INVESTIGATION OF THE IMPACT OF EDUCATIONAL LIBERALIZATION ON SECONDARY SCHOOL STUDENTS' LEARNING OF SCIENCE IN SULEJA LOCAL GOVERNMENT AREA OF NIGER STATE

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Abstract

The study investigated the impact of educational liberalization on secondary school students' learning of science in Suleja Local Government Area of Niger State. The sample of the study comprised a total of 317 respondents (54 science teachers and 263 parents of science students) from the population of 1851 selected from 40 senior secondary schools in Suleja Local Government Area of Niger State which comprised both public and private schools. The design adopted for this research was descriptive survey design. Questionnaires were administered to both science teachers and parents of science students and data was collated to answer the research questions and test hypothesis. A 30 items of Teachers Questionnaire and Parents Questionnaire on Impact of Educational Liberalization were validated by experts. A reliability coefficient of 0.79 for Teachers and 0.80 for Parents were obtained using Chronbach's Alpha reliability formula. The data were analysed using descriptive statistics involving simple percentages and Analysis of Variance (ANOVA) statistics. The findings revealed that educational liberalization has positive impact on secondary school students learning of science in secondary schools, on provision of equipment and laboratories and on provision of adequate teachers. Based on the findings of the study, it was recommended that Government should ensure that they set monitoring team that will monitor the activities of both public and private schools to ensure that both categories of school meet the minimum standard of education and Government should ensure adequate funding, infrastructures, equipment and functional laboratories in the existing public schools in order to maintain standards and also enhance the quality of learning and teaching science so that they can compete with their private counterparts.

Keywords: Investigation, Impact, Educational Liberalization, Students, Learning, Teachers, Parents

Introduction

The importance of education to human being and the society at large cannot be overemphasized. Education is one of the current inalienable rights that should be accorded to all human beings. A denial of the right to education is almost a denial of the right of existence of an individual and the condemning of a society to the peril of underdevelopment. Due to the importance of education to an individual and the society at large there are lots of International Human Rights Instruments that is provide for education as a fundamental human right. These include the United Declaration of Human Rights 1948, the International Covenant on Economic, Social and Cultural Rights 1966, the African Charter on Human and People's Rights 1981, and the Child Rights Act 2003. According to Bray (2004), the United Nations Declaration on Human Rights declared its importance first in 1948, then in 1966 stating that 'Primary education shall be free and compulsory and available to all'. After these declarations, Europe and the USA started to act and put pressure on their member states and colonies to initiate and provide compulsory education for their citizens. Furthermore, in the 1990s, The United Nations Educational, Scientific and Cultural Organization (UNESCO) set goals for its members to provide "education for all" (EFA). This act aims for everybody to access basic education especially in science education.

The growth of any nation is a measure of its level of science education. According to Eboh (2012), science is the systematic study of nature and behavior of the material and physical universe based on observation, experiment, measurement and the formulation of laws to describe facts. However, attaining scientific knowledge is not only beneficial to the individual but also the society in which he lives. This is because scientific knowledge tends to provide an attempt to understand the world through observation, analysis, and deduction. It enables integrative reasoning and empirically based evidence. That was why Orukotan (2007) stated that science education has introduced a lot of changes in our world today and it will continue to do so in the future. Achievement in science education will go a long way in reducing illiteracy and poverty, which are impediments to national development (Nwachukwu, 2008).

The National Policy on Education (FRN, 2004) have advocated improvements in the teaching and learning of Science, Technology and Mathematics (STM) in order to lay a solid foundation of technologically oriented manpower in line with the needs of national development efforts. Therefore, learning sciences becomes more important not only for the well-being of the individual, but also for the society as a whole (Odubunmi, 2006). Sciences occupy a special position in the senior secondary school curriculum in Nigeria. In the National Policy on Education (FRN, 2004), each student at senior secondary school irrespective of his/her stream is expected to study at least a science subject (Biology, Chemistry or Physics). National Policy on Education also stipulates that secondary school education should equip students to live effectively in modern age of science and technology (Federal Ministry of Education- FME, 2004). These essential realizations explains why visionary and innovative leaders always strive to evolve strategic ways and practical policies aimed at keeping their nation's on the world's science and technology track.

However, despite its importance and all instruments initiated in order for the provision of basic free and qualitative education to individual, it has become a common experience that there are inequalities in educational access and achievement, increase enrolment rate as well as high levels of absolute deprivation of education in most parts of Nigeria (Paul, 2012). In the past three decades, government funding of education has continue to decrease despite the fact there are new reforms on education by the government. These reforms are premised on the fact that in the 21st century, Nigeria continuously realized the fact that they have to model their educational system to meet up with the population growth, challenges of globalization, occasioned by the need for industrialization and technological development thrown at the doorsteps of every Country in the continent (Paul, 2012).

Despite the vital role played by science in advancing the society and the education policy documented by the government to support it at all levels, standard tests and evaluations revealed that students' performances in sciences is very low and unimpressive. Several factors have been attributed to poor performance of students in science. Saage (2009) identified specific variables such as poor primary school background in science, lack of incentives for test, lack of interest on the part of students, students not interested in hard work, incompetence among teachers in the primary school, large classes, fear of the subject and among others.

According to Adesoji and Olatunbosun (2008), other factors that have causal relationship with students' academic achievement in science include teacher attendance at science workshop, laboratory adequacy, class size and school location. One of the major problems facing science teacher in our schools today is the question of how current are the professional teachers. The majority of science teachers who have been employed in the past years have been doing the same way all long. They have no knowledge of the current ideas and innovations that have taken place in the educational field in the recent past. What account for this is that teachers have not been given the opportunity for re-training (Ogunbiyi, 2004).

There is explosion in students' population in the existing secondary school and the facilities are over stretched. Korau (2006) observed that the school population counts in thousands today against the hundred of the previous years. Schools today are overcrowded in classrooms which make it impossible to talk of an ideal size of a classroom for effective teaching of science. No effective teaching can take place under a chaotic situation where he cannot handle large number of student effectively. Consciously, quantity and quality cannot work together and this can affect the teaching and learning of science. Olaniyan and Adedeji (2001) affirmed that the main source of other problems facing education sector has been traced to the drastic reduction in both the actual and proportion of government's funds allocated to the sector, despite the UNESCO's recommendation of allocation of 26% of a nation's national income to the sector.

This scenario and the universal commitment by governments to ensure universal education for all created the veritable ground for private education to strive. It was in recognition of this that the Nigerian government attempted reforming its educational system by liberalizing the system in 1986 which was part of the Structural Adjustment Programme (SAP). Liberalization policy, then, became a rubber stamp that gave legal backing to the already existing system of private participation in the provision of education. According to Oyejide and Bankole (2001), liberalization connotes the freeing up of restrictive conditions through the introduction of laws and regulations aimed at bringing about a more competitive market structure. Liberalization measures are established to remove many growth-retarding characteristics embedded in the structure of the economy, such as heavy government intervention, restrictive entry and exit conditions in particular industries such as educational sector, and ceiling on input and output price. The overriding objective of liberalization is to create a market structure devoid of government-induced distortions in resource allocation, where the primacy of market forces is firmly established. Liberalization in simple words means allowing autonomy and private sector to run institution (Oyejide & Bankole, 2001).

Educational liberalization is the lessening of government regulations and restrictions in education in exchange for greater participation by private entities. liberalization is often associated with privatization, which is the process of transferring ownership or outsourcing of education or school property from public to private (Wikipedia, 2017).Educational liberalization provided opportunities for private individuals to obtain license to establish and run schools. The conditions for licensing private institutions were relaxed; leading to proliferation of private institutions (schools) (Obamuyi, 2008).

Educational liberalization in Nigeria which paved way for privatization of education has occupied a large place in the educational debate over the past years. For many, it simply means increasing parental choice and involvement in financing of education. This movement has rather negative and threatening connotations: it is associated with increased inequalities in access to education and breaking of social cohesion. For others, educational liberalization is a much positive move to enhance efficiency of resources and quality of education especially in aspect of learning science and technology. The debate is loaded with ideology considerations, and little evidence is produced (Belfield & Levin, 2002). In view of these observations, this study seeks to investigate the impact of educational liberalization on secondary school students learning of science in Suleja Local Government Area of Niger State.

Statement of the Research Problem

Despite the vital role played by science in advancing societies, educational policies documented by government to support it at all levels, standard tests and evaluations revealed that students performance in science are very low and unimpressive (Bichi, 2017). Low access to science education, inadequate funding, large class size, poor teaching skills, inadequate provision of teaching and learning materials, lack of commitment to implementation of

educational policies and programmes, poor remuneration of science teachers among others limits the quality of science teaching and learning (Ogunmade, 2005; Isiramen, 2012). The decay in public secondary schools has negatively affected teaching and learning especially in the area of science. and by extension, performance of students in external examinations. Increased enrolment rates have also created challenges in ensuring quality science education and satisfactory learning achievement as resources are spread thinly across a growing number of students.

However, with an ever-increasing demand for science education, limited public schools, inadequate resources, deficient and low qualified teachers, poor educational environment and limited state capacity in funding science education; private participation in the provision of education becomes inevitable. Consequently, this study seeks to investigate the impacts of educational liberalization on secondary school students learning of Science in Suleja Local Government Area of Niger State.

Research Questions

The following are the research questions raised to guide the study.

(i) What kind of impact does educational liberalization have on learning science in senior secondary schools?

(ii) Does educational liberalization impacted on the provision of science equipments and laboratories in senior secondary schools?

(iii) Does educational liberalization impacted on the adequate provision of science teachers in senior secondary schools?

(iv) Is there any significant difference between the views of science teachers in private schools and parents of science students in public schools on the impact of educational liberalization on secondary school students learning of science in Suleja Local Government Area of Niger State?

Research Hypothesis

The null hypothesis was formulated and tested at 0.05 significant levels:

H_{01}: There is no significant difference between the views of science teachers in private schools and parents of science students in public schools on the impact of educational liberalization on secondary school students learning of science in Suleja Local Government Area of Niger State.

Methodology

Research Design

The research design adopted for the study was a descriptive survey research design. A survey research is one in which a group of people or items are studied by collecting and analyzing data from only a few people or items considered to be representative of the entire group (Nworgu, 2015). The design is considered appropriate by the researcher because it enables the study of a group of people by collecting and analyzing data from the sample.

Sample and Sampling Techniques

The population of the study comprised all the science teachers teaching sciences and all the parents of science students in the public and private senior secondary schools in Suleja Local Government Area of Niger state. The population is made up of 318 science teachers, 1533 senior secondary school class two (SSS II) students who are not part of the population but their parents whose population is 1533 which gives a total population of 1851science teachers and parents. The population was obtained from the forty-five (45) secondary schools within Suleja Local Government Area of Niger state.

The sample size for this study is 317 respondents from the population of 1851 (Krejcie & Morgan, 1970). This comprised of 54 science teachers from the population of 318 and 263 parents of science students from the population of 1533 using stratified proportionate method (Kothari, 2004). While the sample of 40 schools from the population of 45 public and private schools were selected for the study (Krejcie & Morgan, 1970). Also, 32 private schools and eight (8) public schools were selected from the population of 45 schools in the local government area for the administration of the instruments using stratified proportionate method. The sample of science teachers to be selected from the 32 private and 8 public secondary schools are 43 and 11 teachers respectively. While 210 parents from private and 53 parents from public schools were selected through stratified proportionate sampling method (Kothari, 2004). However, simple random sampling was used to select the 317 respondents in both private and public schools for the actual administration of the instruments.

Instrumentation

Two instruments were used for the study. The two instruments were self structured questionnaires by the researcher titled:

(i) Teachers Questionnaire on Impact of Educational Liberalization (TQIEL);
(ii) Parents Questionnaire on Impact of Educational Liberalization (PQIEL).

The instruments were validated by three experts in science education. To determine the reliability of the instruments, pilot study was conducted in schools which were not part of the population sample. Thirty (30) teachers and thirty (30) parents were randomly selected. The questionnaire was distributed and retrieved in single administration by the researcher. The data collected were analyzed using Chrombach Alpha which yields a reliability Coefficient of 0.79 and 0.80 respectively. This shows that the instruments are reliable. TQIEL was administered to the respondents through a face contact alongside with trained research assistant while PQIEL was administered on the parents through their children/wards which were trained on the process of administration

Results

The data will be analyzed using descriptive statistics involving simple percentages to answer the research questions with positive response that has 50% and above as impacted while positive response with less than 50% as less impacted. The null hypothesis was tested using Analysis of Variance (ANOVA) Statistics at 0.05 level of significance using Statistical Package for Social Sciences (SPSS) version 20.0.

Research Question One: What kind of Impact does educational liberalization have on learning science in senior secondary schools?

Table 1: Percentage analysis of science teachers and parents responses on the kind of impact educational liberalization have on learning science in senior secondary schools

S/N	ITEM	Respondents	(Positive Response) SA+A	% positive Responses	Undecided	%U	(Negative Response) D+SD	% Negative responses	Remark
1	Educational liberalization has brought about increase in the enrolment of students in science.	Teachers	36	66.67	3	5.55	15	27.78	Impacted
		Parents	224	85.17	11	4.18	28	10.65	Impacted
2	The establishment/running of the educational system by the private sector has increased the quali ty of science education in senior secondary schools.	Teachers	31	57.41	3	5.55	20	37.04	Impacted
		Parents	232	88.21	6	2.28	25	9.51	Impacted

3	Educational liberalization makes equipment inadequate in the laboratory for effective learning of science.	Teachers	20	37.04	2	3.70	32	59.26	Less Impacted
		Parents	69	26.24	23	8.74	171	65.02	Less Impacted
4	Educational liberalization makes learning of science not expensive.	Teachers	3	5.56	1	1.85	50	92.59	Less Impacted
		Parents	52	19.77	2	0.76	209	79.47	Less Impacted
5	The establishment/running of the educational system by the private sector has not increase the quality of science education in senior secondary schools.	Teachers	14	25.93	7	12.96	33	61.11	Less Impacted
		Parents	104	39.55	10	3.80	149	56.65	Less Impacted
6	Educational liberalization has brought about decrease in the enrolment of students in science.	Teachers	11	20.37	6	11.11	37	68.52	Less Impacted
		Parents	85	32.32	5	1.90	173	65.78	Less Impacted
7	Educational liberalization makes learning of science expensive.	Teachers	42	77.78	3	5.55	9	16.67	Impacted
		Parents	155	58.94	39	14.83	69	26.23	Impacted
8	Educational liberalization leads to the provision of laboratory equipment for effective learning of science.	Teachers	40	74.08	2	3.70	12	22.22	Impacted
		Parents	211	80.23	5	1.90	47	17.87	Impacted
		GRAND Average%	Positive responses	49.71	Undecided	5.52	Negative responses	44.77	IMPACTED

Key: N_1 = Teachers (54) N_2 = Parents (263)

Table 1show the Percentage Analysis of Science Teachers and Parents Positive, Undecided and Negative responses on the kind of Impact Educational Liberalization have on Learning Science in Senior Secondary Schools. The average percentage responses were 49.71%, 5.52% and 44.77% respectively. Therefore the total percentage average responses were 49.71% for positive responses which was higher than 44.77% for negative responses. This means that educational liberalization has impacted positively on learning science in senior secondary schools as responded by the parents and Teacher of science students.

Research Question Two

To what extent does educational liberalization Impacted on the provision of science equipment and laboratories in senior secondary schools?

Table 2: Percentage analysis of science teachers and parents responses on the extent of impact of educational liberalization on the provision of science equipment and laboratories in senior secondary schools

S/N	ITEM	Respondents	(Positive Response) SA +A	% positive Responses	U	%U	(Negative Response) D +SD	% Negative responses	Remark
1	Educational liberalization policy ensures adequate provision of science teaching/learning resources such as textbook, equipment, tools, charts, among others.	Teachers	34	62.96	7	12.96	13	24.08	Impacted
		Parents	235	89.35	8	3.04	20	7.61	Impacted
2	Educational liberalization policy does not ensure conducive environment for learning science.	Teachers	13	24.07	8	14.82	33	61.11	Less Impacted
		Parents	38	14.45	11	4.18	214	81.37	Less Impacted
3	Educational liberalization policy ensures well equipped laboratory for science practical.	Teachers	43	79.63	5	9.26	6	11.11	Impacted
		Parents	186	70.72	21	7.99	56	21.29	Impacted

4	Educational liberalization policy does not encourage the use of modern teaching resources which makes learning science interesting.	Teachers	18	33.33	4	7.41	32	59.26	Less impacted
		Parents	30	11.41	5	1.90	228	86.69	Less impacted
5	Educational liberalization policy does not ensure well equipped laboratory for science practical.	Teachers	8	14.82	6	11.11	40	74.07	Less impacted
		Parents	64	24.34	9	3.42	190	72.24	Less impacted
6	Educational liberalization policy does not ensures adequate provision of science teaching/learning resources such as textbook, equipment, tools, charts, among others.	Teachers	24	44.44	3	5.56	24	50.00	Less impacted
		Parents	50	19.01	4	1.52	209	79.47	Less impacted
7	Educational liberalization policy encourages the use of modern teaching resources which makes learning science interesting.	Teachers	41	75.93	8	14.81	5	9.26	Impacted
		Parents	189	71.86	37	14.07	37	14.07	Impacted
8	Educational liberalization policy ensures conducive environment for learning science.	Teachers	51	94.45	1	1.85	2	3.70	Impacted
		Parents	243	92.40	2	0.76	18	6.84	Impacted
		GRAND Average %	**Positive responses**	**51.45**	**Undecided**	**7.17**	**Negative responses**	**41.38**	**IMPACTED**

Key: N_1 = Teachers (54) N_2 = Parents (263)

Table 2 shows the Percentage Analysis of Science Teachers and Parents Positive, Undecided and Negative responses on the extent of impact of educational liberalization on the provision of science equipment and laboratories in senior secondary schools. The average percentage responses were 51.45%, 7.17% and 41.38% respectively. Therefore the total percentage average responses were 51.45% for positive responses which was higher than 41.38% for negative responses. This means that educational liberalization has impacted positively on the provision of science equipment and laboratories in senior secondary schools as responded by the parents and Teacher of science students.

Research Question Three

Does educational liberalization impacted on the adequate provision of science teachers in senior secondary schools?

Table 3: Percentage analysis of science teachers and parents responses on the impact of educational liberalization has on the adequate provision of science teachers in senior secondary schools

S/N	Item	Respondents	(Positive Response) SA +A	% positive Responses	U	%U	(Negative Response) D + SD	% Negative responses	Remark
1	Educational liberalization increases the provision of science teachers in secondary schools.	Teachers	46	85.18	3	5.56	5	9.26	Impacted
		Parents	209	79.47	12	4.56	42	15.97	Impacted
2	Educational liberaliza tion has resulted in better pay of science teachers.	Teachers	44	81.48	4	7.41	6	11.11	Impacted
		Parents	231	87.83	6	2.28	26	9.89	Impacted
3	Educational liberalization has brought about the employment of qualified science teachers.	Teachers	46	85.19	2	3.70	6	11.11	Impacted
		Parents	237	90.12	10	3.80	16	6.08	Impacted
4	Educational liberalization has worsened the pay of science teachers.	Teachers	19	35.18	31	57.41	4	7.41	Undecided
		Parents	32	12.17	26	9.88	205	77.95	Less Impacted
	Educational liberalization does								Less

5	not allow the employment of qualified science teachers.	Teachers	18	33.33	14	25.93	22	40.74	impacted
		Parents	54	20.53	30	11.41	179	68.06	Less impacted
6	Educational liberalization has made teachers to teach out of their area of specialization.	Teachers	23	42.59	7	12.96	24	44.44	Less impacted
		Parents	24	9.13	10	3.80	229	87.07	Less impacted
7	There is shortage of science teachers due to educational liberalization.	Teachers	23	42.60	2	3.70	29	53.70	Less impacted
		Parents	102	38.78	3	1.14	158	60.08	Less impacted
8	Educational liberalization allows science teachers to teach area of specialization.	Teachers	45	83.33	5	9.26	4	7.41	Impacted
		Parents	205	77.95	13	4.94	45	17.11	Impacted
		GRAND Average%	Positive responses	56.56	Undecided	10.48	Negative responses	32.96	IMPACTED

Key: N_1 = Teachers (54) N_2 = Parents (263)

Table 3 shows the Percentage Analysis of Science Teachers and Parents Positive, Undecided and Negative responses impact of educational liberalization has on adequate provision of science teachers in senior secondary schools. The average percentage responses were 56.56%, 10.48% and 32.96% respectively. Therefore the total percentage average responses were 56.56% for positive responses which was higher than 32.96% for negative responses. This means that educational liberalization has impacted positively on the adequate provision of science teachers in senior secondary schools as responded by the parents and Teacher of science students.

Hypotheses One

There is no significant difference between the views of parents of science students in public schools and science Teachers in private schools on the impact of educational liberalization on secondary school students learning of science in Suleja Local Government area of Niger State?

Table 4: ANOVA result based on view of parent of science students in public schools and science Teachers in private schools on the impact of educational liberalization on secondary school students learning of science in Suleja Local Government area of Niger State

Source of Variation	Sum of Squares	df	Mean Square	F-value	p-value
Between Groups	21581.166	1	21581.166	192.784	0.000
Within Groups	10522.792	94	111.945		
Total	32103.958	95			

Significant at $P < 0.05$

Table 4 presents an ANOVA results based on parent of students in public schools and science Teachers in private schools on the impact of educational liberalization on secondary school students learning science in Suleja Local Government area of Niger State. The table indicates that the F (1, 94) = 192.784, p = 0.000 which was significant at0.05 alpha level. This shows that there was significant difference in the mean responses of parent of science students in public schools and science Teachers in private schools on the impact of educational liberalization on secondary school students learning science in Suleja Local Government area of Niger State. Therefore, hypothesis one was rejected.

Discussion

The Findings in Table 1 revealed that educational liberalization has positively impacted on learning science in senior secondary school with percentage greater than 50%. The discovery is in line with Osokoya (2006) who identified reasons which make privatization of education imperative. These include: Inability of the public schools to satisfy the growing demand for quality education, hence the need for the private sector to expand student access to quality education and the fact that Public education is criticized for inefficiency while the private sector is increasingly promoted for it efficiency in operation. Lubienski (2006) assert that higher educational achievements at private school are mainly attributable to better teaching conditions, such as smaller class sizes, better qualified teaching staff, and higher parental participation. The collection of tuition fees provides parents and students with stronger customer power and implements a service culture that responds to individuals' preferences. Also, UNESCO (2015) asserts that private schools budgets are higher than public schools due to the receipt of tuition fees and further private funding. These higher financial resources may lead to better teaching conditions and consequently to better educational achievements. Belfield and Levin (2002) in their study reported that with more liberalization, school principals could have a greater role in running of the school. Ministries of education may adopt a supervisory rather than a direct managerial role.

The finding of this study in Table 2 implies that educational liberalization policy has impacted positively on the provision equipment and laboratories for effective learning of science in secondary school with positive percentage greater than 50%. The result is in line with the work of Daramola (2010) and Azikwe (2008) who revealed that Nigerian public secondary schools are grossly underfunded which is resulting into infrastructural decay, ill-equipped library, and poor condition of service and welfare of teachers among others. All these are impacting negatively on the standard of education in Nigeria. Hence, the private sectors' involvement in the provision of secondary education in the country would go a long way to ameliorate most of the funding associated problems in the sector. Adeogun (2001) discovered strong positive significant relationship between instructional resources and academic performance. According to him, schools endowed with more materials performed better than schools that are less endowed. This corroborated the study by Babayomi (1999) that private schools performed better than public schools because of the availability and adequacy of teaching and learning material. Olayemi (2012) revealed that the respondents in his study are of the opinion that inadequate funding, lack of periodic monitoring and regular maintenance of infrastructure was responsible for the prevalent infrastructural decay in public secondary schools. Results from the checklist showed that available infrastructures though inadequate lack quality and are not regularly maintained. Ekundayo (2009) revealed that private schools provide materials better than public schools. According to Belfield and Levin (2002) an open market encourages the development of new service and products. A government provider must write new laws and rules when it needs to introduce new or additional services. These laws take time to be approved and be implemented. There is greater opportunity for innovation in an open market provider than under a government monopoly. Private providers may be more innovative, and as such innovation may be important should educational technologies change rapidly.

The findings of this study on Table 3 implies that educational liberalization has impacted positively on adequate provision of science teachers for effective learning of science in secondary school with positive percentage greater than 50%. The result is in line with the work of Afolabi (2005) who asserted that a method of determining the extent of teacher's adequacy is through Student-Teacher ratio (STR) which is the number of students assigned to teacher for teaching. Student-Teacher ratio (STR) is used to determine the number of students that are to be allocated to a teacher in a given educational level. The Student-Teacher ratio (STR) shows a

teacher workload at a particular level of education. It also helps in determining the number of teaching manpower needed for a projected student's enrolment. Thus, it could be used to determine either teachers are over-utilized or under- utilized. Private ownership and management are considered more efficient than government ownership and management (Shleifer &Vishny, 1998). Befield and Levin (2002) asserted that public schools may be constrained either by more rules (example, on staffing), or by general rules applied to all schools within a given region. In contrast, private owners have incentives to closely monitor their companies to make sure that they are meeting their objectives. Also private managers may write complex contracts with incentives for employers to work hard, as well as use different input combinations (example, more teachers fewer administrators) and respond to local circumstances.

Conclusion

Educational liberalization has positively impacted on learning science in senior secondary school, it has also impacted positively on the provision of equipment and laboratories in senior secondary school as schools compete with each other to provide the best in order to get more students enrolled in their school. Educational liberalization has impacted positively on adequate provision of science teachers since school principal in public schools can recruit more science teachers through P.T.A without waiting for government. Educational liberalization increase parental involvement, participation and interest in their children's education.

Recommendations

Base on the findings of the study, the following recommendations were made for further studies:

(i) School administrators and government should improve the quality and welfare of science teachers in secondary schools through regular wages reviews, training-retraining and award of scholarships and research grants to teachers who wish to develop themselves academically. Consequently there should be strong teachers union that oversees teachers' salary and welfare in private schools.

(ii) School administrator and government, Science Association of Nigeria (STAN) should make in-service training available for science teachers at affordable fees so that teachers can update their knowledge regularly.

(iii) Government should ensure that they set monitoring team that is effective that will monitor the activities of both public and private schools to ensure that both categories of schools meet the minimum standard of education.

(iv) Government should ensure adequate funding, infrastructures, equipment and functional laboratories in the existing public schools in order to maintain standards and also enhance the quality of learning and teaching science so that they can compete with their private counterparts.

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