
Research Article

Exploring the Challenges Posed by New High Tech Devices for Teachers.

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ABSTRACT: *The business of education is peculiar but akin to other social businesses in its quest for relevance and sustainability in contemporary development strides. The education system owes it as a duty to its younger ones to upgrade the standards. This involves internationalization of the system to be able to meet up with the rest of the world. The world has gone digital and sustaining the tempo is in digitalization. Traditional methods of teaching/learning are giving way to newer digitalized methods. The teachers' pedagogic skills entail the knowledge of the modern ICT operations and how they apply to teaching. The teacher must harness various educational applications known as apps and apply them to modern teaching and learning. This also includes online teaching and learning. This paper feels that the government and other education stakeholders all have a lot to do to ensure that the education system is internationalized by consciously embarking on upgrading the system.*

Keywords: Challenges, Devices, Exploring, Internationalization, sustainability.

I. INTRODUCTION

Education remains the bedrock of development in Nigeria as elsewhere in the world. Education is a moving force of change and the teacher is at the centre of the education system [1] For the teacher to be effective and relevant, he must be up to date in qualitative, vertical and horizontal dimensions. This brings to the focus the question: Who is a teacher? [2] states clearly that teachers are 'those individuals who have been found worthy in content knowledge, skills, methods, techniques, and are capable of providing good teaching by virtue of their professional trainings and competencies acquired. For today's teacher to be properly renewed, teachers' skills in pedagogy must be constantly pruned and tuned up through capacity building, research and further trainings in modern technologies and their applications[3]. These are important for Nigeria to revitalize and internationalize our education system. It will also

require a process of change in policies, methodology and instructional materials. The world has gone digital and sustaining the tempo of internationalizing education is in digitalization of teaching/learning. Many scholars like [4],[5] emphasized that today's economy is knowledge driven and the education industry must adjust to it to be relevant. There is so much gap between 'what was' and 'what is' both in content, pedagogic skills and instructional materials [6] Therefore, adherents of traditional methods of teaching/learning are wondering what to do with the wonder of digitals. Contemporary teachers have no option than to live up to the challenges posed by the new high technology in service delivery [3] ; [5] In the Nigerian education system, contemporary methods of teaching enhanced by Information Communication Technology (ICT) must be used to improve the status of teaching/learning to international standards. This is in line with the idea that traditional content centered curricular have moved to competency based curricular. Furthermore, contemporary based curricular is associated with moves away from teacher-centered forms of delivery to students' forms of delivery. Also, pedagogy has translated from transmissive to constructivism theory of teaching and learning. Therefore Nigerian teachers have to be in tune with the rest of the world in raising their standards as well. That will be the sure way to internationalize the pedagogy aspect of the education system in Nigeria.

II. THE TEACHING PROFESSION IN NIGERIA

The teaching profession commands respect all over the civilized and developing world. This is because teachers deal with intellectual matters which necessitate their service mastery to maintain relevance. They are engaged in unique assignments that address the most vital interest of every nation [7] The teachers' work is universal in principle, maintaining some measure of traits across cultural bias and prejudice. This gives the teaching profession principles ingrained in the internationally accepted ethics and norms of a profession. Teachers carry out a complex set of activities valued by the society, meriting an exalted status which is not necessarily dependent on economic remuneration. The teaching profession is generic to all other professions since others professions emanated from teaching/learning 'abinitio'. The question then has to be asked; who are eligible to be accorded the title "teacher" whose profession is now inundated with the new wave of globalized digitalization of knowledge/learning.

Nigeria entertains three types of education: traditional, Islamic and contemporary western. The western mode has come a long way and has democratically superceded the others in line with development trends. Schools are now established even in remote parts of Nigeria. The Nigerian curriculum conference (1969) provided the basis for the National Policy on Education (NPE) 1977 revised in 1981 and further reviewed in 2009. This document has largely democratized education in Nigeria.

According to the Federal Government of Nigeria [8] the national policy on education has the following as the purposes of teacher education. To

- (a) Produce highly motivated, conscientious and efficient classroom teachers for all levels of our educational system;
- (b) Encourage further the spirit of enquiry and creativity in teachers;
- (c) Help teachers to fit into social life of the community and the social at large and enhance their commitment to national goals;

- (d) Provide teachers the intellectual and professional background adequate for their assignment and make them adaptable to changing situations;
- (e) Enhance teachers' commitment to the teaching profession. .

2.1 A Brief Description of the Early Development of Teaching in Nigeria

The early starters of education in Nigeria were missionaries [9]. They wanted education as a means of evangelization. In the Southern provinces of Nigeria, missionary bodies recruited teachers who would be of use to them in evangelization. They gave them such training as they could for such enterprise. Most of them, however, had only a few years of primary schooling. [1] Again, within the missionary bodies themselves, strong rivalry existed among the Catholics, Church Missionary Society, Methodists and others, so that the teachers saw themselves not as teachers 'SIMPLICITER' but denominational teachers, hence a united act in the name of profession could hardly be entertained [9] In the Northern provinces there were Koranic schools and teachers who taught rudiments of Islam and Arabic. The educational policy carried out in the Northern provinces did not allow for a quicker penetration of 'western'- type educational priorities. The variegated quality and pursuits did not help the image of the profession [9] . Until much later, there was no question of a special school for training teachers. However, there were in Western Nigeria some schools where teachers of catechism were being trained in 'Training Institutions' founded by different missionary groups [9]. As is obvious the mode of training differed but they all had the same basic aim of training pupils who would serve a dichotomous purpose of catechist/teacher. Earlier than that, the training of these people followed the apprenticeship pattern[9]. Appreciatively, teachers set the pace for the mode, tone and status of learning in any given environment. According to the Nigerian national policy on education [8] no nation can rise above the quality of its teachers. That is why the training/exposure of our teaching force is paramount for our nation's development. Teacher training in Nigeria has come a long way. From the pupil teachers of the missionary period [9], to today's professionally trained and certified teachers (TRCN 2012 revised). Today the Nigerian teacher is receiving regular training on ICT and taking ICT exams as part of their professionalism. Inadvertently, the teaching profession in Nigeria has severally been affected by the society, professional training, the attitude of the teachers, organization and scientific exposure.(TRCN 2012 revised).

III Teachers and Newer Technologies for Teaching/Learning

The teacher's roles is to prepare the students and help them develop the skills they will need for the world they will face outside school, which is the 21st Century world [3] .Oliver (2017) also contends that the 21st century is geared towards competency and performance based curricular. He continues to identify this curricular with the following requirements:

Access to a variety of information sources

Access to a variety of information types and forms.

Student-centered learning settings based on information access and inquiry.

Learning environment- centred on problem-centred and inquiry-based activities.

Authentic settings and examples;

Teachers as coaches and mentors rather than content experts

This means that teachers have to prepare students for the global world. That global world is technologically driven [4] Unfortunately, too many teachers are still stuck in the past, doing the barest minimum to give to students what they were given in their own time. What the teacher was given, is no longer suitable for today's technological and knowledge driven economy. The evidence is virulent with the unemployment/unemployability saga. Globalized technology has internationalized information, learning and knowledge. The tools for this knowledge economy are computer and its networks. The teacher has to incorporate the tools and techniques of ICT into education in order to keep abreast and reap the numerous benefits [10],[11]

3.1. Newer Technologies for Teaching/Learning

The advent of the computer and other electronic communication gadgets have diffused knowledge and the learning process [12]

Also [13] describes electronic learning or e-learning as “a form of education that uses computer technology or the electronic media as its primary mode of instruction.” He points out that virtual classroom environments and social network have become important as e-learning process includes Web-based and computer-based learning, virtual education opportunities and digital collaborations. He continues to say, that it entails delivery of content via the internet, intranet/extranet, audio or video tape, satellite TV and CD Rom. He pointed out that the term e-learning will still be utilized to reference ‘out-of-classroom and in-classroom’ educational experiences via technology, even as advances continue with regard to devices and curriculum. Major advances have been devised to include the use of mobile learning applications, as [10] advocate the use of mobile phones stating that ‘with the recent advancement in the technological world and the adult learners’ growing desire to have flexibility with their learning tools such that the tool allows them to learn even while on the move and while they play games. Hence, there is a need for mobile devices that enhance teaching and learning in a virtual classroom environment.’ They contend that mobile devices can be used in both on-line setting and in-brick and mortar (traditional setting). Their list for mobile devices effectiveness in basic delivery and technical support includes:

WIFI that enables instructors and learners access contents through the use of the internet;

3GP for compression and the delivery of mobile based audio-visuals;

Cloud computing that enhances file sharing and storage;

GPRS mobile data transfer rate;

Mobile web and mobile apps for dominant content formats for smart phones.

Their introduction of this device GO-U Mobile English Learning tool (GOU MELT) is in consideration of the 'current' challenges faced by adult learners, in their daily life as they seek better job opportunities, engage in international business collaborations, advance studies abroad and success in international standardized tests.

3.2. Utility Value of e-Learning Devices

[14] nod in agreement that there is need for a learner-centred learning activity whereby learning shifts from the conventional teacher-centred system in class alone to one that allows independent discovery by the learner. This self discovery learning is more permanent and adaptably applicable to the individual/societal context. It is similar to learning on the job, Industrial Training (IT) and the project method of teaching/learning. In an increasingly globalized world, innovation is no longer a choice but a requirement. Therefore, teachers have a responsibility to help develop students capable of meeting this challenge. [6] conducted a study where he interviewed hundreds of business leaders, educational leaders, and non-profit organizations and concluded that students of today need the following skill-set to survive in today's global economy and learning.

Curiosity and imagination;

Agility and adaptability;

Initiative and entrepreneurialism;

Problem solving and critical thinking;

Collaboration and leadership

Accessing and analyzing information;

Effective written and oral communication.

Teachers, therefore, must not only teach and help students develop these skills but also test and examine for them. It calls on teachers preparing their students for the global world to adapt their syllabuses to help prepare the students and also adapt their testing and examination criteria to help ensure that students under their care possess these skills.

VI. Towards Internationalization of Teaching Methods

Globalization poses a certain level of challenges as well as opportunities. There are lots of opportunities for teachers or students with requisite skills to contribute, not just within the borders of their nationality, but beyond. Teachers may also be challenged to take up jobs outside the borders of their country. Today's world is a global village. Teachers need to collaborate with colleagues and associates everywhere. They need the services of the new technology to do that as a way of internationalizing the system. There are incentives for them to invest on improving their skills. Students in global education need to be able to communicate, collaborate, and solve problems together with people worldwide because the world has become a global village. Many suitable educational softwares exist that are helpful in various respects. An example is the educative applications like the GO-UMELT Linked [10] make it easy for teams to collaborate. This is not just true for multinationals but even individuals and schools in different parts of the world now collaborate with one another, even continents away due to the interconnectedness that are already there. Employers today want more employees that are ready with complex thinking and communications skills [15] and fewer employees with basic skills only [16] The teacher must realize that the students under their care today are being developed. Accordingly to [17], the challenges of eliminating poverty, ensuring lasting development and maintaining and ensuring world peace will depend on the upcoming generation. Teachers must be able to adopt this global perspective and see that their role goes beyond just teaching their subject matter and grading their students. They must inculcate the value of independent thinking and problem solving otherwise known as generic skills [11], [3] argue that "Skills students will need for the society in which they will work and live should not be thought of as "one more thing to teach," but rather a training properly integrated across all curricula"

4.1 Factors that Hinder Internationalization of the education system

Many are the factors that contribute to the localized status of our education system in this country.

4.1.1 Poor investment in education

Teaching/learning does not take place in a vacuum. A society that wants effective teachers for effective teaching and learning, must be willing to make the right investment and provide the necessary environment to achieve it. A society that fails to invest appropriately in education will fail in improving students' outcome. Econometric studies over the years have consistently shown a significant relationship between provision for education and economic growth [18] The international average expenditure on education as percentage of GDP was 2.5% in the 1960s. In the mid-1990s, the expenditure almost doubled to about 4.7%. For EU-28 countries, the average expenditure as a percentage of GDP was 4.9% in 2015. By comparison, Nigeria's proposed spending in education 2017 is 448 billion naira, a 35 billion naira decrease from last year. As a percentage of GDP, the 448 billion naira (about \$1.5billion) - based on Central Bank exchange rate of 304.95 naira to a dollar) expenditure is just 0.3% of our 2015 GDP (\$486.8 billion according to Tradingeconomic.com). That means that in 2017 we are still spending more than ten times less on education as a percentage of our GDP than the rest of the world did in 1960. (Trading.com). According to [19], even among West African countries, Nigeria's 6.4% of the total budget allocation to education is way behind those of Ghana (23.1%), Benin (15.5%), Cape Verde (13.8%), and Liberia (6.4%). It should also be noted that just 11% of the proposed educational budget is for capital expenditures. The rest are recurrent expenditures. With such inadequate investment in education, we deceive ourselves and pay lip service to education.

More importantly, it suggests that we are not ready to make the necessary commitment to excellence and are mortgaging the future of those we label as the leaders of tomorrow. Is there any wonder that Nigerian students prefer to travel even to Ghana, Togo and some West African countries for their education advancement.

4.1.2 Low teacher morale

The problem with too little investment in education today is that it doesn't just deny the teachers adequate resources to teach students, it also affects morale and motivation of teachers adversely and leads to brain drain. Unfortunately too, the impact is not a 'one off' thing. Students today are not just leaders of tomorrow, they are also teachers of tomorrow. If the students today are inadequately prepared to meet the challenges of a globalized world, how will they be able to prepare the students of tomorrow? No one gives what one does not have. In addition, a lot of harm is done to teacher motivation and morale. So the teachers don't perform optimally. The Nigerian government is therefore being called upon to review its budgetary stand on education especially as it affects the teachers and their work tools. Neglecting this further endangers the education system and stalls internationalization process.

4.1.3 Poor pre-service training for teachers

Also, if the teachers today, the conditions and setbacks notwithstanding, do not realize that their role as teachers is also to prepare the students for a globalized world, how will the students today understand the importance of preparing the students of tomorrow to face their world?

4.1.4 Involve teachers in decision making

Human capital development is essential to economic development of a society. According to [18] "Human capital investment greatly affects the future distribution of resources in society by using education to reshape the distribution of income. "The teachers on whose shoulders human capital development lies must be involved in discussions surrounding the economic development of any nation. Teachers should be thought of as active partners in the development of the economic potentials of Nigeria. Teachers should also be keenly aware of the problems and challenge the nation faces and will face, and how students will have to face same and find the opportunities hidden in those challenges. For instance, in Nigeria, the student could be made aware of how fragile our reliance on oil may become in the coming years as the world continues its progress away from the sale of oil to solar energy. That Nigeria is not at the level of the developed world today will not shield us from the effects of the development and policy changes taking place in the rest of the world. Teaching cuts across many fields and a blanket advice for all teachers would not suffice. Yet, as teachers become increasingly aware of the challenges they face and the enormous responsibility being placed on their shoulders, impactful changes that will increase the likelihood of a positive outcome for the student is more likely to occur. Indeed, any pedagogic discourse cannot stand alone as

government policies and approaches to education without teachers' inputs as this will influence what happens in the classrooms. Indeed, pedagogic discourse especially in Nigeria incites political tension. That is why Apple (2001) lamented that "any official pedagogic discourse is always a site of social and political struggle." [20] interpreted [21] conceptualization of official pedagogic discourse as an attempt to connect the macro level of policy and state with the micro level of curriculum and classroom, as well as the different forms of consciousness that teachers and pupils develop in response to it. According to [22], the two crucial aspects of official pedagogic discourse are: a visible and formally explicit 'instructional' discourse (ID) that shapes content taught and the manner of its transmission and a 'regulative' discourse (RD) that reflects the social order in which the content taught and the manner of its transmission to different individual social groups (and the shaping of identities and relations to knowledge this entails) is embedded [23]

4.1.5 Curriculum Review

The world has largely moved to a performance model based curriculum. The curriculum and educational policies are increasingly being tailored to meet the needs of the marketplace. The question for education stake-holders in Nigeria remains how well is the educational curriculum tailored to create students that are able to meet the needs of the market. How well is the teaching meant to deliver on real productive skills and not just to be able to pass standardized tests? How often is the curriculum reviewed to accommodate current needs of the society?

V. CONCLUSION

This paper has largely focused on the challenges and responsibilities facing teachers in a global education and high tech world. However, the relationship is not one way. Global education has a direct impact on teachers' effectiveness and efficiency. As corporations and businesses are increasingly able to transcend beyond boundaries and connect with innovators, employees, and consultants around the globe, so also should teachers be willing to contribute by making teaching better and more standardized. This paper has reviewed the challenges facing teachers in a high tech world and has also made suggestions for improvement.. There is no doubt that education is essential to improving competence and competitiveness. This demands that we continually ask the right questions regarding what kind of education we should offer in our schools, the way to get learners actively engaged and involve students and minimize distractions in this age, and the best approach to use in the classroom to achieve these goals is by integrating modern technology into teaching and learning. Apart from assessing the students, we must also be able to assess teachers and the teaching methods objectively. We must try and measure how well the students we graduate out of our institutions do. We must take a more proactive role in assessing the curriculum we use is achieving its goals and objectives. We must take a better approach to collecting data with which to objectively measure the effectiveness of our approach to teaching in achieving the goals and objectives of the curriculum.

VI. RECOMMENDATIONS

Nigerian teachers must aim at international standards of teaching, to meet up with the pedagogic challenges of the time.

There should be increased collaborations and trainings among teachers and other educational stake holders within and outside the country.

The Nigerian government must review upwards the budgetary allocation to education to meet international standards.

The Nigerian Education system must access and employ the new High Tech in all our educational life for the benefit of our country.

REFERENCES

- [1] Ikejiani, O. (1964). *Nigerian Education*. Ibadan: Longmans of Nigeria.
- [2] Mkpá N. D (2009: 104) Teaching Methods and Strategies in Curriculum Theory and Practice .Abuja Con Book Project
- [3] Larson, L. C. and Miller, T. N. (2012). *21st Century Skills: Preparing Students for the Future*. Kappa Delta Pi Record 47 (3).
- [4] Nzewi, U. (2009). ICT in Teaching and Learning. In *Curriculum Theory & Practice. CON book project*.
- [5] Saavedra, A. R. and Opfer, V. D. (2012) . *Learning 21st-Century Skills Requires 21st-Century Teaching*. Phi Delta Kappan International, 94(2), 8.
- [6] Wagner, R. (2008). *The global achievement gap: Why even our best schools don't teach the new survival skills our children need – and what we can do about it*. New York, NY: Basic Books.
- [7] Mogboh, V. E. (1979). *Is Teaching a Profession in Nigeria?* Unpublished Advanced Diploma thesis, School of Education, University of Bristol, England.
- [8] FGN (2004). *National Policy on Education (Rev)* Lagos: NERDC. FGN (2009). *National Policy on Education (Rev)* Abuja: NERDC.
- [9] Fafunwa, B. (1974). *History of Education in Nigeria*. Ibadan: George Allen & Unwin.
- [10] Nnaekwe, U. K. & I.C. Ejike (2017). GOU-Mobile English Learning Tool (GO -UMELT). *International Journal of Education* Vol. 2 No.1.

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- [11] Ene, F. N., Mogbo V.E. & Obi, C. N. (2017) Fostering Generic Skills in a Language Classroom for Global Competitiveness. In *International Journal of Education*, Vol 2 (1).
- [12] Adams, D. (2006). Wireless laptops in the classroom (and the Sesame Street syndrome). *Communications of the ACM*, 49(9) 25-27.
- [13] Agbonaobare, O. J. (2015). *International Perspective: The Global Trend in E-Learning in Teacher Education*. Teacher Education in Nigeria: Innovations and Reforms.
- [14] Hanushek, E. A. (2011). Valuing Teachers. *Education Next*. Stanford 11(3).
- [15] Ene, F. N. (2016). The English Language as a tool for Enhancing Employability in the 21st Century: Focus on the Reading Skill. *Journal of Qualitative Education*. 12 (1) 130-136
- [16] Levy, F. & Murnane, R. (2005). *The new division of labor: how computers are creating the next job market*. Princeton, N.J: Princeton University Press.
- [17] UNESCO (2001). Using ICT for Quality Teaching, Learning and Effective Management. 7th ACEID.
- [18] Ansell, B. (2006). *Traders, Teachers and Tyrants: Democracy, Globalization and Public Investment in Education*. Weatherhead Center for International Affairs, 06- 01.
- [19] Budget (IT)(2017). *Nigerian National Budget Allocation 2017*. Abuja: Federal Government of Nigeria
- [20] Bourne, J. (2008). Official pedagogic discourses and the construction of learners' identities. In N.H. Hornberger (Ed.) *Encyclopedia of language and education*. Vol. 2 (pp. 41-52). New York: Springer.
- [21] Bernstein, B. (1990). *The structuring of pedagogic discourse*. London: Routledge.
- [22] Bernstein, B. (2000). *Pedagogy, symbolic control and identity*. (Revised edition) London: Taylor and Francis.
- [23] Jones, L. & Moore, R. (1995). Appropriating competence: the competency movement, the new right and the 'culture change' project. *British Journal of Education and Work*. 8(2), 78-92.