INTERNATIONAL JOURNAL OF CONTEMPORARY ISSUES IN INTEGRATED SCIENCE EDUCATION (IJCIISE)

ISSN: 3043-6397

IJCIISE

IJCIISE, Vol. 1, No. 1, 2025

CALL FOR PAPERS
INTERNATIONAL JOURNAL OF CONTEMPORARY ISSUES IN INTEGRATED SCIENCE EDUCATION (IJCIISE)

NOTE TO CONTRIBUTOR

International Journal of Contemporary Issues in Integrated Science Education (IJCIISE) is an annual publication of Integrated Science Educators' Association of Nigeria (ISEAN). The Journal aims at improving the quality of academic and research manuscripts submitted by scholars and researchers, through peer review process, and disseminate the publications through open access to practitioners, educators, educationists, academia, researchers, curriculum planners and policy makers. The manuscripts can have different approaches which are quantitative as well as qualitative.

IJCIISE is an annual and peer - reviewed Journal.

Manuscript submitted to IJCIISE should:

1. have a strong introduction that clearly states the organizing points of the study, acquaints the readers to what is ahead, and makes a direct link between theory, questions and research design
2. have focused literature review that clearly establishes why the topic/problem warrants discussion
3. be prepared according to the style prescribed by the 6th or 7th edition of publication manual of American Psychological Association.

Guidelines for Paper Submission

* Articles should not be longer than 15 A4 - sized pages using Time New Roman, font size of 12. Longer articles will attract additional publication fee.
* Reference style should conform to the American Psychological Association format (6th or 7th Edition). This should be arranged in alphabetical order according to the surname of the authors.
* Footnotes are not allowed.
* Manuscripts' cover should include the title of the paper, author(s) name(s), institution affiliation, contact and E-mail address (es).
* Abstract should not be more than 250 words.
* Articles can be submitted electronically via e-mail to ijisn.2023@gmail.com
* Publication fee of ₦40,000, is a condition for publication that a manuscript submitted to International Journal of Contemporary Issues in Integrated Science Education (IJCIISE) has not been published and will not be simultaneously submitted or published elsewhere.

All fees must be paid into Integrated Science Educators' Association of Nigeria (ISEAN) Account.

Bank Name: **Polaris Bank**
Account Name: **Integrated Science Educators' Association of Nigeria**
Account Number: **1140280168**

* Submissions are published at the editor's exclusive discretion. Submission that does not conform to these guidelines may not be considered for publication.

EDITORIAL

Dear Readers,

We are excited to announce the launch of International Journal of Contemporary Issues in Integrated Science Education (IJCIISE). This Association Integrated Science Educators' Association of Nigeria (ISEAN) play a vital role in promoting scientific advancement, supporting science education, informing science policy, recognizing science excellence and fostering community engagement. The desire to float this journal was borne out of the passion to organize a yearly conference of Integrated Science by the Integrated Science Educators' Association of Nigeria, of which selected scholarly articles will be published after a thorough review. The journal dedicated to advancing knowledge and fostering dialogue within. Our mission is to publish high-quality research, innovative ideas, and critical analyses that contribute to the understanding and development of Integrated Science. At IJCIISE, we believe in the power of interdisciplinary collaboration and inclusivity. We welcome contributions from scholars, practitioners, and thought leaders worldwide, providing a space for diverse perspectives and groundbreaking work. As we embark on this journey, we invite you to submit your research, engage with our content, and join us in creating a vibrant academic community. Together, we can push the boundaries of knowledge and inspire future generations. Thank you for your support as we launch this exciting new endeavour.

This edition moves around issues that border on **''Enhancing Quality Assurance in Integrated Science in Nigeria.''** It is believed that diverse contributions from scholars and researchers expressed in this edition will provoke the understanding of issues that could foster education for societal transformations on a global scale
We look forward to your contributions!

For further information on future conference activities, visit **http://ijciise.org/index.php/ijciise**

Warm regards,
Professor O. S. Agboola
President, Integrated Science Educators' Association of Nigeria (ISEAN)

TABLE OF CONTENTS

ASSESSMENT OF THE LEVEL OF STAKEHOLDERS INVOLVEMENT IN THE IMPLEMENTATION OF NATIONAL POLICY IN BASIC SCIENCE IN SOUTHWESTERN, NIGERIA

Busayo Veronica OLANIPEKUN, Ph.D.
School of Science Education, College of Education
Bamidele Olumilua University of Education,
Science and Technology,
Ikere – Ekiti, Ekiti State, Nigeria.
E-mail: olanipekun.busayo@bouesti.edu.ng
ORCID NO:0000-0002-2715-2843

Simeon Olayinka OLAJIDE, Ph.D.
Institute of Education, Faculty of Education,
Obafemi Awolowo University, Ile-Ife, Nigeria
E-mail: soolajide@oauife.ed.ng

&

Abiodun Emmanuel OKEYA, Ph.D.
School of Science Education, College of Education
Bamidele Olumilua University of Education,
Science and Technology,
Ikere – Ekiti, Ekiti State, Nigeria.
E-mail: okeya.abiodun@bouesti.edu.ng
ORCID NO:0000-0001-5446-0625

Abstract

The study examined the level of stakeholders involvement in the implementation of the National Policy in Basic Science in the Southwestern Nigeria. The study adopted descriptive survey research design. The population of the study comprised all principals, teachers, parents and state ministry of education officials in southwestern Nigeria. The sample of the study comprised 81 principals, 162 Basic Science teachers, 162 parents of Basic Science students and 30 State Ministry of Education officials. Multistage sampling procedure was used to select the sample. Two instruments were used to generate data for the study. Face and content validity of the instruments were ensured by two experts of Basic Science. While the reliability of the instruments were determined through Cronbach's alpha and split half reliability. Reliability coefficient of the instruments yielded 0.73 and 0.632 for SQGIIBSC and QTINPBS respectively. The data collected for this study were analyzed using descriptive statistics of frequency, percentage and mean. The results of the study showed that stakeholders' differential opinion at the level of government s' involvement with parents are moderate at 50.6%, teacher are moderate at 52.5%, *principal are also moderate at 50.6% and ministry of education officials are high at 50.0%. It was recommended among others that governments should show more interest in Basic Science by providing needed quality human and materials resources for high effective implementation of National Policy in Basic Science*.

Keywords: Basic Science, Implementation, National Policy, Stakeholders Involvement

Introduction

Basic Science is the main foundation on which all other sciences such as Chemistry, Physics and Biology are built. It applies to almost every human activity as every science profession possesses some elements of Basic Science. Basic science follows a variety of approaches that lead to new advances in science. Many of the most important discoveries of the past that have immense applied valued today are the offshoot of Basic Science.

The importance of Basic Science cannot be overemphasized. In cognizance with the importance of science and technology, science subjects such as Basic Science are taught in Upper Basic schools and junior secondary schools in Nigeria to prepare a base for any science and technological development. This statement buttressed Ekundayo (2012) ascertained that Basic Science enables students to understand science concepts, principles, theories and laws which are further elaborated in the core sciences. Ogunjobi (2016) affirms that children should be exposed to the rudiments of science and technology education. Basic Science and Technology prepares students at the upper basic level for the study of core science subjects (Biology, Chemistry and Physics) at the senior secondary school level (Chukwuneke & Chikwenze, 2012). By implication, this will be of great importance to man by getting swindled into obscurity and extinction while he still lives on earth. It serves as the bedrock which provides the required training in scientific skills to meet the growing needs of the society. It is the fundamental knowledge acquired through basic science at the upper basic level that leads to the transformation of the world through dramatic advances in almost all fields including medicine, engineering, electronics and aeronautics among others. The importance of basic science curriculum is enormous.

Assessment is the systematic process of gathering relevant information so that legal and instructional decisions are arrived at. It can also be the process of collecting evidence or information of a learner's progress and achievement. Assessment was described as a way of assigning marks, selecting individuals for the quality of instructional materials, assessing the effectiveness of various approaches to instruction and many other kinds of activities. This implies that assessment can be as- simple as- a teacher's subjective judgment based on a single observation of pupil's performance, or as complex as a five-hour standardized test. It also refers to the wide variety of methods or tools that educators use to evaluate, measure, and document the academic readiness, learning progress, skill acquisition, or educational needs of students. While assessments are often equated with traditional tests especially the standardized tests developed by testing companies and administered to large populations of students educators use a diverse array of assessment tools and methods to measure everything. The researchers observed that, it is also used to identify individual student weaknesses and strengths so that educators can provide specialized academic support, educational programming, or social services.In addition, assessments are developed by a wide array of groups and individuals, including teachers, district administrators, universities, private companies, state departments of education, and groups that include a combination of these individuals and institutions.

A stakeholder in education is anyone who has interest in the success of a school or school system. This includes the government officials, school board members, administrators and teachers. Parents and student are also stakeholders. A stakeholder refers to a person who has an interest or concern in the education at hand. A stakeholder has a vested interest in the success and welfare of a school or education system. This includes all parties that are directly affected by the success or failure of an education system, as well as those indirectly affected.

Every student has the right to the best possible start in life and that Basic Science(10 to 13 years) represents the most critical phase in the development cycle of human beings. Basic Science teaching is recognised as the ideal phase for the passing on of values that are important for the building of a peaceful, prosperous and democratic society. Support is provided by immunizing the learners to prevent diseases, monitor cleanliness around the centres by deploying inspectors to check the surroundings once a month, and even providing food for them considering the fact that some are from disadvantaged backgrounds.

Since the commencement of the implementation of the National Policy on Basic Science in Nigeria which seeks to ensure an optimal and qualitative Basic Science, a stream of concerns has been raised by stakeholders in respect to the quality of Basic Science and its actual implementation. Despite all measures put in place by the Ministry of Education in Nigeria, there are still some lapses in the implementation. There is no doubt that the implementation of Basic Science requires the collaborative effort/input of all stakeholders, including the government, parents/guardians and school authorities. While the government is expected to provide the necessary teaching and learning resources, the availability of relevant students and the cooperation of parents/guardians in enrolling their children/wards cannot be over emphasised. Nigeria has many educational policy documents relating to Basic Science which include the National Policy on Basic Science. In view of the above, the study assessed the level of Stakeholders involvement in the implementation of National Policy in Basic Science in Southwestern, Nigeria. Specifically, the study:

i. examines stakeholders' assessment of governments' involvement in the implementation of the National Policy (2014) in Basic Science in the Southwestern Nigeria;

ii. investigates stakeholders' differential opinion on level of government's involvement in the implementation of National Policy in Education (2014) in Basic Science in Southwestern Nigeria;

Research Questions

The following questions were asked to guide this study

i. What are the stakeholders' assessment of governments' involvement in the implementation of the National Policy on Basic Science in Southwestern Nigeria?

ii. What are stakeholder's differential opinion on level of government involvement in the implementation of National Policy in Basic Science in Southwestern Nigeria?

Methodology

The study adopted descriptive research design of survey type. The population of the study comprised all public junior secondary school principals, all Basic Science teachers, all Parents of Basic Science students and State Ministry of Education officials in Southwestern Nigeria. The sample of the study comprised 81 principals, 162 Basic Science teachers, 162 parents of Basic Science students and 30 State Ministry of Education officials selected through multistage sampling procedure. Simple random sampling techniques was used in selecting three states out of the six states in the Southwestern geopolitical zone of Nigeria, and three senatorial districts from each state selected. Also, three Local Government Area were selected from each of the senatorial districts using simple random sampling techniques. Simple random sampling techniques was used in selecting three schools from each Local Government Area selected. From each of the schools selected, two parents were selected using accidental sampling techniques, while one principal, two teachers and ten State Ministry of Education officials were selected using purposive sampling techniques. Two instruments were used to generate data for the study were Stakeholders' Questionnaire on Governments' Involvement in the Implementation of Basic Science Curriculum (SQGIIBSC) and Questionnaire on Implementation Process of Government's Involvement in Basic Science (QIPGIBS). Face and content validity of the instruments were ensured by two experts of Basic Science. While the reliability of the instruments were determined through Cronbach's alpha and split half reliability. Reliability coefficient of the instrument yielded 0.73 and 0.632 for SQGIIBSC and QTINPBS respectively. The data collected for this study were analyzed using descriptive statistics of frequency, percentage and mean.

Results

Research Question One: What is the stakeholders' assessment of the level of governments' involvement in the implementation of the National Policy in Basic Science in Southwestern Nigeria?

Table 1: Descriptive analysis of the stakeholders' assessment of government's involvement in the implementation of the National Policy in Basic Science in Southwestern Nigeria

S/N	Items	Involvement I f(%)	NI f(%)	Mean
1	Regulation of the establishment and registration of school facilities	218(50.1)	217(49.9)	2.31
2	Ensuring compliance of the Teaching Science Commission (TESCOM) Act for the establishment of Basic Science	221(50.8)	214(49.2)	2.40
3	Ensure compliance with and innovations to minimum standard prescriptions as related to Basic Science curriculum development programmes	225(51.7)	210(48.3)	2.47
4	Developing and implementing Basic Science capacity building programmes for the subject and teachers	218(50.1)	217(49.9)	2.25
5	Developing and implementing educational support services to orphans and vulnerable pupils	220(50.6)	215(49.4)	2.27
6	Provision and distribution of policy guidelines for the establishment and management of elementary institutions	218(50.1)	217(49.9)	2.25
7	Production and development of appropriate national curriculum and textbooks in Nigerian languages	190(43.2)	245(56.3)	1.85
8	Approval of relevant supplementary reading materials and teachers/ instructional manual	232(53.3)	203(46.7)	2.37
9	Provision and approval of appropriate certification of work done and training received	240(55.2)	195(44.8)	2.49
10	Ensuring full participation of government, communities and teacher associations in the running and maintenance of Basic Science facilities	225(51.7)	210(48.3)	2.47

S/N	Items	Involvement		Mean
		I f(%)	NI f(%)	
1	Regulation of the establishment and registration of school facilities	218(50.1)	217(49.9)	2.31
11	Ensuring compliance with the stipulated medium of instruction at various Basic Science across the state	240(55.2)	195(44.8)	2.49
12	Development of orthography of many more Nigerian languages	225(51.7)	210(48.3)	2.47
13	Ensuring strict compliance with play as the main method of teaching	245(56.3)	190(43.2)	2.52
14	Development of mechanisms for public-private partnerships	200(46.0)	235(54.0)	1.90

N = 435

Results in Table 1 shows the descriptive analysis of the stakeholders' assessment of the level of government's involvement in the implementation of the National Policy in Basic Science in Southwestern Nigeria. Considering mean values, it can be deduced from the Table that the regulation of the establishment and registration of school facilities ($\bar{x}$=2.31), ensuring compliance of the Teaching Science Commission (TESCOM) Act for the establishment of Basic Science ($\bar{x}$=2.40), ensure compliance with and innovations to minimum standard prescriptions as related to Basic Science curriculum development programmes ($\bar{x}$=2.47), developing and implementing Basic Science capacity building programmes for the subject and teachers ($\bar{x}$=2.25), developing and implementing educational support services to orphans and vulnerable pupils ($\bar{x}$=2.27), provision and distribution of policy guidelines for the establishment and management of elementary institutions ($\bar{x}$=2.25), production and development of appropriate national curriculum and textbooks in Nigerian languages ($\bar{x}$=1.85), approval of relevant supplementary reading materials and teachers/instructional manual ($\bar{x}$=2.37), provision and approval of appropriate certification of work done and training received ($\bar{x}$=2.49), ensuring full participation of government, communities and teacher associations in the running and maintenance of Basic Science facilities ($\bar{x}$=2.47), ensuring compliance with the stipulated medium of instruction at various Basic Science across the state ($\bar{x}$=2.49), development of orthography of many more Nigerian languages ($\bar{x}$=2.47), ensuring strict compliance with play as the main method of teaching ($\bar{x}$=2.52) and development of mechanisms for public-private partnerships ($\bar{x}$=1.90) has the average mean of ($\bar{x}$=2.93) in the study area. However, the summary of the stakeholders' assessment of the level of government's involvement in the implementation of the National Policy in Basic Science in Southwestern Nigeria is presented Table 2.

Table2: Descriptive analysis of the level of stakeholders' assessment of government's involvement in the implementation of the National Policy in Basic Science in Southwestern Nigeria

S/N	Level of government's involvement	Frequency (F)	Percentage(%)
1.	Low	101	23.8
2.	Moderate	225	51.7
3.	High	109	25.0
	Total	435	100.0

N = 435

Results in Table 2 shows the descriptive analysis of the stakeholders' assessment of the level of government's involvement in the implementation of the National Policy in Basic Science in Southwestern Nigeria. It can be observed from the Table that the level of stakeholders' assessment of government's involvement in the implementation of the National Policy in Basic Science is moderate at 51.7% in Southwestern Nigeria.

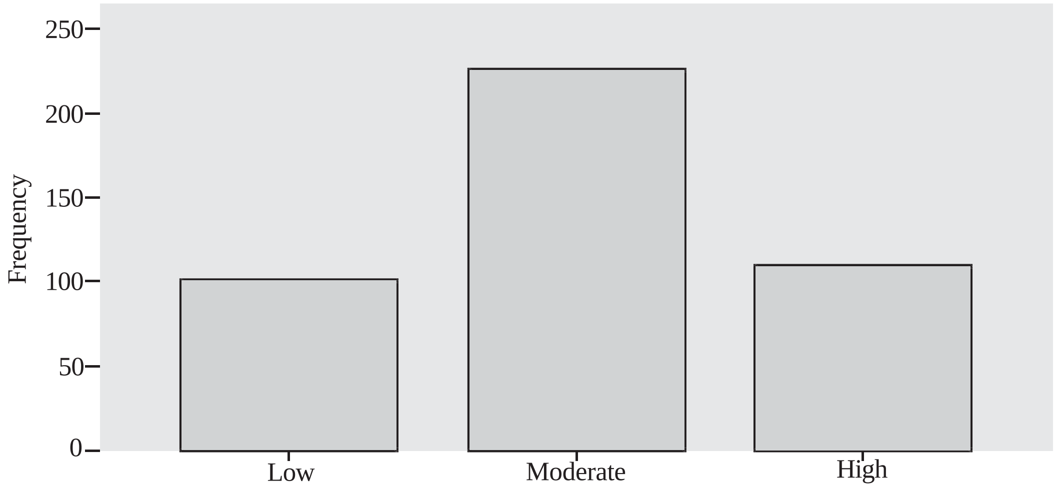

Figure 1: Bar chart showing the stakeholders' assessment of the level of government's involvement in the implementation of the National Policy in Basic Science in Southwestern Nigeria

The result in figure 1 shows that stakeholders' assessment of the level of government's involvement in the implementation of the National Policy in Basic Science in Southwestern Nigeria. It can be observed from the figure that the level of stakeholders' assessment of government's involvement in the implementation of the National Policy in Basic Science is low at 100, moderate at230 and high at 110 in Southwestern Nigeria.

Research Question Two: What are the stakeholders' differential opinion on the level of government's involvement in the implementation of National Policy in Basic Science in Southwestern Nigeria?

Table 3:Descriptive analysis of the stakeholders' differential opinion on the level of government's involvement in the implementation of National Policy in Basic Science in Southwestern Nigeria

S/N	Level of government's involvement	Frequency (F)	Percentage(%)
Parents			
1.	Low	45	27.8
2.	Moderate	82	50.6
3.	High	35	21.6
	Total	162	100.0
Teachers			
1.	Low	48	29.6
2.	Moderate	85	52.5
3.	High	29	17.9
	Total	162	100.0
Principals			
1.	Low	25	30.9
2.	Moderate	41	50.6
3.	High	15	18.5
	Total	81	100.0
Ministry of education officials			
1.	Low	5	16.7
2.	Moderate	10	33.3
3.	High	15	50.0
	Total	30	100.0

Parents, N = 162; Teachers, N = 162; Principals, N = 81; Officials, N = 30

Results in Table 3 shows the descriptive analysis of the stakeholders' differential opinion on the level of government's involvement in the implementation of National Policy in Basic Science in Southwestern Nigeria. Data collected were analysed using frequency and percentage. Considering Parents, 27.8%, 50.6% and 21.6% of them were of the opinion that the levels of governments' involvement in the implementation of National Policy in Basic Science are low, moderate and high respectively in Southwestern Nigeria. Considering teachers, 29.6%, 52.5% and 17.9% of them were of the opinion that the levels of government's involvement in the implementation of National Policy in Basic Science are low, moderate and high respectively in Southwestern Nigeria.

Considering principals, 30.9%, 50.6% and 18.5% of them were of the opinion that the levels of governments' involvement in the implementation of National Policy in Basic Science are low, moderate and high respectively in Southwestern Nigeria. Considering ministry of education officials, 16.7%, 33.3% and 50.0% of the officials were of the opinion that the levels of government's involvement in the implementation of National Policy in Basic Science are low, moderate and high respectively in Southwestern Nigeria. However, parents, teachers and principals were of the opinion that the level of government's involvement in the implementation of National Policy in Basic Science was moderate at a50.6%, 52.5% and 50.6% respectively in Southwestern Nigeria but on the contrary the ministry of education officials were of the opinion that the level of government's involvement in the implementation of National Policy in Basic Science was high as 50.0% of them underline this in the study area.

Discussion of Findings

The results showed that the stakeholder assessment of government's involvement in the implementation processes of the National Policy on Basic Science in South Western Nigeria was moderate. The findings add credence to Okoroma (2006) who lamented that a gap often exists between formation of policy and its implementation. The findings is not in line with Ado, Akinbobola and Inyang (2010) who carried out a study on the status of human resources and implications for the implementation of upper basic of the Universal Basic Education (UBE) Programme in Southwestern Nigeria. The results of the study showed that there are qualified human resources for the implementation of upper basic of the UBE programme in Southwestern Nigeria but they are inadequate in all the three basic subjects like English Language, Mathematics and Basic Science. Furthermore, the findings contradicts Chukwuneke, and Chikwenze (2012) in an evaluation of State Universal Basic Education Board (SUBEB) libraries in selected states in south-west Nigeria. The study found out that there was no adequate library material capable of actualizing the implementation of Basic Science programme in National Policy on Education.

Additionally, the finding corroborated with Eya and Elechi (2011) as they reported that most equipment necessary for meaningful practical work on basic science are not available and where they are available, most basic science teachers do not know how to use them. It is therefore of great importance that library services should be provided for the UBE programme to enable the children to have access to learning materials and information that facilitates their learning process (Ogundele, Okunlola, Damilola, & Godfrey, 2020).Despite efforts by the Nigerian government in the pursuance of development in science and technology, the result has been both unsatisfactory and discouraging (Adedayo, 2015).

Furthermore, the findings on stakeholders' differential opinion on level of government's involvement in the implementation of National Policy on Education in

Basic Science in Southwestern Nigeria, showed that parents were of the opinion that the levels of government's involvement in the implementation of national policy in Basic Science are moderate; teachers were of the opinion that the levels of governments' involvement in the implementation of National Policy in Basic Science are moderate in Southwestern Nigeria. Principals were of the opinion that the levels of governments' involvement in the implementation of National Policy in Basic Science are moderate in Southwestern Nigeria. Ministry of education officials were of the opinion that the levels of government's involvement in the implementation of National Policy in Basic Science are high in Southwestern Nigeria.

However, parents, teachers and principals were of the opinion that the level of government's involvement in the implementation of National Policy in Basic Science was moderate but on the contrary to the ministry of education officials were of the opinion that the level of government's involvement in the implementation of National Policy in Basic Science was high in the study area. The findings supported Odia and Omofonmwan (2007) that, the state of education in Nigeria presents different pictures for different people as seen by different stakeholder.

This findings affirmed Ndifon, Edu, Olofu, and Adie (2021) as they stated that stakeholders as the government, school administrators, teachers, professional bodies or organizations and parents as key actors in the implementation of the curriculum for the possible achievement of educational goals. The responsibilities of these stakeholders are in the areas of staffing, funding, monitoring, supervision, improvisation, motivation and outstanding support for the teachers and students towards quality assurance. Hence, Munirul (2015), suggested that to attain a high-quality education system, perceptions of both internal and external stakeholders are of paramount importance. In addition, the teacher interprets and implements the policy as represented in the school curriculum which is designed to actualize educational goals (Omojuwa, 2007). According to Mkpa (2009), a teacher is a professional who consciously and deliberately uses his/her wealth of experience, training, skills, competences, attitudes, interest, knowledge of context with the help of instructional materials, methods and techniques to impact to a less experience person. The teacher is therefore dealing with the learners to foster the effective implementation of the Curriculum. The findings was supported by Momeke (2007) who reported that science education and education in sciences have not been satisfactory in producing skilled human resources needed to transform Nigeria's prosperity. Furthermore, empirical study such as ThangedaBaratiseng and Mompaty (2016) that teachers are fundamental in ensuring quality education, and to ensure effective teaching toward providing a quality education, the necessary facilities must be provided.

Conclusion

Based on the findings of the research, it was observed that stakeholder' assessment of government's involvement in the implementation of the National Policy in Basic Science were moderate, also stakeholder differential opinion on level of government's involvement in the implementation of National Policy on Basic Science are also moderate level, and the challenges of implementation of National Policy on Basic Science has poor relationship between policy designer and policy implementer which has the highest mean of 3.21 out of ten items in the challenge and the average mean is 2.93.

Recommendations

Governments should show more interest in Basic Science by providing needed quality human and materials resources for high effective implementation of National Policy in Basic Science.

Governments should create more time and facilities needed to improve Basic Science laboratories, facilities and ensured that the National Policy on Education are well implemented in Basic Science , this could be done through grants or any other form of assistance to various schools so that all the stakeholders' will be highly involved in the implementation.

Government should focus on stakeholder differential opinions at high level in the implementation of National Policy in Basic Science.

References

Adedayo, J. O. (2015). Analysis of factors influencing students' attitudes towards practical aspect of secondary school physics in Ekiti state. *International Journal of Multidisciplinary Research and Development*, *2*(7), 417-421.

Chukwuneke, B. U., & Chikwenze, A. R. (2012). The extent of implementation of universal basic Education (UBE) programme in Nigeria: Focus on Basic Science curriculum. *Journal of Research and Development*, *4*(1), 116-126.

Ekundayo, M. B. (2012). *Teaching Science in Africa*. Salem: Mede Nigeria Limited.

Eya, N. M., & Elechi, C. N. (2011). Availability of Basic Science laboratory facilities in junior secondary schools: A panacea for Reform in STEM Education. STAN Conference Proceedings

Federal Republic of Nigeria (2013).

Mkpa, M. A. (2009). *Curriculum development and implementation.* Owerri: Totam Publisher Ltd.

Momeke, C. O. (2007). *Effects of the learning cycle and expository instructional approaches on students' learning outcome in secondary Biology*. Unpublished Ph.D. thesis, University of Benin, Benin City.

Mulenwa C. T. (2016). The Challenge of providing quality school science in Africa. In M .A. G. Akale (Ed.), 43rd Annual Conference. *Proceedings of Stan on Science*, *Technology and Mathematics Education for Sustainable Development in Africa*. Ibadan: Heinemannpp22-29.

Munirul, A. (2015). Higher education quality: Perception differences among internal and external stakeholders. *International Education Studies*, *8*(*12*), 185-192.

Ndifon, R. A., Edu, G. O., Olofu, M. A. & Adie, J. A. (2021). The role of stakeholders in the implementation of school curriculum in Nigeria. *European Journal of Social Sciences*, 62 (*2*), 20-31.

Odia, R. T. &Omonmwa, E. O. (2007). Feedback on NERDC national science curricula. *NERDCV Newsletter* 5(2)

Ogundele, M. O., Okunlola, O. R., Damilola, J. C. & Godfrey, S. (2020). Implementation of Ogunjobi, M. (2016). Comparison of the effectiveness of three instructional methods: Advance organizer, discover and invention or exhibition of acceptable laboratory behaviour. *Journal of Vocational Science and Education Development,* 6(18), 36 – 44.

Okoroma, S. E. (2006). A survey of science teachers' awareness of new basic education. *International* Journal of Social Science and Education, 4(2), 339- 345.

Omojuwa, J. (2007). *Teacher education in the 21st century: Making a difference through a commitment to effective teacher preparation programmes*. In E. N. Etuk, I. M. Udofot and A. E. Udosen (Eds.). Education in Nigeria in the 21st century: Focus and imperatives Uyo: Abeam Publishers Co. pp. 21-38.