

Effective Methodologies in the Teaching of Computer Studies Curriculum in Public Senior Secondary Schools in Bayelsa State

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Abstract

In educational and instructional technology, computer software and packages cum sufficient knowledge in the application is crucial in modern teaching and learning environment. This study evaluated the methods used in teaching computer studies in secondary schools an experimental design was used on selected school students with different teaching methods on computer studies in Bayelsa state and the study show that, there is no significant difference between the views of male and female teachers on the extent of utilization of effective methodologies (process) on the teaching of computer studies curriculum in public senior secondary school in Bayelsa state.

Introduction

Ene (2016) stressed that the knowledge of computer has brought into limelight the indispensable roles of information technology and teaching. The general objectives of this field of study is to bring about a computer literacy in each state in Nigeria; develop the use of computer as teaching tools in all subject areas; to familiarize learners with the use of computer technology; enable the present generation of school children at the secondary school level appreciate the potentials of the computer, be able to utilize the computer in various aspects of life and to expose the teachers and the students to the latest scientific knowledge and skills, Nduanya (2016) opines that teaching and learning are more effective when teachers locate and use appropriate instructional materials. These instructional resources could be in the form of books, charts, models, maps, laboratory materials and equipment, projectors, computers and so on. The book has been regarded as an important single resource to both the science teacher and the learner. Some commentators in education have remarked that if education is the road out of poverty, books are the wheels needed for the journey. Books and other materials that will aid learning must be available and adequately provided in schools.

Dike (2020) asserts that if we want children and all citizens to acquire literacy, we must provide reading materials, the abundant and pleasurable reading materials found in libraries. The fact that the provision of teaching and learning facilities is a pre-requisite to the attainment of educational objectives calls for concerted effort at ensuring that, these and other elements be adequately provided in schools. Nwagwu (2012) therefore recommends that, a panel of information experts, intellectuals and educators with planning and management experience should ensure that the senior secondary education programme does not take off without adequate preparation to guarantee successful implementation. It is, therefore, worthy to note that the success of this senior secondary education programme is very much dependent on the state of the antecedent variables, which are manpower requirements, infrastructural requirements, instructional materials and the programme

objective. For instance, in the area of manpower requirement, Kalusi (2020) reports that, all over the world, services of teachers have been employed to ensure continuity in terms of manpower supply and maintenance of a steady socio-economic, cultural, scientific and political advancement. Surprisingly, the engineers, scientists, architects, medical doctors, bank managers, the police or the army officers have been under the tutelage of the teacher. In fact, the role of the teacher in national development would be more appreciated when we recognize that the most precious of our natural resources (endowment), which is our children, are entrusted to their care at an impressionistic stage in life.

They, therefore, not only make but they could also mar the prospect of a nation. More so, Adesoji (2018) opines that the work of the teachers will be influenced tremendously by the contents of the curriculum, the available teaching resources and the quality of the teachers. Also, for effective teaching and learning, school buildings, utilities, facilities and educational goals should be viewed as being closely interwoven and interdependent. School buildings as well as facilities are seen as a controlled environment, which facilitates the teaching-learning process as well as projecting the physical well-being of the students. In the secondary school, modern teaching of sciences, social science, arts and other vocational studies would require the use of laboratories and many other learning aids/facilities such as films, overhead projectors, microfilms, transparencies, programmed instruction packages and computers. This informed Obanya's assertion that ensuring full attainment of the great ambition of the senior secondary programme will depend on the following curriculum implementation elements such as social mobilization, infrastructure, teachers, out-of-school youths, the curriculum, instructional materials, special needs education and library development (2012).

The implementation of computer studies curriculum at its best is when learners acquired the necessary computers skills such as critical, logical and thinking, creative reasoning and communication skills which are aimed to help them function effectively in the society. Alani (2012) also adds that for the senior secondary programme to be successful, the plan for the programme should focus on the following elements such as educational data collection, survey of skills, creating awareness for the programme, teacher demand and supply, funding, provision of materials, equipment and facilities, inducement/welfare support for learners, curriculum preparation and enrichment and research, monitoring and evaluation.

Curriculum implementation is the process of translating the curriculum document into operating curriculum in such a way that the pre-determined objectives are attained. It is the actual execution of curriculum document in the classroom through effective interactions of the teacher, learner(s) and other elements in the instructional system (Achuonye & Ajoku, 2013). When curriculum documents have passed through the various approval points, the next thing is the implementation stage. The implementation aspect has the following steps; material development, training of teachers, teacher in service course, seminars and workshops, dissemination of information and monitoring, this means that curriculum development and implementation is never a finished product, it is an on-going process and requires regular visitation for improvement.

This is because, there is need to continue to improve and modify curriculum activities to respond to changing times, changing situations, and changing learners, changing facilities and changing result. This is the reason we have to continually examine our curriculum Agina-Obu, (2006). Curriculum implementation is the bedrock of any educational plan; the determinant of the plan's success or failure, a moving force of plan without which a plan is only of good intention. Curriculum implementation can be regarded as valid actions (through participation, resources provision or creating enabling environment) in the execution of planned programme or translating

theory into practice with a view to yielding expected result Mba (2003). Curriculum implementation is very vital if a nation must develop. This is because it is by the implementation of curriculum that the educational goals are realized.

Nnachi (2009) opined that the curriculum design could be the best and the construction could be the greatest ever known, but without the implementation the whole effort boils down to vanity. The teachers are the major implementers of the curriculum and implementation is not complete without evaluation. Curriculum evaluation is concerned with the collection and the use of information for decision making about an educational programme (Achuonye & Ajoku, 2013). It is necessary to carry out periodic evaluation of the implementation of Computer studies curriculum in senior secondary schools to ascertain that the planned learning experiences actually function to guide the teacher in achieving the desired learning objectives. Curriculum evaluation entails to measure students' progress to the objectives, activities, and learning opportunities as developed and organized actually produced desired result and how can the evaluation offerings be best improved (Offorma, 2004). Scholars have presented models for curriculum evaluation such as Screven's goal free model, Stake's responsive model etc. Stufflebeam curriculum evaluation model known as CIPP-context, inputs, process and product model was used in this study.

CIPP is an organized process of looking into many different aspects of the curriculum development process. Context evaluation is used to give a rational reason curriculum has to be implemented. On a large scale can be evaluated in the context of the program objectives, policies that supports the vision and mission of the instruction, the relevant environment, identification of needs, opportunities and specific problems diagnosis. The input variables are the injections into curriculum such as human and material resources required for effective teaching and learning of Computer studies. They include qualified teachers, computer laboratory, ventilated classroom etc. The process variables express the operational procedures and management of a curriculum such as effective lesson planning and teaching, teaching methods used and evaluation techniques utilized in the implementation of Computer studies curriculum. The products of curriculum refer to the output variables which basically are the graduates of the programme who at the point of graduation are expected to achieve the objectives of the curriculum (Mertens, 2019). It is absolutely necessary to painstakingly carry out Computer studies implementation because of the increasing need of a credit pass in Computer studies and successfully make sensible choices in everyday living.

Aim and Objectives of the Study

1. Ascertain the extent of utilization of recommended teaching methods effective methodologies (process) in the teaching of computer studies curriculum in public senior secondary school in Bayelsa State.
2. Examine the challenges faced by teachers in the implementation (product variable) of Computer studies curriculum in public senior secondary school in Rivers East Senatorial district.

Methodology

This study adopted descriptive research design. This design enabled the researcher to evaluate the implementation of Computer Studies Curriculum in public senior secondary schools in Bayelsa state. Out of 287 Computer studies teachers, stratified random sampling technique was used to select a total of ninety-eight (98) computer studies teachers from ten (10) schools each from two (2) L.G.A's in the public senior secondary schools in Bayelsa State. The research instrument used for this study was a questionnaire titled "Evaluation of the Implementation of Computer Science

Curriculum" (EICSC),, made up of 21 items, designed for teachers in public senior secondary schools. The items were divided into two (2) sections, A and B. Section "A" contained demographic data of the respondents while section "B" was used to elicit information from the respondents based on the CIPP model and were rated on a 4-points rating of Very High Extent (VHE)-4pts, High Extent (HE)-3pts, Low Extent (LE) -2pts and Very Low Extent (VLE)

The questionnaire was administered to a group of 98 public senior secondary school teachers after a brief explanation of the purpose of the study to the respondents in the sampled schools. The period of data collection lasted for two weeks. Data obtained for research questions was analyzed using mean and standard deviation. A standard reference mean of 2.50 was adopted for the purpose of determining the level of implementation of Computer Studies curriculum in senior secondary schools. Data obtained from the test was used to answer the research questions using mean and standard deviation while Z-test was used in analyzing the hypotheses at 0.05 level of significance.

Analysis and Results

Research Question: What is the extent of utilization of effective methodologies (process) for the teaching of computer studies curriculum in public senior secondary school in Bayelsa state?

Table 1: Mean score and standard deviation ratings in the mean reference of male & females teachers on the utilization of effective methodologies for the teaching of computer studies curriculum in public senior secondary schools in Bayelsa State

S/N	ITEMS	VHE	HE	LE	VLE	N	CUM RATING	X	STD	Rmks
1.	Teachers use computer always during key boarding practical classes	7	10	69	12	98	208	2.12	0.76	Reject
2.	Ideas and suggestions of students are sometimes accepted and built into use of computer studies	26	50	19	3	98	295	3.01	0.84	Accept
3.	Computer studies is utilized by senior secondary teachers to monitor the students' progress	20	53	16	9	98	280	2.86	0.84	Accept
4.	Examples are always related to real life situation using	52	21	20	5	98	316	3.22	0.87	Accept
5.	Computer studies is used by the school administrators in senior secondary schools in Bayelsa state to score students	10	58	6	24	98	250	2.55	0.79	Rejected
Grand Mean								3.17	0.88	Accept

Result from table 1 shows that item 1 had a mean score of 1.73 with standard deviation ratings of 0.81. This shows that the respondents disagreed that teachers uses computer always during

keyboard classes in Bayelsa state uses computer studies in teaching and learning. Item 2 had a mean score of 3.01 with standard deviation ratings of 0.84. This revealed that the respondents strongly agreed that ideas and suggestions of students are sometimes accepted and built into use of computer studies, Item 3 had mean score of 2.86 with standard deviation ratings of 0.87. This indicates that the respondents strongly agreed that computer studies are utilized by senior secondary teachers to monitor the students' progress. Item 4 had mean score of 3.22 and standard deviation rating of 0.87. This means that the respondents agreed that examples are always related to real life situation using Item 5 had mean score of 2.55 with standard deviation rating. This means that the respondents agreed that Computer studies are used by the school administrators in senior secondary schools in Bayelsa state to store students' data. However, research question three yielded a grand mean of 2.8, which is greater than the criterion mean of 2.50 and depicts that the utilization of effective methodologies for the teaching of computer studies curriculum in public senior secondary school in Bayelsa state is to some an extent.

Research Question 2: To what extent do teachers face challenges in the implementation of the computer studies curriculum in public senior secondary school in Bayelsa state (product variable)?

Table 2: Mean score and standard deviation ratings in the mean reference of male & females teachers on the challenges faced by teachers in the implementation (product variable) of Computer studies curriculum in public senior secondary school in Bayelsa state

S/N	ITEMS	VHE	HE	LE	VLE	N	CUM RATING	X	STD	Rmks
1.	Lack of Computer-based Instructional software and packages in public senior secondary school in Bayelsa state	20	53	16	9	98	280	2.86	0.84	Accept
2.	Teachers' lack of interest in the use of ICT in classroom situations	26	50	19	3	98	295	3.01	0.86	Accept
3.	Shortage of computer systems needed by students and teachers in the schools	20	53	16	9	98	280	2.86	0.84	Accept
4.	Adequacy of teachers' technical know-how on preparing ICT-based instructional materials	52	21	20	5	98	5316	3.22	0.87	Accept
5.	Computers with technical faults	29	37	19	13	98	278	2.83	0.84	Accept
6.	Lack of relevant training	52	21	20	5	98	316	3.22	0.87	Accept
Grand Mean								3.17	0.88	Accept

Result from table 2 shows that items 1 and 3 had mean scores of 2.86 with standard deviation rating of 0.84 respectively. This indicates that the respondents agreed that lack of Computer-based

instructional software and packages in schools and shortage of computer systems needed by students and teachers in the schools are the challenges faced by teachers in the implementation of Computer studies curriculum in public senior secondary school in Bayelsa state in public senior secondary school in Bayelsa state. Item 2 had a mean score of 3.01 with standard of 0.84, which means that the respondents strongly agreed that teachers' lack of interest in the use of ICT in classroom situations is one of the challenges faced by teachers in the implementation of Computer studies curriculum in public senior secondary school in Bayelsa state in public senior secondary schools.

Item 4 and 6 had mean score of 3.22 with standard deviation rating of 0.87 respectively. This shows that the respondents strongly agreed adequacy of teachers' technical know-how on preparing ICT-based instructional materials and lack of relevant training are also challenges faced by teachers in the implementation of Computer studies curriculum in public senior secondary school in Bayelsa state public senior secondary schools,

Item 5 had a mean score of 2.83 and with standard deviation rating of 0.84. This shows that the respondents agreed that computers with technical faults is a challenge faced by teachers in the implementation of Computer studies curriculum in public senior secondary schools.

However, research question four yielded a grand mean of 3.0, which is greater than the criterion mean of 2.50 and depicts that the teachers are faced with challenges in the implementation of Computer studies curriculum in public senior secondary school in Bayelsa state in public senior secondary schools.

Hypotheses

H₀₁: There is no significant difference between the extent of utilization of effective methodologies (process) by male and female teachers for teaching of computer studies curriculum in public senior secondary schools in Bayelsa state

Z-test on the difference between the extent of utilization of effective methodologies (process) by male and female teachers for teaching of computer studies curriculum in public senior secondary school in Bayelsa state.

Variable	N	Mean	SD	z-real	Df	p-value	Decision
Male teachers	50	2.54	0.58	.202	96	1.960	Accept H ₀₃
Female teachers	48	2.54	0.59				

Table 4.7 shows the summary of z-test on the difference in the extent of utilization of effective methodology (process) on the teaching of computer studies curriculum in public senior secondary school. The calculated z is ($Z_{(96)}=.202, p>.05$). The null hypothesis is retained at .05 level. This shows that there is no significant difference on the extent of utilization of effective methodologies (process) on the teaching of computer studies curriculum in public senior secondary school in Bayelsa state.

H₀₂: There is no significant difference between the opinion of male and female teachers on the extent they faced with challenges in the implementation (product variable) of Computer studies curriculum in public senior secondary school.

Table 4.: Z-test on the difference between the opinion of male and female teachers on the extent they faced with challenges in the implementation (product variable) of Computer studies curriculum in public senior secondary school in Bayelsa state

Variable	N	Mean	SD	z-real	Df	p-value	Decision
Male teachers	50	0.51		1.567	96	1.960	Accept, Ho ₄
Female teachers	48	2.70	0.59				

Table 4. shows the summary of z-test on the difference in the extent of challenges faced by teachers in the implementation (product variable) of Computer studies curriculum in public senior secondary school. The calculated z is ($Z_{(96)}=1.567$, $P>.05$). The null hypothesis is retained at 05 level. This shows that there is no significant difference on the extent of challenges faced by teachers in the implementation (product variable) of Computer studies curriculum in public senior secondary school.

Summary of Findings

Based on the analysis of the data generated, it was found that:

1. There is no significant difference between the views of male and female teachers on the extent of utilization of effective methodologies (process) on the teaching of computer studies curriculum in public senior secondary school in Bayelsa state.
2. There is no significant difference between the views of male and female teachers on the challenges faced by teachers in the implementation of Computer studies curriculum in public senior secondary school in Bayelsa state.

Conclusion

Utilization of effective methodologies (process) for the teaching of computer studies curriculum in public senior secondary school in Bayelsa state

Research question one focused on the extent effective methodologies (process) for the teaching of computer studies curriculum in public senior secondary school in Bayelsa state is utilization. The result showed that the respondents disagreed that teachers use computer always during keyboard classes uses computer studies in teaching and learning. The result also showed that the respondents strongly agreed that ideas and suggestions of students are sometimes accepted and built into use of computer studies, that computer studies are utilized by senior secondary teachers to monitor the students' progress, agreed that examples are always related to real life situation using and that Computer studies are used by the school administrators in senior secondary schools to store students' data.

The grand mean of 2.8, which is greater than the criterion mean of 2.50 and depicts that he utilization of effective methodologies for the teaching of computer studies curriculum in public senior secondary school in Bayelsa state is to some an extent. When put to statistical test. Table 4.7 showed shows the summary of z-test on the difference in the extent of utilization of effective methodologies (process) on the teaching of computer studies curriculum in public senior secondary school in Bayelsa state. The calculated z is ($Z_{(96)}=.202$, $P>.50$). .

The null hypothesis is retained at 05 level. This shows that there is no significant difference on the extent of utilization of effective methodologies (process)on the teaching of computer studies curriculum in public senior secondary school in Rivers East Senatorial district. This finding is in line with Ajeigbe, et al (2015) showed that there is a significant difference in the extent to which

teachers use ICT facilities in the teaching of computer studies in public and private secondary schools.

The challenges faced by teachers in the implementation (product variable) of Computer studies curriculum in public senior secondary school in Bayelsa state

Research question two sought answers the challenges faced by teachers in the implementation (product variable) of Computer studies curriculum in public senior secondary school. The result showed that the respondents agreed that lack of Computer-based instructional software and packages in schools and shortage of computer systems needed by students and teachers in the schools are the challenges faced by teachers in the Implementation of Computer studies curriculum in public senior secondary school.

The result further revealed that the respondents strongly agreed that teachers' lack of interest in the use of ICT in classroom situations is one of the challenges faced by teachers in the implementation of Computer studies curriculum in public senior secondary school. Also adequacy of teachers 'technical know-how on preparing ICT-based instructional materials and lack of relevant training are challenges faced by teachers in the implementation of Computer studies curriculum in public senior secondary schools. The grand mean of 3.0. which is greater than the criterion mean of 2.50 and depicts that the teachers are faced with challenges in the implementation of Computer studies curriculum in public senior secondary school in Bayelsa state public senior secondary school

When put to statistical test, table 4.8 shows the summary of z-test on the difference in the extent of challenges faced by teachers in the implementation (product variable) of Computer studies curriculum in public senior secondary schools. The calculated z is ($Z_{(96)}=1.567$ $P>.05$). The null hypothesis is retained at 05 level. This shows that there is no significant difference on the extent of challenges faced by teachers in the implementation (product variable) of Computer studies curriculum in public senior secondary school.

The finding is in accordance with (Bingimlas,2010). Who opined that consequently, those schools that fall in remote and some urban areas are left handicapped and may not be able to offer computer studies. Teachers also lack the ability to create presentations, printouts, and use multimedia teaching methods. This limits the quality of education they can provide and deters well-trained teachers from working in schools that do not have electricity.

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