REPOSITIONING SCIENCE CURRICULUM FOR YOUTHS EMPOWERMENT AND NATIONAL DEVELOPMENT

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Abstract

The study focused on the repositioning of science curriculum for youths empowerment and national development, the study adopted a descriptive survey research design. One research question guided the study and a hypothetical statement was raised, the population of the study consists of 180 students; simple random sampling technique was used to select 15 students for the study. Questionnaire was the instrument for data collection; the data was analyzed using chi-square ($\chi^2$). The finding signifies that when science education curriculum is reposition, updated and well implemented, it will create chance for renovation that will lead to youth empowerment in the state, and all round national development. Based on findings, recommendations were made, thus awareness, motivation and improve the image of science education careers.

Keywords: Repositioning, Science, Curriculum, Youth, Empowerment and National Development
Science education is considered the key to effective development strategies, technology education must be the master key that can alleviate poverty, empower the youth, improve the quality of life for all and help attain sustainable development. Without proper and adequate science education, economic and social wellbeing of the citizen suffers. High unemployment has been leading to increasing poverty and social problems in Nigeria. It is in record that less than 1% of secondary education was oriented towards technical and vocational skills youth remain the catalysts for sustainable national development (UNESCO, 2012). With the level of unemployment in the country today, the government cannot afford to leave the youth without empowering them in one way or the other. Such empowerment will imbibe in them a sense of belonging and inspire them towards engaging in skills or business that will showcase their talents.

Igwe (2008) stated that in a rapid developing and changing world of technology, the quest for technological advancement in present world of work cannot be overemphasized. Every nation therefore, seeks a new conception model of technology education to sustain her economy through youth empowerment. No nation can rise beyond her productive capacity which is a function of the quality and quantity of her workforce. Furthermore, repositioning of science curriculum will safeguard them against engaging in illegal business such as armed robbery, hired assassination, kidnapping, political thuggery, and militancy activities, among others.

Science education help to prepare young Nigerians to live productive and peaceful lives while contributing to the economic growth of their country. Also, explores strategies for youth empowerment, technology education and national development.

The roles of science and technology in national development cannot be overemphasized. Any nation which fails to pay attention to science and technology education has planned to be left behind in all spheres of development. Okeke (2007) admitted that rapid and sustainable development of a country can only be achieved through scientific research, rational application of science and technology knowledge and skills. According to Obioma (2014), science and technology are tools for economic, social, and political development of a nation. Worthy of note also is that in all aspects of human endeavour such as health, agriculture, food, security, communication, economy, transportation, science and technology are applicable. Presently, countries in the world are categorized as: developed, developing, and less/under developed. The difference between the developed, developing, and
underdeveloped countries however rests on the ability of the developed countries to convert scientific ideas to usable technology while the developing and underdeveloped countries are yet to do so effectively (Uwaifo, 2010). Presently, Nigeria remains a developing country with low economic, social, political, cultural, and technological indicators (UNESCO, 2017). In recognition of the impact of science and technology development to the overall national development, federal government of Nigeria has been supporting it through policies, actions and programmes.

**Statement of Problem**

Much has been said about the decline in the standard of living among youth in Nigerian, leading to incessant disobedience, dishonest, social vices, sexual permissiveness and other signs of decadence due to joblessness. This might be attributed to lack of interest in the teaching of moral and social values in our public schools. Thus, in consideration of the roles school could play in development of the youths, this study sought to find out the extent in which the repositioning of the school curriculum especially in science can help in youth empowerment and national development in Akwa Ibom State.

**Research Questions**

The research question guided the study:

1. In what way could the repositioning of science curriculum help in youth empowerment and national development?

**Hypothesis**

1. The repositioning of science curriculum does not significantly influence youth empowerment and national development.

**Review of Literature**

**The Curriculum, Science and Technology Education:**

Education at all levels and in all its forms constitutes a vital tool for addressing virtually all global problems. It is the only force that can be used to bring about changes. Eduok (2014) posits that the essence of education is the harmonious development of the individual’s physical, mental, spiritual and social powers, so that he or she is equipped to offer useful service to God and humanity.

The curriculum is the grand plan of national development. Just as the strength and durability of every building is primarily determined by the building plan, the quality and robustness of the curriculum determine the
Science education is a kind of education that aims at producing scientifically literate citizens and potentially scientific and technology manpower while technology education leads to the acquisition of practical and applied skills, as well as the basic scientific knowledge (Nnabuo & Asodike, 2013).

In Section 39 of National Policy on Education (NPE, 2013, p.29), it is stated that the curriculum of science education shall encompass the teaching and learning of science process and principles which will lead to fundamental and applied research in sciences at all levels of education in Nigeria. Its goals shall be to:
- Cultivate inquiry, knowing and rational mind for the conduct of a good life and democracy;
- Produce scientists for national development;
- Service studies in technology and the cause of technological development; and
- Provide knowledge and understanding of the complexity of the physical world, the forms and the conduct of life.

As also indicated in Section 40, technical and vocational education shall:
- Provide trained manpower in the applied sciences, technology and business particularly in craft, advanced craft and technical levels;
- Provide the technical knowledge and vocational skills necessary for agricultural, commercial and economic development; and
- Give training and impact the necessary skills to individual who shall be self-reliant economically.

The Concept of Youth Development and Empowerment

Youth empowerment is an attitudinal, structural and cultural process whereby people make decisions and implement change in their own lives and the lives of others including youth and adults (Okoli & Onwuachu, 2009). Youths are between 17 to 30 years in developing country such as Nigeria. These youths may or may not be educated and lack relevant training for occupations and other constraints. Many of these youths lack money and materials to sustain themselves and often compel them to adopt criminal strategies to get necessary needs for existence (Nwakile, Nwakile, Allen, & Osinem, 2020)

Repositioning science curriculum became expedient because a large number of youths graduating from the technical institutions go jobless over a
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prolonged period of time, while the labour market complain of lack of skilled workers with the required competence to fit into the available job opportunities. According to Federal Ministry of Education, FME (2013), there is a mismatch between the curriculum taught at the institution of learning and the needs of the labour market. Majority of the students learn through lectures and academic textbooks and are academically sound in terms of their cognitive domain but they have limited opportunities of acquiring practical experience by using machinery, equipment and practical techniques associated with their professions. The more reason the Industrial Training Fund (2019) in Students Industrial Work Experience Scheme (SIWES) mandates students in some field of study to undergo compulsory programme while in school by providing students with an opportunity to apply their knowledge in real work situation thereby bridging the gap between theory and practice.

In restructuring the school curriculum, some factors need to be taken into consideration; there is need to improve the quality of education to meet up the global changes in the society through:

- Modernize technical school's facilities.
- Expansion of high quality on-line courses with emphasis on technical retraining in order to smooth the transition of employees from one manufacturing industry to another.
- Promote in house manufacturing workers training and broaden opportunities for career advancement.

Ways of Repositioning the School Curriculum

The curriculum is an educational programme of experiences offered to the learners under the guidance of the school in order to bring about changes in the behavior of the learners. Uloma, Nkok and Eduok (2020) opined that the curriculum is a collection of coordinated activities that are mutually directed towards the attainment of a definite goal and it usually comprises of several segments or projects which can be separately pursued as component of the curriculum. According to Eduok and Udosen (2016), the curriculum is the sum of all the learning experiences provided by the school (within and without), to enable the society attain its goals. It could then be true that the establishment of educational institutions was aimed at meeting the global requirements of producing manpower that will serve in different capacities and contribute positively to the nation socio-economical and political development in Nigeria.

In pursuance of the goals of science and technology education curriculum as stipulated in Section 39 of National Policy on Education (NPE, 2013, p.29), special provisions and incentives shall be made for the study of
sciences at each level of the nation’s education system and for this purpose, the functions of all agencies involved in the promotion of the study of sciences shall be adequately supported by government, and also popularize the study of sciences and production for adequate number of scientists to inspire and support national development. While in technical education, the main features of the curricular activities for technical colleges shall be structured in foundation and trade modules; for effective participation of students in practical work, the teacher-student ratio shall be 1:20. Trainees completing technical college programmes shall secure employment either at the end of the whole course or after completing one or more modules of employable skill; set up their own business and become self-employed and be able to employ others, pursue further education in craft/technical programme and in post-secondary (tertiary) institutions such as science and technical colleges, polytechnics or colleges of education and universities.  

According to Matthew (2013), below are some guidelines and ways of repositioning the school curriculum for effective youth empowerment that would enhanced national development.  

**Adequate Funding:** For effective implementation of science and technology curriculum, there should be proper funding of education to meet the 26% of GDP standard set by UNESCO. Adequate funding of education would guarantee increased funding of science and technology education on which it depends. Private sector should assist government in the funding of education, particularly through the provision of facilities and donation of money, libraries, laboratories, and workshop for educational institutions.  

**Recruitment and Training of Teachers:** In view of the role of teachers in proper implementation of science and technology curriculum, more qualified academic staff in different areas of specialization especially in science and technology should be recruited in all secondary schools and tertiary intuitions. Ivowi (2008) observed a decline in staff recruitment right from basic education to tertiary education level. Also added that there are shortages of trained and competence teachers, the available ones are not properly provided with textbooks, conducive classrooms and laboratory equipments. Science and technology teachers should show high level of commitment in their teaching profession. Effort should be made to train and retrain teachers through in-service programme, conferences, seminars, etc, to meet the current global issues governing education.  

**Motivation of Science and Technology Teachers:** Government should encourage and motivates teachers through improved conditions of service for enhanced performance. At the primary and secondary level, government
should give special allowance to science and technology teachers as this will go a long way to motivate them thus increasing their level of commitment in the teaching profession.

**Admission by Merit:** In view of the negative effect of the implementation of this policy, particularly on the quality of graduates, Government should make it a standing policy that only those that are qualified should be admitted to tertiary institutions by merit, considering the students interest, ability and level of aspiration. This will help to reduce the students population for proper teacher/students ratio. Also, the problem of extra large class with over crowded students (Jack, 2013) which has been pertinent and persisting in the Nigerian school system would be minimize for a proper teacher-students ratio in line with the National Policy on Education (NPE, 2013, p.15) which stipulates 1:40 at secondary and tertiary education level.

**Construction and Furnishing of Laboratories and Workshops in Schools:** In view of the importance of laboratory in science and technology teaching, government should equip the existing laboratories and workshops, construct more and employ qualified laboratory assistants who would have full knowledge of laboratory work. This would help to reduce the work load on the part of the teachers and improve their efficiency.

**Regular Curriculum Review:** Although Government has not relented in its effort to produce better curriculum for educational system in Nigeria, it is imperative to emphasis on the need for government to pay more attention to both secondary and tertiary education curriculum especially the aspects that concerns science and technology. Global issues, interest and aspiration of the learners should be considered while reviewing the curriculum at all levels to avoid curriculum overload.

**Curbing Student Unrest, Strikes and Cultism:** It is not a gainsaying that strikes, student unrest and cultism have over the years been causing delay in the graduation of students as well as reducing the period of training of students in tertiary institutions owing to the usual compression of academic calendar, it is thus imperative for Government to continue to dialogue with students on the need to shun the involvement in these acts which has led to the underdevelopment of the youth.

**Methodology**

Descriptive survey design was adopted for the study. The population of the study consists of 180 students; simple random sampling technique was used to select 20 students for the study. Questionnaire was the instrument for data collection and face validation was carried out by some experts in
educational measurement and evaluation. The instruments were distributed to all the selected instructors in the sampled schools. The data was analyzed using chi-square ($\chi^2$).

**Answering Research Question**

**Research Question 1:** Repositioning of science curriculum does not significantly influence youth empowerment and national development.

**Table 1: Chi-square ($\chi^2$) analysis showing the influence of science curriculum on youth empowerment.**

<table>
<thead>
<tr>
<th>S/N</th>
<th>Statements</th>
<th>SA</th>
<th>A</th>
<th>D</th>
<th>SD</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Repositioning of science curriculum is one vital role that brings in development in the nation.</td>
<td>5</td>
<td>5</td>
<td>3</td>
<td>2</td>
<td>15</td>
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<td></td>
<td></td>
<td>(33.3)</td>
<td>(33.4)</td>
<td>(20)</td>
<td>(13.3)</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>The deployment to areas of primary assignment in science driven areas can engender capacity development of our youths and broader development agenda of Nigeria.</td>
<td>6</td>
<td>4</td>
<td>4</td>
<td>1</td>
<td>15</td>
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<td></td>
<td></td>
<td>(40)</td>
<td>(26.6)</td>
<td>(26.6)</td>
<td>(6.7)</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Science curriculum appropriately captures the socio-economic complexities the Nigerian youths are facing.</td>
<td>7</td>
<td>3</td>
<td>5</td>
<td>0</td>
<td>15</td>
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<td></td>
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<td>(46.7)</td>
<td>(20)</td>
<td>(33.3)</td>
<td>(0)</td>
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<tr>
<td>4.</td>
<td>All university products have the ability to adequately demonstrate or exhibit their competence when science curriculum is revitalized.</td>
<td>10</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>15</td>
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<td>(66.7)</td>
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<td>(6.7)</td>
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<td>5.</td>
<td>Establishing more science colleges to accommodate more youths simultaneously into programmes will help them with necessary science knowledge to survive.</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>15</td>
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<td></td>
<td></td>
<td>32</td>
<td>19</td>
<td>17</td>
<td>7</td>
<td>75</td>
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</table>
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Result:

\[ \begin{align*}
\text{Fo} &= 15 \\
\text{Fe} &= 15.8 \\
\text{Calculated } \chi^2 &= 10.5 \\
d/f &= 4 \\
P &= 0.05
\end{align*} \]

Critical Value = 7.82

The table above and result shows that the calculated Chi-square value \( \chi^2_{\text{cal}} = 10.47 \) is greater than the Chi-square critical value \( \chi^2_{\text{crit, 0.05}} = 7.82 \) at degree of freedom 4, we therefore rejects the null hypothesis and conclude that the repositioning of science curriculum has significant influence on youth empowerment and national development.

Conclusion

The findings of the study revealed that the objective of the study is detailed enough to deal with the repositioning of the school curriculum especially in science and technology education which is considered as the key to effective development strategies, and the master key that can alleviate poverty, empower the youth, improve the quality of life for all and attain sustainable development. Since no nation can rise beyond her productive capacity which is a function of the quality and quantity of her workforce, it is believe that effective implementation of the restructured curriculum in schools will empower Nigerian youths for positive thinking and all round national development.

Recommendations

The following recommendations were made in line with the findings:
- A well articulated and implemented curriculum will revitalize the youths for empowerment;
- Enhance awareness, motivation and improve the image of science education careers.
- Ensure programme relevance to labour market needs
- Develop strategies to address science education teacher currency and shortage issues.
- New teachers must be taught and mentored on how to implement the innovative curriculum for effective learning to enhanced sustainable national development.
References


Matthew, I. A. (2013). Repositioning science and technology education for sustainable


