
FALLING STANDARD OF SCIENCE EDUCATION IN NIGERIA: A ROAD MAP TO RE- ENGINEERING SCIENCE EDUCATION FOR EMPLOYMENT AND SELF PRODUCTIVITY IN NIGERIA

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Abstract

Nigeria today, many new industries produce a wide variety of goods formerly imported from overseas. Examples are paints, textiles materials, drugs, chemicals etc and this leads to employment and self productivity. In spite of this industrial expansion, Nigeria still lacks well trained competent and skilled scientific personnel for her rapid socio-economic advancement. This problem has emanated as a result of falling standard of science education in Nigeria. This paper therefore explains what is falling standard of science education in Nigeria? Identifies causes of falling standard, who is to be blamed, and offer solutions. All these were geared toward re-engineering science education for employment and self productivity in Nigeria.

Science Education is a panacea by which nations of the world converge into its orbit seeking development. It is also the spring board of any meaningful science and technology advancement. Science and technology are the roots for the dwindling status of the economic, social and political life of any nation.

Science Education also is an indispensable arm of general education. It is an instrument industrialization and growth and as such should be made more functional, (Ezekwe, 1995). He added that, countries with more economic and military powers are those with highly developed science and technology, while those with immense human and natural resources without development in science and technology remain poor. This implies that science education is vital for development of any nation.

Science is not merely a technique or a body of systematic knowledge; it is rather an attitude of inquiry, of observation and reasoning with respect to the world, (Paul, 2001). Education in science is man's attempt at trying to understand the world he lives in for the primary purpose of survival and improving the quality of his life. Scientific knowledge is established and nourished through the use of distinctive abilities. These abilities as highlighted by Paul, (2001) include knowledge skills, process skills, practical skills and communication skills. **These** skills help children develop their

Academic Excellence

mental faculties and the science teacher must possess competencies relevant to the objectives of teaching science in schools.

The standard of science education in Nigeria has fallen beyond reasonable doubt (Thechere, 1996 in Dahiru 2008). This is so because of the numerous problems surrounding it. Before discussing the problems, let us discuss what is the falling standard of science education?

Falling Standard of Science Education

The concept "Falling Standard of Education" in general is because there is no well defined instrument to measure it. That is why scholars' view on the concept varies. These scholars view it at different perspectives, depending on the angle each of them is looking at it.

Babalola, (2006) saw the concept from the admission of Nigeria University products in developed countries universities. That the first six Nigerian Universities (University of Ibadan, He Ife, Lagos, Benin, Nsukka and Zaria) had their products competing favorably with any other university in the world as their products were sought for by University of Harvard, combridge, oxford and London for admission into their post-graduate courses. That these students record breaking performance and when their graduate are employed by the best multinational companies and cooperate bodies globally they were found to perform satisfactorily, unlike today where no Nigerian University is among the top 6,000 Universities in the world (Adeniyi in Bello (2011). He sees standard from how universities contribute to knowledge and solving problems besetting mankind.

According to Gateway to the Nation (2010), University of Ibadan is ranked 6,340th University in the world. In Africa, University of Ibadan is ranked 57th, OAU 69th and South African Universities are leading the way in Africa. He also used written and spoken English as a yard stick for measuring standard of education which university of London conducted a research in West Africa and the result showed that teachers trained by colonial masters were better off than those trained by teachers. He also used staffing, funding, foundation, origin - as standards for measuring education.

Standard of education to Dike, (2003) is how education contributes to the public health (or sociopolitical and economic development of a nation). Standard of education is either passing or failing external examinations like WAEC, NECO, NABTEB, JAMB (Now UTME) among others.

Teachers without boarders (2006), looks at educational standard from how the products of schools can be measured in terms of outcome.

That is how school leavers contribute to the society in terms of cognitive, affective and psychomotor (Bello, 2011). Which ever way one views standard of education for one to conclude whether the standard is falling or not, one must take into

Falling Standard of...

consideration all the aforementioned variables including achieving educational goals.

Based on the above views of researchers one can see that, the standard of education in Nigeria has fallen beyond imagination. In line with that, what happens to standard of education in general has automatically affected the standard of science education, consequently it has also fallen.

The standard of science education in Nigeria has deteriorated beyond reasonable doubt (Kechere, 1997). This is so because of the numerous problems surrounding it. The causes of the falling standard of science education were highlighted by Kechere (1997).

Causes of Falling Standards of Science Education

The following are causes of falling standard of science education in Nigeria as outlined by Kechere (1997) and Bello (2011).

1. **Discipline** This is one of the outstanding attributes of science education when it is rightly observed, (a) Repeating: Science secondary Schools no longer observe repeating classes as every student is promoted to the next class whether they understood the science concepts or not and this gives room to falling standards.
 - (b) Attendance: The 75% attendance universally accepted as the bases for someone to sit for examination is no longer observed in science secondary and tertiary institution.
 - (c) Late coming: A Student that comes late is no longer punished, which leads to their loosing morning classes, which in most cases are science subjects, (d) Misbehavior: Students are no longer punished for misbehavior because of their parental influences (loss of job or unnecessary transfers).
2. Shortage of Qualified Science Teachers: some schools in the rural areas only have the headmaster/Principal as government employee, while the rest that may be secondary school drop outs are PTA staff, what miracle can these staff perform? Dike (2008) observed that only 23% out of the then 400,000 primary schools in Xigeria have grade II even when NCE is now the minimum qualification for teaching in primary and Junior Secondary Schools.
3. Teachers Welfare it is no longer news that;
 - (a) Politicians do not have a negotiation council to negotiate their salary increase,
 - (b) There is no disparity among political office holder from the federal, state and local governments.
 - (c) Their salaries are increased at an astronomical rate.
 - (d) Their salaries are increased anytime without recourse to whether the nation's economy can bear it or not.
 - (e) But for teachers, they must negotiate the 10 to 20% increase in their salary with consideration for the economy of the nation. How can these teachers contribute and perform miracles when their family members are in hospitals and there is no money to pay for prescribe drugs.

Academic Excellence

4. **Accessibility of Schools** the Nigerian population boom has outnumbered the existing schools, as the existing schools have to over admit.

This point can be practically seen in the following areas,

- (i) Teacher/student ratio of 1:25 (for science class) is no longer there as in many science classes, it is 1:60 or even higher at the secondary school level.
 - (ii) Students/Science books/science journals ratio of 1:10 is no longer feasible.
 - (iii) Politics of admission: schools can no longer set targets for admission (be it science course or otherwise) to conform with their facilities (laboratory etc) as powerful notes from above will force the school authorities to either over admit or find themselves in the labor market again. Yet it is those that are giving these notes that are supposed to build more schools or provide needed infrastructure etc. to accommodate those collecting these notes.
5. **Over-Dependent on Cognitive Domain** another factor which causes the falling standard of science education is paying much regard on cognitive domains and little attention to psychomotor with no attention given to affective domain by teachers during assessment.
 6. **Science Teachers Are Not Part of Examination Bodies** One wonders whether the continuous assessment submitted by these science teachers is used or not.
 7. **Poor State of Science Laboratories Facilities/Equipments** Dike (2006) reported that research results show that over 2015 primary schools in Nigeria do not have buildings but study under trees, talk less of science laboratories and teaching materials. The researcher also discovered that over 1956 science Secondary Schools operate without comprehensive laboratory.
 8. **Poor Budgetary Allocation to Education in General and to Science- Education in Particular:** A research work in 2008 showed that Nigeria only allocates less than 10% of its annual budget to education. It further revealed that Nigeria spends 0.76% on education as against Uganda 2.6%, Tanzania 3.4%, Mozambique 4.1%, Angola 4.9% Cote d'Ivoire 5%, Kenya 6.5% and South Africa 7.9% among others. Similarly Nigeria spends only 3% of the entire education budget on science and technology education, (UNESCO, 2009).
 9. **Corruption:** Administrators of the science schools and some government officials either connive to buy equipments with loan that cannot be of any use to the school or take such loans and do not even do anything with them.
 10. **In the Secondary and Primary Schools Level,** schools do not even have buildings talk less of furniture, equipment, science laboratories and reading materials. This is the level when the foundation of education/science education should be laid. Any faulty foundation will lead to faulty structures.

Who is to be Blamed?

After enumerating causes of falling standards and from their causes the researcher deduced that, the following are to be blamed, according to Bello (2011).

Falling Standard of..

1. Government carries the lion share of the blame because all the other variables are dependent variables to it.
2. Science teachers also have their share of the blame with regards to non adherence to their diligent duties.
3. Parents: Some time parents have their own share of blame by not contributing/ participating effectively in educating their children. E.g failing to buy textbooks, writing materials, not attending P.T.A e.t.c.
4. Students: Students who fail to obey rule and regulations and refuse also to pay attention to their studies contribute to falling standards.
5. Society: The Society also contributes their own share by its failure to fight against any behavior emanating from schools which is against its own tradition/ norms and values.

Solutions

Based on the problems identified above, the following solutions are proffered. The solution if considered will serve as a way of reengineering science education for employment and self productivity in Nigeria.

1. Science schools should respect and restore back discipline to bring back the lost glory of our science education standards.
2. Teachers should be involved in examination activities, and examination bodies (e.g WAEC, NECO and NABTEB) should always make examiners reports available to state ministry of education for onward distribution to various secondary schools.
3. More schools should be built to increase accessibility by all. Cognitive, affective and psychomotor domains should be used for assessment of students.
4. More qualified science teachers should be employed to curb the present shortage of science teachers in our schools. Also teachers' welfare should be enhanced to motivate the teachers.
5. Science teacher should be trained so that they can meet up with new challenges. Science educational facilities (laboratories etc) should be upgraded to modern standards while teaching facilities should be adequately provided.
6. Corruption should be reduced to the barest minimum by all stakeholders, while government should increase its budgetary allocations to both education and science education to improve the standard of both education and science education in Nigeria. This will lead to employment and self productivity.

Conclusion

From the above discussion on falling standard of science education, causes of the falling standard and who to blame, one will notice that for the Nigerian system of education and science education in particular to be enhanced, a lot has to be done, both in the part of government, science teachers, parents and society. It is only when strong viable and meaningful actions are taken that the lost glory of education can be restored.

And it is only when the lost glory is restored (i.e. re-engineered) that science education could be used for employment and self productivity.

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