

Extent to which Innovative Pedagogical Approaches are required in Nigerian Vocational Education

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Abstract

This study examined the extent to which innovative pedagogical approaches are required in Nigerian vocational education. The study employed descriptive survey research design for the study. Three research questions guided the study and three null hypotheses were tested. Population of the study was 300 vocational educators in the tertiary institutions across the six geo-political zones in Nigeria that offer vocational education. Questionnaire was used as the instrument to guide the conduct of the study. The mean and standard deviation were used to answer the research questions and determine respondents' ratings homogeneity. In contrast, the t-test was used to test the null hypotheses at a significance level of .05. The study revealed that innovative pedagogical approaches such as collaborative learning, flipped classroom and Google classroom are very much required in vocational education in Nigerian tertiary institutions. Gender and institution type did not significantly differ in the respondents' mean ratings. The study concluded that innovative pedagogical approaches are very much required for vocational education instructional delivery to prepare students for the difficulties of the twenty-first century. Therefore, the study recommends that to provide students with the skills needed in the current vocational education environment, lecturers at tertiary institutions should adopt innovative pedagogical approaches to instruction delivery, and institutions should closely oversee and guarantee complete adherence to the application of innovative pedagogical *approaches*.

Keywords: Innovation, tertiary, pedagogy, vocational education.

Introduction

The current worldwide pandemic has affected all aspects of human endeavour and demanded a significant shift in the educational system. Education, as a tool for change and growth, must urgently adapt to the unprecedented inventive developments of the twenty-first century in order to be more effective and sensitive to the requirements of individuals and society in the current environment. As social aims and aspirations change in reaction to environmental changes, the educational system must adapt in order to produce an enabling environment for human survival (Okoye, 2021).

Innovation is the presentation of brand-new items, concepts, ideas, or a way of thinking about how something is done. According to Rogers (2014), innovation is the adoption of concepts, methods, or products that are seen as novel by a person or group of people. While Jeremiah and Alamina (2017) describe it as a purposeful innovative and distinct deviation from previous practices that would have been thought of as a superior way to carry out a task. This means that when a new strategy is intentionally and strategically targeted at improving an outdated practice in some way or another, it can be said to be an innovation. This is especially true when the new, intentional, and strategically targeted practice is a method that is more effective and efficient than the outdated method of doing that thing.

Innovative pedagogy is a learning methodology that depicts in a clever manner how information, abilities, and mentalities are consumed, created, and involved by students such that gives the student current information, attractive abilities that will turn out a revenue, perspectives and values that exhibit sympathy and really focusing on oneself, others, and the climate (Nabwire, 2016). As indicated by ongoing studies, there are seriously state-of-the-art instructing techniques that may be acquainted with the showing repertory and used to improve or enhance the customary showing style (Bakare and Orji, 2019; Dhir et al., 2013; Naz and Murad, 2017; Odelewe et al., 2020; Orji, 2015; Orji and Ogbuanya, 2018, 2020; Rebecca et al., 2019).

Therefore, innovative pedagogy is viewed as a proactive procedure for all the more creatively coordinating showing systems and approaches into study hall learning. The principal objective is to ensure that understudies completely own their learning and effectively seek after their learning objectives. The educator works with the accomplishment of the characterized learning targets simultaneously.

Statement of the problem

In twenty-first century Nigeria, innovations at vocational education curriculum practices are required since we live in a period when we are all plagued by youth unemployment, high poverty levels, food insecurity, social insecurity, and economic insecurity (Agbidi & Ikeoji, 2018). In

reality, according to the most recent statistics data, Nigeria has the highest number of poor people in the world (NBS, 2018), a scenario that has most intelligent Nigerians up in arms.

Analyzing these two variables can assist with working on the nature of technical and vocational education and training (TVET), as showing techniques and learning results are every now and again ignored in TVET (Pavlova and Chen, 2019). If we genuinely have any desire to raise the nature of TVET, we should explore and foster the instructing techniques that work the best. Proof proposes that the prevalent academic mode in schools in Nigeria is educator focused strategies for guidance. Per Faremi (2014), field outings and e-learning/ICT are less of the time used by Nigerian technical university speakers than different strategies including show, talk, and task techniques. Worryingly, regardless of worldwide accentuation on the job of educators and coaches in taking on student focused approaches in their educational conveyance rehearses, the TVET framework in Nigeria supposedly is prevalently conveyed utilizing customary showing techniques, which are much of the time described by latent learning (Harber, 2017). Understudies' accomplishments would be upgraded through imaginative, more comprehensive academic strategies, helping with spanning the abilities hole and jumbles experienced by youngsters as they progress from education to business (Venkatraman, de Souza-Daw, and Kaspi, 2018). Considering this, evaluating how much original academic strategies are required in Nigerian vocational education is important.

Research Questions

The following research questions guided the study:

1. To what extent is collaborative learning required in vocational education in Nigerian tertiary institutions?
2. To what extent is flipped classroom required in vocational education in Nigerian tertiary institutions?
3. To what extent is Google classroom required in vocational education in Nigerian tertiary institutions?

Research Hypotheses

The following null hypotheses were tested at .05 level of significance:

1. There is no significant difference in the mean ratings of male and female vocational educators regarding the extent Collaborative learning is required in vocational education in Nigerian tertiary institutions.
2. There is no significant difference in the mean ratings of vocational educators regarding the extent flipped classroom is required in vocational education in Nigerian tertiary institutions.
3. There is no significant difference in the mean ratings of male and female vocational educators regarding the extent Google classroom is required in vocational education in Nigerian tertiary institutions.

Method

The study used a descriptive survey research design. The research was done in Nigeria. The study's sample consisted of 300 participants, or fifty (50) from each of Nigeria's six geopolitical zones, consisting of 162 male and 138 female vocational educators who were purposefully chosen from public universities and colleges of education. The researcher created a structured questionnaire that served as the tool for gathering data. The study made use of a validated 24 item instrument.

To determine the instrument's dependability, a pilot test was conducted. Cronbach Alpha reliability yielded a reliability co-efficient of 0.78. Co-efficient. With the assistance of two research assistants with expertise in the field of research, copies of the questionnaire were administered by the researcher. Data pertaining to the research topics were analyzed using the arithmetic mean and standard deviation, which also determined whether or not the respondents were homogeneous.

The study's hypotheses were tested using inferential statistics (t-test) at the .05 level of significance. The decision rule was based on the true numerical limit. Any item with a mean rating of 2.50 or more was considered very much required, whereas anything below 2.50 was considered minimally essential. If the estimated t-value is equal to or greater than the crucial t-value, the null hypothesis is rejected; otherwise, the null hypothesis is accepted.

Results

Research question 1

To what extent is Collaborative learning required in vocational education in Nigerian tertiary institutions?

Table 1

Extent Collaborative learning is required vocational education in Nigerian tertiary institutions
(N = 300)

Item No	Collaborative learning	\bar{X}	STD	Remarks
1	Regardless of distance, promotes dialogue and engagement between students and teachers.	3.5	.50	Very much required
2	Gives students the opportunity to collaborate with individuals from various cultures.	3.9	.37	Very much required
3	Allows students to collaborate in groups.	4.1	.21	Very much required
4	Aids learners in developing their communication abilities.	3.8	.28	Very much required
5	It contributes to students' worldwide awareness of the corporate world.	3.2	.59	Very much required
6	Assists students in taking responsibility for their actions during the teaching and learning processes.	3.7	.95	Very much required
7	Assists in guiding and supervising students' work.	3.4	.77	Very much required
8	Empowers students with empathy, negotiating, and problem-solving abilities.	3.6	.65	Very much required
Cluster Mean/Standard Deviation		3.6		

Table 1 shows that all the eight listed items in Collaborative learning had mean scores that range from 3.2 to 4.1. This indicates that Collaborative learning are very much required in vocational

education. The cluster mean score of 3.6 shows that vocational educators in Nigerian tertiary institutions rated Collaborative learning as very much required in Nigerian tertiary institutions. The standard deviations of all the questions are within the same range, indicating that the respondents' ratings were homogeneous.

Research question 2

To what extent is flipped classroom required in vocational education in Nigerian tertiary institutions?

Table 2

Extent flipped classroom is required vocational education in Nigerian tertiary institutions

(N = 300)

Item No	Flipped classroom	\bar{X}	STD	Remarks
9	By placing the responsibility for learning on the students, it transforms them into active learners.	3.0	.52	Very much required
10	Enables teachers to give students the responsibility of obtaining concepts and knowledge by acting as a resource provider.	3.2	.58	Very much required
11	Promotes independent knowledge construction, information gap filling, and inference-making among students as required.	3.3	.50	Very much required
12	Provides students with the opportunity to study outside of class by reading, watching brief recorded video lectures, or doing research for projects.	3.3	.62	Very much required

13	Assists students in forming groups for cooperative learning.	3.4	6.4	Very much required
14	Allows teachers to spend one-on-one time with each student.	3.4	.66	Very much required
15	Assists students in learning at their own rate and on their own schedule.	3.3	.50	Very much required
16	Ensures that pupils can comprehend the topic better.	3.5	.65	Very much required
17	Enables parents to access their children's' academic resources and performance.	3.7	.49	Very much required
Cluster Mean/Standard Deviation		3.4		

Table 2 reveals that all the eight items listed in flipped classroom had mean scores ranging 3.0 and 3.7 indicating that flipped classroom is very much required in vocational education. The cluster mean score of 3.4 shows that vocational educators in Nigerian tertiary institutions were of the opinion that flipped classroom is very much required in vocational education. The standard deviations of all the questions are within the same range, indicating that the respondents' ratings were homogeneous.

Research question 3

To what extent is Google classroom required in vocational education in Nigerian tertiary institutions?

Table 3

Extent Google classroom is required vocational education in Nigerian tertiary institutions

(N = 300)

Item	Google classroom	\bar{X}	STD	Remarks
No				

18	Improves students' ability to exchange ideas with peers at different institutions.	3.5	.57	Very much required
19	Aids students in finding extra resources for their course of study.	3.4	.50	Very much required
20	Allows students to get access to a large number of scholarly materials for study needs.	3.7	.47	Very much required
21	Improves students' cooperation with teachers and other classmates.	3.9	.50	Very much required
22	Helps students write more clearly in their research.	3.3	.45	Very much required
23	Helps teachers talk less and spend less time talking.	3.5	.93	Very much required
24	Aids students in reducing their paper usage.	3.9	.40	
Cluster Mean/Standard Deviation		3.6		

Table 3 shows that all the seven items listed in Google classroom had mean scores ranging between 3.3 to 3.9 indicating very much required. The cluster mean score of 3.6 shows that vocational educators in Nigerian tertiary institutions rated Google classroom as very much required in vocational education. The standard deviations of all the questions are within the same range, indicating that the respondents' ratings were homogeneous.

Hypotheses

Ho1: There is no significant difference in the mean ratings of male and female vocational educators regarding the extent Collaborative learning is required in vocational education in Nigerian tertiary institutions.

Table 4

t-test analysis of male and female respondents' mean ratings regarding the extent Collaborative learning is required in vocational education in Nigerian tertiary institutions

Variables	N	Mean	SD	Df	a	t-cal.	t-crit.	Decision
Male	162	3.6	0.35					
				100	0.5	0.095	1.96	Not significant
Female	138	3.6	0.37					

Table 4 shows that the calculated t-value of 0.095 at 100 degree of freedom and .05 level of significance is less than the critical t-value of 1.96. This means that male and female vocational educators did not differ significantly in their mean ratings regarding the extent Collaborative learning is required in vocational education in Nigerian tertiary institutions. Therefore, the null hypothesis was accepted.

Ho2: There is no significant difference in the mean ratings of vocational educators regarding the extent flipped classroom is required in vocational education in Nigerian tertiary institutions.

Table 5

t-test analysis of respondents mean ratings regarding the extent flipped classroom learning is required in vocational education in Nigerian tertiary institutions

Variables	N	Mean	SD	Df	a	t-cal.	t-crit.	Decision
University	150	3.4	0.36					
				100	0.5	-1.25	1.96	Not significant
Coll. of Edu.	150	3.5	0.36					

Table 5 shows that the calculated t-value of -1.25 at 100 degree of freedom and .05 level of significance is less than the critical t-value of 1.96. This implies that universities and colleges of education vocational educators did not differ significantly in their mean ratings regarding the extent flipped classroom is required in vocational education in Nigerian tertiary institutions. The null hypothesis was, therefore, accepted.

Ho3: There is no significant difference in the mean ratings of male and female vocational educators regarding the extent Collaborative learning is required in vocational education in Nigerian tertiary institutions.

Table 6

t-test analysis of male and female respondents mean ratings regarding the extent Google classroom is required in vocational education in Nigerian tertiary institutions

Variables	N	Mean	SD	Df	a	t-cal.	t-crit.	Decision
Male	162	3.60	-0.29	100	0.5	-1.13	1.96	Not significant
Female	138	3.56	-0.26					

Table 6 reveals that the calculated t-value of -0.13 at 100 degree of freedom at .05 level of significance is less than the critical t-value of 1.96. This indicates that male and female vocational educators did not differ significantly in their mean ratings regarding the extent google classroom is required in vocational education in Nigerian tertiary institutions. The null hypothesis was therefore, accepted.

Discussion

Findings of the study showed that vocational educators from Nigerian tertiary institutions rated Collaborative learning as very much required in vocational education. This result agreed with Nwosu and Okoro's (2020) findings that students need to be equipped with collaborative learning techniques. This is also consistent with Pugach and Johnson's research from Laal, Kermanashahi, and Laal (2013), which found that cooperation has proven to be the most successful method of instruction in the field of education for fostering student success for the largest number of students. This could be the case because collaborative learning promotes communication and cooperation between students and teachers despite distance and cultural barriers. In fact, students learn better and more comfortable working together in groups.

The study's findings also showed that gender did not have any significant difference regarding the extent to which collaborative learning is required in vocational education in Nigerian tertiary institutions. Findings of the study indicated that vocational educators from Nigerian tertiary institutions rated flipped classroom as highly required in vocational education. The results supported Kennedy's findings in Huang and Lin (2017) that teachers seek to transfer lecture knowledge to homework in flipped learning, which may actually free up precious time to foster more active learning and higher-level cognitive tasks.

In support of this, Enfield in Huang and Lin (2017) noted that online collaboration and sharing among flipped teaching learners is breaking down barriers to assist students understand the topic, boost self-efficacy, and build learning experiences through the resources provided. This may be as a result of the flipped classroom's emphasis on group work, knowledge construction, filling in knowledge gaps, and independent inference-making as and when necessary.

The study's findings also revealed that vocational educators from universities and those from colleges of education did not differ considerably in their mean ratings of how much flipped classroom is required in vocational education.

The findings of the study further revealed that vocational educators rated Google classroom as very much required in vocational education. The results of this study refuted Azhar and Igbal's (2018) claim that Google Classroom had no appreciable effects on overall instruction. Teachers do not think Google Classroom's user interface is user-friendly. On the other hand, the results are consistent with the study by Martinez-Mones, Reffay, Torio, and Cristobal (2017), which found that Google empowers, gives a wide range of options to kids in terms of compatibility with reading and educational devices. This could be because Google makes it easier for students to communicate with classmates from different institutions to exchange ideas and gives them access to numerous academic books that are utilized for research. The findings further revealed that gender did not significantly differ in the mean ratings regarding the extent to which Google classroom is required in vocational education in Nigerian tertiary institutions.

Conclusion

Based on the study's findings, it was concluded that innovative pedagogical approaches are very much required for vocational education instructional delivery in order to prepare students for the difficulties of the twenty-first century. The program aim of providing students with the appropriate abilities needed in modern automated offices will be greatly advanced by the implementation of novel pedagogical techniques in vocational education in the pandemic and technology era.

Recommendations

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

1. To provide students with the skills needed in the current vocational education environment, lecturers at tertiary institutions should adopt innovative pedagogical approaches of instruction delivery.
2. Institutions should closely oversee and guarantee complete adherence to the application of innovative pedagogical approaches for instructional deliveries.
3. Government funding should be made available for the acquisition and sufficient provision of the facilities and equipment required for cutting-edge instruction.

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