EVALUATION OF THE EXTENT OF CONSTRUCTIVISM APPLICATION IN LESSON DELIVERY AMONG RIVERS STATE TEACHERS: IMPLICATION FOR EDUCATIONAL REFORM

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Abstract

This paper evaluated the extent to which constructivist approach is applied in classroom lesson delivery by basic education teachers in Rivers State and the implications for Educational reforms in Nigeria. The population of the study is 7010 senior basic education teachers in Rivers State, Krejcie and Morgan formula was used to sample 365 (175 males and 190 female) respondents from Rivers South-east senatorial district for the study. From the sample size 168 teachers were drawn from rural areas and 197 were from urban areas of the study. Self- developed questionnaire titled "Teachers Self-assessment on Application of Constructivist Approach (TAACA) TAACA was used for data collection. The instrument was given facial validation by experts and a reliability of 0.71 was obtained using Kuder-Richardson Formula (KR-21). Mean, standard deviation was used to answer research questions while t-test was used to test the hypotheses. The study among other findings, revealed that there is significant difference between the extent to which teachers in urban and rural areas apply constructivism in lesson delivery. Thus, the paper recommends the re-training of teachers in the rural areas through workshops and identified some implications of the study on educational reforms in Nigeria.

Keyword: Application, Constructivism, Teachers, Lesson Delivery**.**

Introduction

There were diverse opinions on what it entails to adopt the constructivist approach in the classroom teaching. Constructivism is associated with learner centred approach where knowledge is created through learning process that allow interactions between the learners while the teacher facilitates (Mohamamd & Kinyo, 2020). It is an approach that have been used for decades and have goon through several reviews resulting to what is now known as modern constructivism (Asad, Hassan, et. al., 2014). Mbaba, and Atuzie, (2024) explained that "Overtime the approach used in teaching has undergone some kinds of transformations, but with the advancement and usage of technology in the daily activities, learners‟ interest are tilt towards the use of technology even in their studies".

Learners interest in technology integration also help in promoting the adoption of Constructivist approach in teaching and learning. Constructivism have help learners to acquire necessary knowledge and skills for finding meaningful solutions

to the real world problems through technology integration. Where leaning involves learner-centred, goal-directed and situated activities. This means that lesson preparation must be centered on two main reasons (1) providing adequate learning content, design skills to ensure flexibility and interoperability to meeting learners' requirements and (2) content developed should have sound educational purpose capable of enforcing knowledge construction (Sun, & Williams, n.d).

It is on this views that Mellis, et al., (2013) opined that "constructivism is student centered and geared toward deeply understanding content in order to work creatively with it". it is also from this premise that Wagner (2010) suggested the important skills to develop using constructivist approach, the skills includes critical thinking and problem solving, collaboration across networks and leading by influence, agility and adaptability, initiative and entrepreneurialism, effective oral and written communication, accessing and analyzing information, curiosity and imagination.

Constructivism discourages memorizing of the conceptions and definitions of others rather encourages learners to discover their own (Fleury & Garrison, 2014) Using Constructivist approach inspires learners to engage practical methods to reflect, discuss and improve their Knowledge through classroom work (Saleem, et al., 2021). This theory encourages the use of scientific methods and scientific observations built on learners' direct participation and generating results based on their experience. Generally, constructivism approach involves encouraging students to employ active methods (experiments, real-world problem solving) to gain Knowledge and discuss their findings (Amineh & Asl, 2015).

The constructivist approach dealt seriously on the manner in which lessons should be presented in the classroom and more emphasis were on the learners' centredness and participation in every aspect of the activities. The constructivism theory supports the use of group discussion, students sharing ideas, engage brainstorm to find cause and effect links, attempt to problem and adjust to new knowledge as a way of improving their experience (Al-Qauysi, Mohamad-Nordin, et.al 2021). It should be noted that good classroom engagement is usually a product of adequate preparation and good lesson planning. Thus, the design and development of instruction which the classroom activities will be leveraged on is essential. Looking at the characteristics of social constructivist that emphasize the following: (i) learners' construct their knowledge, (ii) Knowledge is acquired through experience, (iii) knowledge is a social activity etc. (Salem, et al.,2021). In same direction Singh and Yaduvanshir (2015) suggested the use of 5Es model in the development of instructions as a way forward. The 5E model emphasizes systematic application of psychology to teaching of science content. The 5E's instructional model consist of the following phases (i) explore (ii) explain (iii) elaborate and (iv) evaluate to develop better understanding (Omotoyo, & Adeleke, 2017).

The use of constructivism attracts appropriate instructional design and development of instruction that should be able to spouse learners to reflect, discover and create relevant knowledge for solving societal problems, hence teaching should be problem solving oriented (Zhu, & Atumpag, 2023). Sun, et.al., (n.d) opined that "Tutors will be involved in designing and constructing learning content based on their knowledge, expertise and educational experience. Learners can be assisted for knowledge construction and problem-

solving through face-to-face discussion during which the relevant learning content can be introduced accordingly". It will interest one to acknowledged that several pedagogies apply this approach. Mbaba, and Okwu, (2024) stated that "The use of presentation software in teaching align largely to the constructivist approach of engagement where learners will have armful opportunity to interact with one another, evaluate what is presented to them, engage in creating one and collaborate with other learners to improve their learning ".

There were misconceptions and some kind of erroneous notion that constructivist learning is an approach that is unguided and that it stands for one type of pedagogy (either child-centered or pure discovery), and that the process is prioritized over the end-product (or the skills over the knowledge), that teachers no longer need to have expertise in a particular body of knowledge, and that teachers' experiences and knowledge are not legitimate resources that can be used to evaluate constructivist pedagogy (Abulnour, 2016, Gordon, 2009,) there are other misunderstanding that constructivist lesson plans do not have to have all the stages or principles required for teaching based on subjects and that teachers knowledge and experiences were not needed since constructivism is seen as student cenred rather than teacher cenred (Baviskar et al., 2009,). There were notions confusing constructivism as a theory of knowing rather than a theory of teaching. As a result, teachers obscure the need of the child to construct his/her own knowledge with a form of pedagogy that sees it as the child's responsibility to achieve that (Rowe, 2006). Thus in the mixt of these misunderstand, it is not clear what nature of constructivism approach teachers adopting in their lesson delivery. Are teachers driving the process of learning or they are real observers of the process. It is not also documented the extent which teachers have applied constructivist approach their lesson delivery, and it's not also clear whether teachers in the urban and rural areas are doing same thing in respect of using constructivist approach in the classroom instruction. These challenges triggered the need to evaluate teachers' application of the constructivist approach in lesson delivery in Rivers State, Nigeria.

Objectives of the Study

This study was carried to evaluate the teachers' application of constructivist approach in their lesson delivery in the classroom. Specifically, the study shall determine:

1. the extent to which teachers apply constructivist approach in classroom lesson delivery;
2. the extent to which teachers in the urban and rural areas apply constructivist approach in their lesson presentation;
3. the extent of male and female teachers' application of constructivist approach in classroom lesson delivery.

Research Questions

1. To what extent do teachers apply constructivist approach in classroom lesson delivery?
2. To what extent do teachers in the urban and rural areas apply constructivist approach in their lesson presentation?
3. What is the extent do male and female teachers apply constructivist approach in lesson delivery in the classroom?

Hypotheses

Ho_1 There is no significant differences between the extent to which teachers in urban and rural areas apply constructivist approach in lesson delivery.

Ho2 There is no significant difference between the extent to which male and female teachers apply constructivist approach in classroom lesson delivery.

Methodology

This study employed descriptive survey design, the study population constitutes 7010 teachers of senior basic education programme in Rivers State. Krejcie and Morgan (1970) sampling size formula was used to arrive at 365, Availability sampling techniques was used to sample 365 (175 males and 190 females) for the study. The demography of the sample is rural and urban school teachers, there were 168 rural and 197 –urban schools' teachers, the teachers used in this study teach at senior basic education and they are involved in lesson planning and delivery.

Teachers' self-Assessment on application of constructivist approach (TAACA) questionnaire was developed by the researchers using the characteristics of the socialist constructivism as a guide. The questionnaire has two sections, section A provides details on respondents' personal information and demography. The questionnaire was given face validity by expert of Educational Technology and Measurement and Evaluation from Department of Educational Foundations, Rivers State University Port Harcourt. TAACA was tested among 20 teachers who were not involved in the study in Oyigbo metropolis, Rivers State and a reliability of 0.71 was obtained using Kuder-Richardson Formula (KR-21). TAACA was administered to teachers in 24 basic schools within Rivers South-East senatorial district. 365 questionnaire administered 365 and successfully retrieved from the respondents. The data collected were analyzed using mean and standard deviation to answer research questions while the hypotheses were tested using t-test. A decision means of 3.0 was calculated and used as the basis for decisions.

Results:

Research Question 1: To what extent do teachers apply constructivist approach in classroom lesson delivery?

Table 1: Mean Response on the Extent Teachers use Constructivist Approach in Classroom Lessons

S/N	Items	VHE	HE	N	LE	VLE	Mean	SD	Remarks
1.	My lesson presentation give room for learners to construct their knowledge	44	33	42	61	185	3.85	1.43	High Extent
2.	I work on Learners' prior knowledge and experiences to help them in construction of their knowledge	104	101	82	46	32	2.45	1.27	Low Extent
3.	I ensure Each stage of lesson are establish on activities	4	14	95	133	119	3.96	0.92	High Extent
4.	I consider the impact of Individual differences on learning	2	48	195	95	25	3.25	0.79	High Extent
5.	I ensure learners motivation for the purpose of winning their attention.	125	195	14	14	17	1.91	0.97	Low Extent
6.	I integrate technology in the classroom lesson delivery following constructivist approach	16	12	56	125	156	4.08	1.05	High Extent
	Grand mean						**3.25**	**0.54**	High Extent

The result on table 1, shows the mean response on the extent teachers used constructivist approach in classroom lesson delivery. The table reveals that item 6: I integrate technology in the classroom lesson delivery following constructivist approach shows a high extent (Mean = 4.08, SD=1.05) while item 5: I ensure learners are motivated in every lesson for the purpose of winning their attention is used to a low extent (Mean = 1.91, SD=0.97), item 2 I work on Learners' prior knowledge and experiences to help them in construction of their knowledge was to a low extent (Mean= 2.45, SD= 1.27). Meanwhile item 4: I consider the impact of Individual differences in lesson presentation was to a high extent (Mean = 3.25, SD=0.79). The grand mean score of 3.25 SD=0.54 shows that to a high extent teachers use constructivist approach in classroom lesson delivery hence it's above the decision mean of 3.0.

Research Question 2: To what extent do teachers in the urban and rural areas apply constructivist approach in their lesson presentation?

Table 2: Mean response on the extent teachers in the urban and rural areas apply constructivist approach in classroom lesson delivery

S/N	Items	Urban, n = 168		Rural, n = 197		Mean set N = 363	Remarks
		Mean	Std. D	Mean	Std. D	Mean	
1	My lesson presentation give room for learners to construct their knowledge	4.63	0.73	3.64	1.53	4.13	High extent
2	I work on Learners' prior knowledge and experiences to help them in construction of their knowledge	2.58	1.31	2.51	1.26	2.55	Low Extent
3	I ensure Each stage of lesson are establish on activities	4.00	0.93	3.75	1.06	3.87	High extent
4	I consider the impact of Individual differences on learning	3.22	1.10	3.41	0.92	3.32	High extent
5	I ensure learners mind are captured for the purpose of winning their mind.	2.40	1.19	2.69	1.40	2.54	Low Extent
6	I integrate technology in the classroom lesson delivery following constructivist approach	4.37	0.77	3.98	1.15	4.17	High extent
	Grand mean	**3.53**	**0.45**	**3.33**	**0.57**	**3.43**	**High extent**

The result in table 2, shows the mean response on the extent urban and rural teachers use constructivist approach in classroom lesson delivery. The table reveals that item 6: I integrate technology in the classroom lesson delivery following

constructivist approach (Mean =Urban 4.37 SD 0.77, Rural 3.98 SD 1.15) have the highest mean set score (Mean=4.17) the item where teachers apply constructivist to a low extent are 5: I ensure learners are motivated in every lesson for the purpose of winning their attention was to a low extent across urban and rural schools teachers (Urban mean= 2.40 SD 1.19 Rural 2.69 SD 1.40), item 2: I work on Learners' prior knowledge and experiences to help them in construction of their knowledge (Urban mean= 2.58,SD=1.31, Rural Mean=2.51,SD= 1.26). Meanwhile item 4: I consider the impact of Individual differences in lesson presentation (Urban mean= 3.22 SD.1.10 Rural mean= 3.41 SD 0.92), item 3 and item 4 are all to a high extent. Finally, the mean response of urban teachers (Mean = 3.53, SD = 0.45) is slightly higher than the mean response of rural teachers (Mean = 3.33, SD = 0.57) and the grand mean score of 3.43 shows that to a high extent urban and rural teachers are using constructivist approach in classroom lesson delivery based on the decision mean=3.00.

Research Question 3: What is the extent of male and female teachers' application of constructivist approach in lesson delivery in the classroom?

Table 3: Mean Response on the Extent Male and Female Teachers' Application of Constructivist Approach in Lesson Delivery in the Classroom.

S/N	Items	Male (n = 175)		Female (n = 190)		Mean Set (n=365)	Remarks
		Mean	S. D	Mean	S. D		
1	My lesson presentation give room for learners to construct their knowledge	3.83	1.44	3.87	1.43	3.85	High Extent
2	I work on Learners' prior knowledge and experiences to help them in construction of their knowledge	2.60	1.29	2.32	1.23	2.46	Low Extent
3	I ensure Each stage of lesson are establish on activities	4.05	0.88	3.87	0.94	3.96	High Extent
4	I consider the impact of Individual differences on learning	3.25	0.81	3.26	0.77	3.25	High Extent
5	I ensure learners' motivation for the purpose of winning their attention.	1.87	0.93	1.95	1.01	1.91	Low Extent
6	I integrate technology in the classroom lesson delivery following constructivist approach	4.20	1.04	3.96	1.05	4.08	High Extent
	Grand mean	**3.30**	**0.54**	**3.21**	**0.55**	**3.25**	**High Extent**

Table 3 shows the mean response on the extent male and female teachers' applied constructivist approach in their classroom. item 6: I integrate technology in the classroom lesson delivery following constructivist approach was to a high extent (Mean = male,4.20 SD 1.04 female, 3.96 SD 1.05. while the items with low extent are 5: I ensure learners are motivated for the purpose of winning their attention (Mean = male 1.87 SD 0.93 female 1.95 SD 1.01) and item 2: I work on Learners' prior knowledge and experiences to help them in knowledge construction (Mean = 2.60 SD 1.29 female 2.32 SD 1.23), item 4: I consider the impact of Individual differences in lesson presentation (male, 3.25 SD 0.81 female 3.26 SD 0.77). The ground mean response of male teachers (Mean = 3.30, S.D = 0.54) is slightly higher than the ground mean response of female teachers (Mean = 3.21, S.D = 0.55). The result shows grand mean score of 3.25 indicating that to a high extent male and female teachers apply the constructivist approach in classroom lesson delivery.

Hypotheses

Ho_1: There is no significant difference between the extent to which teachers in urban and rural areas apply constructivist approach in lesson delivery.

Table 4: Summary of t-test on the difference between the extent to which teachers in urban and rural areas apply constructivist approach in lesson delivery

Table 3: Summary of t-test on the Difference between the Extent to which Teachers in Urban and Rural Areas apply Constructivist Approach in Lesson Delivery

Teachers' location	N	Mean	SD	Df	t-test	Sig.	Remark
Urban	168	3.53	0.45				
				363	3.735	0.000	Significant
Rural	197	3.33	0.57				

Table 3 shows the summary of t-test on the difference between the extent to which teachers in urban and rural areas apply constructivist approach in lesson delivery. The mean response of urban teachers is 3.53 with standard deviation score of 0.45 while the mean response of rural teachers is 3.33 with standard deviation score of 0.57. the result also shows that the calculated value of t-test is 3.735 and corresponding significant value of 0.000 at 363 degrees of freedom. Since 0.000 is less than 0.05, the null hypothesis one is rejected. This implies that there is significant difference between the extent to which teachers in urban and rural areas apply constructivist approach in lesson delivery in favour of urban school teachers.

Ho_2: There is no significant difference between the extent to which male and female teachers apply constructivist approach in classroom lesson delivery.

Table 5: Summary of t-test on the Difference between the Extent to which Male and Female Teachers apply Constructivist Approach in Classroom Lesson Delivery

Gender	N	Mean	SD	Df	t-test	Sig.	Remark
Male	175	3.30	0.54				
				363	1.666	0.097	NS
Female	190	3.21	0.55				

NS= Not Significant

Table 4 shows the summary of t-test on the difference between the extent to which male and female teachers apply constructivist approach in classroom lesson delivery. It shows that the mean response of male teachers is 3.30 with standard deviation score of 0.54 while the mean response of female teachers is 3.21 with standard deviation score of 0.55. the table reveals the value of t-test calculated to be 1.666 and significant value of 0.097 at 363 degrees of freedom. Based on the result, the null hypothesis two is retained at 0.05 level of significance. Hence, it is concluded that there is no significant difference between the extent to which male and female teachers apply constructivist approach in classroom lesson delivery.

Discussions

The results from Research Question 1 indicates that teachers engage in constructivist approach in the teaching of basic education students in Rivers state. This is derived from the ground mean (3.25 SD=0.54) of teachers' responses to the item statement used for evaluation. However, this data identified the areas where teachers are not applying constructivism to high extent: Learners' prior knowledge and experiences to help them in construction of their knowledge and learners' motivation for the purpose of winning their attention. It is important to observed that these areas that teachers are lacking are also important, if improve upon will go a long way to improving classroom instructions delivery. The test of null hypothesis which states, there is no significant difference between the extent to which teachers in urban and rural areas apply constructivist approach in lesson delivery, also indicates significant difference between the extent to which teachers in urban schools and rural areas apply constructivist approach in lesson delivery in favour of urban school teachers. This implies that teachers in the urban schools are much more doing better in employing constructivist approach in their lessons. The reasons for some of these finding is that most often supervision of schools is conducted in urban schools more than the rural schools and poor supervision can also be a factor for consideration. This study aligned with the study of Abulnour, (2016) which studied constructivist assessment and evaluation in secondary science and concluded among other factors that teachers indeed engage students using constructivist approach in lesson delivery using the 5Es model. The study is in agreemt with some other studies (Omotayo & Adeleke, 2017; Zhu & Atumpag, 2023).

The findings of this study also tested hypothesis 2 which states there is no significant difference between male and female in respect of constructivist

application in classroom lesson delivery. Hence, there is no significant difference between the extent to which male and female teachers apply constructivist approach in classroom lesson delivery. The study also aligned with Mbaba, and Okwu, (2024) whose study established that gender difference does not matter when students are taught with presentation software.

Implications for Educational Reforms in Nigeria

The schools were established as a training ground and a place of refining people for the use of the entire humanity. Teachers are then the instrument for this assignment, and the process demands processes and strategies. Where the processes or the strategies are not adequate the expectations or the purpose of education will be defeated. Thus, Federal Republic of Nigeria (2013) posits that in order to fully realize the goals of education in Nigeria and the gain from its contributions to national economy, Government shall take necessary measures to ensure that: a. Educational activities shall be learner centred for maximum self- development and self-fulfillment; b. teaching shall be practical activity-based, experiential and IT supported; and c. education shall be related to the overall community needs. Therefore, the reform implication is that the national policy should be reviewed to introduce some specific guide on practical activities based on subjects and level of training.

The curriculum also has to be adjusted to include not the methodology of teaching expected to be used, but the provision of some kind of support system that ensure that the method(s) specified are understood properly and adequately applied in lesson delivery. Supervision has to be reorganized to include instructional design and curriculum experts to visit schools and give orientations from time to time to ensure substantial improvement.

Conclusion

Constructivism have come to stay as lots of studies have proved its impact in effective lesson delivery, improved classroom participation, and enhancing learners to create their knowledge. This study evaluates the extent of teachers' application of constructivism in basic education classroom in Rivers State is to ascertained teachers' abilities to innovate, diversify and engage in participatory teaching and learning process. Thus, so far this study helps to close the gap of uncertainty on whether constructivist approach is used in the classroom in the Rivers State. It also presents the areas of the features of constructivism where teachers are not able to use to a high extent, and bringing in issues around location and the extent of constructivism application.

Recommendations

Based on the finding of this study the put forward made the following recommendations:

1. Teachers should improve on the application of constructivist approach and to align it with other models that can jointly improve learning;
2. Teachers in the rural areas should be given routine re-training in lesson development and delivery using constructivist approach through workshops hence most of these teachers are disadvantaged because of their location.
3. Government should provide more modern technology in the schools hence teachers are obliged at using technology to support their lesson delivery

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