scale (PELS) were adapted for the data collection. A reliability index of 0.83 was obtained for ECCT using the Kendall Coefficient of Concordance, while a reliability index of 0.87 was obtained for PELS using Cronbach's Alpha. Linear regression analysis was used to answer research questions, while the hypotheses were tested using analysis of variance (one-way ANOVA) at a 0.05 level of significance. The findings showed that of all the four dimensions of experiential learning, concrete experience and problem solving are highly correlated with creativity, while active experimentation and abstract conceptualization are moderately correlated with creativity. It was concluded that to foster creativity in classrooms, students' experiential learning components, including abstract conceptualization, active experimentation, concrete experience, and problem-solving, should be nurtured through authentic and experiential learning pedagogies. The findings, therefore, underscore the unequivocal roles experiential learning components play in cultivating students' creativity.

Keywords: Experiential learning, abstract conceptualization, active experimentation, concrete experience, problem-solving, creativity, electric field

Introduction

Physics is one of the fundamental science subjects required for the advancement of any country. It is an aspect of physical sciences that deals with the properties and nature of matter, energy, heat, sound, and other radiations. For example, Ugwuanyi, Ezema, and Orji (2023) referred to physics as the foundation and bedrock of science and technology that provides the basic knowledge and insight about laws and principles governing the world of science. Physics has continuously enhanced the speedy development of our present-day society through its discoveries (Adeyemo, 2011). Understanding physics enables one to become knowledgeable in other areas of science (Pravica, 2005). This makes it very important for one to have adequate knowledge of physics.

Despite the importance of physics, students consistently perform poorly in the subject, especially in topics such as electric fields, where students frequently show a lack of mastery of the basic electric field concepts. For instance, Ayoade and Igwe (2022) revealed that students' difficulty in electric circuits arises from their inability to translate theoretical knowledge into practical applications, as well as misconceptions about how electric current flows in series and parallel arrangements. Nwosu (2019), in a study, discovered that the electric circuit is one of the content areas where teachers in senior secondary schools encounter instructional difficulties. In the electric field specifically, Chief Examiners of the West African Examination Council (WAEC) (2019, 2020, 2021, 2022 and 2023) reported the inability of

the candidates to articulate and be creative in solving problems relating to the electric field.

An electric circuit (current electricity) requires a systematic application, critical thinking, and creativity to resolve. An electric circuit is the complete path provided for the flow of electric current. Nwosu (2019) pointed out that current electricity is relevant in science and technology, being that it helps in the determination of unknown resistance of a conductor, equivalent resistance of resistors in series or parallel, electrical energy, and fuse rating in electrical installation. These advantages suggest that knowledge of electric circuits is crucial to understanding some phenomena in the universe.

Some factors could be responsible for the poor performance in physics. For example, lack of instructional aids (Yara&Otieno 2010); students' poor study habits (Okeke, 2006). Additionally, Shakir (2014) opined that the lack of experiential learning skills is one of the main factors for students' poor performance and creativity in physics.

Experiential learning is a process through which students acquire knowledge and skills through direct experience. This approach to learning encourages students to engage on hands activities, experiment, and real-life applications of concepts, rather than simply memorizing and recreating information. Experiential learning can be a powerful tool for enhancing, understanding, and promoting creativity (Carlson, 2021). In the same vein, Wurdinger (2015) opined that through hands-on experiments, simulations, and real-world applications, students can actively engage with the material and tangibly apply theoretical concepts. By engaging in hands-on experiences and reflecting on them, students are able to make connections between theory and practice and develop a deeper understanding of the subject matter. Given this, the present study explores the roles experiential learning and its components play in predicting students' creativity.

Experiential learning recognizes the roles experience plays in the learning process. According to Kolb (1984), learning occurs through experience, reflection, conceptualization, and testing of new ideas. To Kolb, learning takes place through the transformation of experience. Considering this, Kolb categorized learners into four experiential learning styles or components. These are active experimentation, abstract conceptualization, concrete experience, and problem-solving skills (Kolb, 1984). Active experimentation involves actively testing out

new ideas and concepts in order to gain a deeper understanding of them. According to Sawyer (2012), active experimentation is an integral component of experiential learning that facilitates learners' deeper understanding of a particular concept by connecting theoretical with practical applications to real-world problems. Abstract conceptualization is the ability to understand and analyze complex ideas, theories, and concepts more deeply and abstractly. It requires individuals to think critically, make connections between different pieces of information, and draw conclusions based on their understanding of the material. According to Kolb (2017), abstract conceptualization refers to the ability to form general principles and a theoretical framework from specific experiences and observations. Concrete experience refers to the actual hands-on experience that an individual has in a particular situation. It involves direct interaction with the environment and the physical world, allowing the individual to gather information through their senses and emotions. Lastly, problem-solving skills refer to the individual's skill and capability to observe and analyze the cause of the problem at hand and seek solutions with the necessary skills acquired (Jakhar, 2019). It also involves testing the students' skills or ability to learn or understand a new and difficult situation.

As new ideas emerge, evaluating the ideas through empirical testing to gain insight, establish general principles, and ultimately apply them to solving problems, students cultivate creativity throughout the process. Thus, it is believed that the components of experiential learning by Kolb, if well nurtured in the students, could make them cultivate creativity. Creativity is the ability to think outside the box and come up with original ideas. This often involves breaking away from conventional thinking patterns and exploring new ways of looking at a problem or situation. According to Judkins (2016), creativity is a way of seeing, engaging with, and responding to the world around us. Creativity can be developed through instructional strategies that promote inquiry, exploration, experimentation, and reflection. Carlson (2021) posited that creativity develops when learners are provided with task engagement, domain-relevant skills and opportunities for divergent thinking. Similarly, Nwosu (2022) argued that classroom environment that encourage questioning, risk-taking, and idea generation significantly enhance students' creative abilities. The assessment of creativity in educational settings is

widely based on Torrance's (1974) conceptualizes creativity into four key dimensions: fluency, flexibility, originality, and elaboration. Fluency refers to the ability to generate numerous relevant ideas or solutions to a problem; flexibility involves producing varied responses across different categories or perspectives; originality denotes the generation of novel or uncommon ideas that differ from routine answers; and elaboration reflects the capacity to expand and refine ideas with detailed explanations and logical development. Using the four dimension creativity, creativity can be assessed systematically by examining the quantity, diversity, uniqueness, and depth of students' responses to open-ended tasks, thereby providing an objective and structured approach to measuring creative performance in classroom contexts. In the classroom, creativity could be nurtured through the lens of experiential learning components. The study, therefore, explores the intricate synergistic pathways between experiential learning components and students' creativity in electricity.

Purpose of the Study

The study was guided by a general purpose and four specific purposes. The general purpose was to examine the magnitude experiential learning components as predictors of Physics students' creativity in electric circuit. Specifically, the study sought to ascertain the;

- i. Magnitude of prediction of active experiment on secondary school Physics students' creativity in Electric Circuit.
- ii. Magnitude of prediction of abstract conceptualization on secondary school Physics students' creativity in Electric Circuit.
- iii. Magnitude of prediction of concrete experience on secondary school Physics students' creativity in Electric Circuit.
- iv. Magnitude of prediction of problem-solving skills on secondary school Physics students' creativity in Electric Circuit.
- v. joint magnitude of prediction of the components of experiential learning on secondary school Physics students' creativity in Electric Circuit.

Research Questions

Four research questions guided the study. They are:

- i. What is the magnitude of prediction of active experimentation on secondary school Physics students' creativity in Electric Circuit?
- ii. What is the magnitude of prediction of abstract conceptualization on secondary school Physics students' creativity in Electric Circuit?
- iii. What is the magnitude of prediction of concrete experience on students' creativity in physics?
- iv. What is the magnitude of prediction of problem-solving skills on secondary school Physics students' creativity in Electric Circuit?
- v. What is the joint magnitude of prediction of the components of experiential learning on secondary school Physics students' creativity in Electric Circuit?

Hypotheses

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

- H₀₁: Active experimentation does not significantly predict secondary school Physics students' creativity in Electric Circuit.
- H₀₂: Abstract conceptualization does not significantly predict secondary school Physics students' creativity in Electric Circuit.
- H₀₃: Concrete experience does not significantly predict secondary school Physics students' creativity in Electric Circuit.
- H₀₄: Problem-solving skill does not significantly predict secondary school Physics students' creativity in Electric Circuit.
- H₀₅: There is no significant joint prediction of the components of experiential learning on secondary school Physics students' creativity in Electric Circuit.

Methods

Correlational survey design was adopted by the researcher. According to Nworgu (2015), correlational survey design sort to establish and indicate the degree of relationship and magnitude between two or more variables. This type of survey

indicates the magnitude of prediction between the predictor and criterion variable. In this case, the researcher established the magnitude of prediction of the predictor variable, experiential learning components on the criterion variable, creativity in electric circuit aspect of physics. The study was carried out in Ogoja Education zone of Cross River State, Nigeria. Ogoja Educational Zone comprises five Local Government Areas (Yala, Ogoja, Bekwarra, Obudu and Obanliku). Each local government area in the zone has ten Secondary schools except Bekwarra that has nine secondary schools. The population of the study comprised of 1450 senior secondary school two (SS2) Physics students in 49 public co- educational secondary schools in Ogoja Education Zone in 2024/2025 academic session. The sample size of the study was 314 SS2 Physics students drawn from the population. The sample size was determine using Taro Yamene formula. Multi-stage sampling procedure was used to compose the sample size. At the initial stage, simple random sampling technique was used in selecting the two local governments out of the five local government area in Ogoja Education Zone. The use of simple random sampling was to give every local government equal chance of being selected for the study. At the next stage, proportionate sampling technique was used in selecting 29 co-education schools from the five local governments sampled. Finally, all the SS2 science students in the sampled schools was used as respondents for the study.

Electric Circuit Creativity Test (ECCT) and Physics experiential learning scale (PELS) were used for data collection. The instrument (ECCT) consist of five (5) essay questions on electric circuit was developed by the researcher. In terms of scoring, the electric circuit creativity test (ECCT) carries a total of 50 marks on creativity; 50 marks for all the five essay questions (that is, 10 marks for each correctly answered essay question).

Physics experiential learning scale (PELS) consists of 50 items developed by the researcher

which seeks to elicit physics students' experiential learning. The physics experiential learning scale (PELS) has four clusters (A-D) based on the four compenents of experiential learning. The items were rated as follows: ST = Some Time, MT= Most time, AW= Always, NT = Not at all. ST= 4points, MT= 3points, AWL = 2points and NAT= 1point.

The reliability of the two instruments (ECCT, and PELS) was established through a pilot test involving 25 SS2 Physics students from comparable school outside the study area. The purpose of the trial was to assess internal consistency. Using Kendell coefficient of concordance, ECCT yielded 0.83 which represent a high degree of agreement among the scorers. The physice experiential learning scale (PELS) yielded 0.82, Cronbach Alpha was appropriate because of the polytomous nature of the instrument.

The researcher used a face- to-face method to administer the instruments. Clear instructions were provided and emphasized. The instruments were administered on the same day and in a fixed order ECCT and then PELs. This was done to ensure that the same group of students completed all instruments.

Ethical guidelines were strictly observed. Confidentiality and anonymity were ensured by coding responses and removing personal identifiers. Permission was granted by school authorities, and students were assured that the data would be used only for research purposes.

The collected data were analyzed using regression analysis while analysis of variance regression (one-way ANOVA) for testing all the hypothesis. The decision rule for testing the hypotheses was as thus; Reject the null hypothesis if the exact or associated probability to the F-statistic is less than the critical value at 0.05 level of significance, otherwise do no reject. Prediction strength was interpreted using the following benchmarks: 0.00 - 0.19 (very low), 0.20 – 0.39(low), 0.40 – 0.59 (medium/ moderate), 0.60 – 0.79 (high) and 0.80 (very high) prediction.

Results

The results of this study are presented in this chapter according to the research questions and hypotheses that guided the study.

Research Question One

What is the magnitude of prediction of active experimentation on secondary school Physics students' creativity in electric circuit?

Table 1: Linear Regression Analysis of the magnitude of Prediction of Active Experimentation and secondary school Physics Students' Creativity in Electric Circuit.

Model	N	R	R Square	Adjusted R	Standard Error
1	314	0.40	0.16	0.155	6.23

a. Predictors: (Constant), Active_exp

Analysis on Table 1 show that the correlation coefficient between Active experimentation and students' creativity in electric circuit was 0.40. This means that, there exist a medium/moderate prediction between active experimentation and students' creativity in electric circuit. Table 1 also revealed that,

the coefficient of determination (R^2) associated with the correlation coefficient of 0.40 was 0.16. This coefficient of determination (R^2) indicates that, 16% of variation in students' creativity in electric circuit is attributed to active experimentation.

Hypothesis One

Active experimentation does not significantly predict secondary school physics students' creativity in electric circuit.

Table 2:Regression ANOVA Analysis of active experimentation and students' creativity in electric circuit

Model	Sum of Square	Df	Mean Square	F	Sig	Decision
1 Regression	9409.218	1	9409.218	242.42	.000 ^b	Significant
Residual	12109.778	312	38.813			
Total	21518.997	313				

a. Dependent Variable: Creativity

b. Predictors: (constant), Active experimentation

Table 2 shows the results of regression ANOVA conducted to determine whether active experimentation significantly predicts Physics students' creativity in electric circuit. The results show that active experimentation was a significant predictor of secondary school Physics students creativity in electric circuit. ($F_{(312, 1)} = 242.42$, $P = 0.00 < 0.05$). Since the exact probability value of 0.00 was less

than 0.05, the null hypothesis on that active experimentation does not significantly predict secondary school Physics students creativity in electric circuit was therefore rejected. This implies that active experimentation is a significant determinant of secondary school Physics students creativity in electric circuit.

Research Question Two

What is the magnitude of prediction of abstract conceptualization on secondary school physics students' creativity in electric circuit?

Table 3: Linear Regression Analysis of the magnitude of Prediction of Abstract Conceptualization and secondary school Physics Students' Creativity in Electric Circuit.

Mode	N	R	R Square	Adjusted R Square	Standard Error
1	314	0.33	0.11	0.104	6.94

a. Predictors: (Constant), Abstract_con.
(R^2) = Coefficient of Determination

Result in Table 3 revealed that the correlation coefficient between abstract conceptualization and students' creativity in electric circuit was 0.33. This means that, there exist a very low prediction between abstract conceptualization and students' creativity in electric circuit. The table also revealed that, the coefficient of determination (R^2) associated with the

correlation coefficient of 0.33 was 0.11. This coefficient of determination (R^2) indicates that 11% of variation in students' creativity in electric circuit is attributed to abstract conceptualization. To check whether abstract conceptualization predict secondary school physics students' creativity in electric is statistically significant, see hypothesis two.

Hypothesis Two

Abstract conceptualization does not significantly predict secondary school physics students' creativity in electric circuit.

Table 4:Regression ANOVA Analysis of Abstract conceptualization and students' creativity in electric circuit

Model	Sum of Square	Df	Mean Square	F	Sig	Decision
1 Regression	6504.343	1	6504.343	135.16	.000 ^b	significant
Residual	15014.654	312	48.124			
Total	21518.997	313				

a. Dependent Variable: Creativity

b. Predictors: (Constant), Abstract conceptualization

Table 4 shows the results of regression ANOVA conducted to determine whether abstractt conceptualization significantly predicts Physics students' creativity in electric circuit. The results show that abstractt conceptualization was a significant predictor of secondary school Physics students creativity in electric circuit. ($F_{(312, 1)} = 135.16$, $P = 0.00 < 0.05$). Since the exact probability value of 0.00

was less than 0.05, the null hypothesis on that abstract conceptualization does not significantly predict secondary school Physics students creativity in electric circuit was therefore rejected. This implies that abstract conceptualization is a significant determinant of secondary school Physics students creativity in electric circuit.

Research Question Three

What is the magnitude of prediction of concrete experience on secondary school Physics students' creativity in electric circuit?

Table 5: Linear Regression Analysis of the magnitude of Prediction of Concrete Experience and secondary school Physics Students' Creativity in Electric Circuit.

Model	N	R	R Square	Adjusted R Square	StandardError
1	314	0.48	0.23	0.24	5.66

a. Predictor: (Constant), Concrete_exp.

Result in Table 5 revealed that the correlation coefficient between concrete experience and students' creativity in electric circuit was 0.48. This means that, there exist a moderate positive prediction between concrete experience and students' creativity in electric

circuit. The table also revealed that, the coefficient of determination (R^2) associated with correlation of 0.48 was 0.23. This coefficient of determination (R^2) indicate that 23% of variation in students' creativity in electric circuit is attributed to concrete experience.

Hypothesis Three

Concrete experience does not significantly predict secondary school physics students' creativity in electric circuit.

Table 6: Regression ANOVA Analysis of Concrete experience and students' creativity in electric circuit

Model	Sum of Square	Df	Mean Square	F	Sig	Decision
1 Regression	11542.023	1	11542.023	360.942	.000 ^a	Significant
Residual	9976.974	312	31.977			
Total	21518.997	313				

Table 6 shows the results of regression ANOVA conducted to determine whether concrete experience significantly predicts Physics students' creativity in electric circuit. The results show that concrete experience was a significant predictor of secondary school Physics students creativity in electric circuit. ($F_{(312, 1)} = 360.94$, $P = 0.00 < 0.05$). Since the exact

probability value of 0.00 was less than 0.05, the null hypothesis on that concrete experience does not significantly predict secondary school Physics students creativity in electric circuit was therefore rejected. This implies that concrete experience is a significant determinant of secondary school Physics students creativity in electric circuit.

Research Question Four

What is the magnitude of prediction of problem-solving skill on secondary school Physics students' creativity in electric circuit?

Table 7: Linear Regression Analysis of the magnitude of Prediction of Problem-solving skill and secondary school Physics Students' Creativity in Electric Circuit.

Model	N	R	R ²	Adjusted R Square	Standard Error
1	314	0.73	0.53	0.53	5.71

a. Predictor: (Constant), Problem_solv

Result in Table 7 show that the correlation coefficient between problem-solving skill and students' creativity in electric circuit was 0.73. This means that, there exist a high positive prediction between problem-solving skill and students' creativity in electric circuit. Table

7 also revealed that, the coefficient of determination (R^2) associated with the correlation coefficient of 0.73 was 0.53. This coefficient of determination (R^2) indicates that 53% of variation in students' creativity in electric circuit is attributed to problem-solving skill.

Hypothesis Four

Problem-solving skill does not significantly predict secondary school physics students' creativity in electric circuit.

Table 8: Regression ANOVA Analysis of Problem-solving skill and students' creativity in electric circuit

Model	Sum of Square	Df	Mean Square	F	Sig
1 Regression	11330.958	1	11330.958	347.001	.000 ^b
Residual	10188.039	312	32.654		
Total	21518.997	313			

a. Dependent Variable: Creativity

b. Predictors: (Constant), Problem-solving

Table 8 shows the results of regression ANOVA conducted to determine whether problem-solving skill significantly predicts Physics students' creativity in electric circuit. The results show that problem-solving skill was a significant predictor of secondary school Physics students creativity in electric circuit. ($F_{(312, 1)} = 347.001$, $P = 0.00 < 0.05$). Since the exact probability value of 0.00 was less

than 0.05, the null hypothesis on that problem-solving skill does not significantly predict secondary school Physics students creativity in electric circuit was therefore rejected. This implies that problem-solving skill is a significant determinant of secondary school Physics students creativity in electric circuit.

Research Question Five

What is the joint magnitude of prediction of the components of experiential learning on secondary school Physics students' creativity in electric circuit?

Table 9: Multiple Regression Analysis of the joint magnitude of Prediction of the components of experiential learning and secondary school Physics Students' Creativity in Electric Circuit.

Change Statistic									
Mode	R	R Square	Adjusted R Square	Std.Error of the Estimate	R Square change	F	df1	df2	Sig.
	.651 ^a	.423	.422	.456	.423	25791.6	4	309	.000

a. Predictors: (Constant), problem_solv, Concrete_exp, Active_exp, Abstract_con

Result in Table 9 revealed that the correlation coefficient between the components of experiential learning (active experimentation, abstract conceptualization, concrete experience and problem-solving skill) and students' creativity in electric circuit was 0.651. This means that, there exist a high positive prediction between components of experiential learning and students' creativity in electric circuit. The table also revealed that, the coefficient of

determination (R^2) associated with the correlation coefficient of 0.651 was 0.423. This coefficient of determination (R^2) indicates that 65.1% of variation in students' creativity in electric circuit is attributed to components of experiential learning. To check whether the components of experiential learning can jointly predict secondary school physics students' creativity in electric is statistically significant, see hypothesis five.

Hypothesis Five:

There is no significant joint prediction of the components of experiential learning on secondary school physics students' creativity in electric circuit.

Table 10: Regression ANOVA analysis of the joint magnitude of components of experiential learning and students' creativity in electric circuit

Model	Sum of Square	Df	Mean Square	F	Sig1
Regression	21454.737	4	5363.684	25791.68	.000 ^b
Residual	64.260	309	.208		
Total	21518.997	313			

a. Dependent Variable: Creativity

b. Predictors: (Constant), Problem_solv, concrete_exp, Active_exp, Abstract_con.

Table 10 shows the results of regression ANOVA conducted to determine whether joint magnitude of experiential learning significantly predicts Physics students' creativity in electric circuit. The results show that components of experiential learning was a significant predictor of secondary school Physics students creativity in electric circuit. ($F_{(309, 4)} = 25791.68.94$, $P = 0.00 < 0.05$). Since the exact probability value of 0.00 was less than 0.05, the null hypothesis on that components of experiential learning does not significantly predict secondary school Physics students creativity in electric circuit was therefore rejected. This implies that components of experiential learning is a significant determinant of secondary school Physics students creativity in electric circuit.

Discussion

The findings revealed that active experimentation is a significant predictor of students' creativity. Indicating, therefore, that active experimentation provides a fertile ground for students to generate novel ideas and solutions. By engaging in hands-on activities, students develop the confidence to explore unconventional approaches and think innovatively.

Also, the findings of this study revealed a significant moderate prediction between abstract conceptualization and students' creativity in electric circuits. This implies that abstract conceptualization predicts students' creativity in the electric circuit topic of physics. The findings are in agreement with the findings of Oghenevwe (2019), who reported that abstract conceptualization was more effective and superior to students' creativity.

Furthermore, it was also found that concrete experience is a significant predictor of Physics students' creativity in electric circuits. The finding showed that concrete experience has a high prediction of students' creativity. Also, the findings resonate with the findings of Adesina and Bakare (2021), who reported that students who engaged in concrete experience outperformed their peers in creative tasks, indicating that practical experiences foster creativity in their area of specialization.

Also, the findings of the study revealed a significantly high positive prediction between problem-solving skill and physics students' creativity in electric circuits. The findings of the study reinforced the findings of Kumar (2020), who highlighted a significant prediction of creativity by problem-solving ability.

The finding of the study revealed a significantly high prediction between the components of experiential learning (active experiment, abstract conceptualization, concrete experience and problem-solving skill). The above finding corroborates that of Agsalog (2019), Ng'eno and Chesimet (2020) who found that experiential learning approach had a significant effect on students' creativity in Physics.

The findings resonate with the theory of experiential learning by Kolb (1984), which opines that learning involves experiences, reflection, and conceptualization of ideas. In the context of this work, experiential learning and its components were positioned to foster the creativity of the learners in electric fields. In summary, of all the four dimensions of experiential learning, concrete experience and problem solving are highly correlated with creativity, while active experimentation and abstract conceptualization are moderately correlated with



creativity. Highlighting the need for tailored instruction on concrete experience and problem-solving in fostering students' creativity.

Conclusion

Based on the findings of the study and interpretation of the results, it is therefore concluded that experiential learning and its components are statistically significant predictors of students' creativity. Thus, the study highlights the interwoven pathways among experiential learning, its components, and creativity. Therefore, the study underscores the need to nurture students' experiential learning components in cultivating creativity by providing a framework for creativity development of the learners through experiential learning components.

Recommendations and Limitations

Physics teachers and, indeed, science teachers should nurture students' experiential learning by creating an authentic and experiential learning environment that will foster creativity in the classrooms and beyond. Training is suggested for the in-service teachers on the creativity development of the students through experiential learning pathways. Creativity development should be emphasized in the science curricula of preservice teachers with special emphasis on experiential learning.

The findings of the study are limited by the smaller sample size used for the study. Again, only the Ogoja education zone of Cross River State, Nigeria, was used; this might have affected the generalizability of the results to other parts of the country and continent. The cultural setting in which the study was conducted could also influence the generalizability of the findings. Lastly, the design adopted for the study impacted the interpretation of the findings, indicating that experiential learning predicts creativity, not suggesting that it causes or has an effect on creativity. Thus, to establish causation, experiential learning strategies such as project-based learning and problem-solving should be used to foster creativity.

Acknowledgement

All the students who participated in the study, and indeed their teachers and principals, are

acknowledged for their various roles in making this research a reality.

Conflict of interest

The researchers declare no conflict of interest arising from the processing and publication of this study

Funding

No funding was received

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