

Teacher Quality and Educational Technology: A Tool for Achieving Sustainable Development Goals (SDGs) in Secondary Schools.

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ABSTRACT

A teacher stands out as one of the most important factors determining the quality of education and its contributions to national development. At every level people who go to school look on the teacher for the acquisition of the necessary skills to enable them become what they want to be. However, the application of educational technology requires knowledge from several areas: pedagogy, psychology, didactics, computer sciences and informatics. This paper focused on teacher quality and educational technology: a tool for achieving sustainable development goals (SDGs) in secondary schools. It highlighted teacher quality and education, teacher quality for sustainable development goals, teacher quality and educational technology and measures for the achievement of sustainable development goals (SDGs). The paper concludes that, with the application of educational technology, students can independently progress in mastering teaching materials, to choose the pace of work, to repeat the material that is not sufficiently clear, that after tests performed immediately get results and track their progress. Recommendations were also made which include: Government should make available for the expansion of education and training facilities with a view to fostering and improving knowledge and skills relating to sustainable development and provide grand funding to develop the quality of human resource by providing enough expenditure for education development.

Key words: Teacher, quality, educational technology, sustainable development goals.

INTRODUCTION

There has been complaint in all quarters of the fall in standard of education and people always make references to the way standard of education was in those days. However, falling standard in education in Nigeria can be linked to the lost of glories of traditional education which inculcates among other things the very important values of hard work, integrity and high productivity. When these are lacking in any production system, education inclusive, the results are often devastating. The teacher stands out as one of the most important factors determining the quality of education and its contributions to national development. At every level people who go

to school look on the teacher for the acquisition of the necessary skills to enable them become what they want to be. Thus, students often look on the personal qualities, their educational qualities and professional competence which are rewarding to the learners (Israel, 2018). Educators and educationists all over the country know that ill-prepared teachers will inheritably produce half backed future leaders or professionals. Therefore teacher education institutions should take into account that teaching is an art that we cannot continue to hide under the illusion that anybody can teach. It is noted that the skill of a professional teacher depends on his



understanding of certain activities of teaching pedagogy and educational technologies. The use of such foundation will help to train the mind of others to learn.

Educational technology is a systematic and organized process of applying modern technology to improve the quality of education (efficiency, optimal, true, etc.). It is a systematic way of conceptualizing the execution and evaluation of the educational process, learning and teaching and help with the application of modern educational teaching techniques. It includes instructional materials, methods and organization of work and relationships and the behavior of all participants in the educational process (Hermans, Tondeur, van Braak, & Valcke, 2018). The word technology is derived from the Greek word “techno” which means the willingness, skills, knowledge of the way, rule, skill, tools and “logos” which means science, word, learning, mental state. However, the application of educational technology requires knowledge from several areas: pedagogy, psychology, didactics, computer sciences and informatics. Educational technology is still not being applied sufficiently, mostly for reasons of lack of school equipment, necessary resources and insufficient qualification of teachers for its implementation.

Education is also an important means of implementation for sustainable development and it provides an important construct where the perceived tensions between economic, social and environmental development can be harmonized and integrated into a single concept and pursuit of sustainable well-being for all (Ijir, (2014). This goes beyond education being named as a single SDG, thus requiring better understanding of education’s role as a cross-cutting means of implementation to strengthen achievements across many other goals. “The SDGs call on governments to take a fresh look at the content of education. Education will be the

lynchpin of a sustainable development agenda whose success relies on individuals, throughout their lifetime, acquiring relevant knowledge and developing positive attitudes to address global challenges” (EFA Global Monitoring Report 2015: 294). A broadened understanding of education practiced across formal, non-formal and informal education creates a strong mechanism for supporting social learning/change which enables synergies between education and other critical elements of an enabling environment including lifelong learning, professional career development, community learning, and public participation. That is more of the reason why the role of educational administrators in assisting teachers to help students achieve the objective of instructions in their various fields of endeavour stands paramount and a challenge in the 21st century. Invariably, the Nigerian teacher education in the 21st century should produce technology knowledgeable and effective certified teachers who can inspire children to learn (Kauffman, 2014).

Sustainable development is defined as development that meets the needs of the present without compromising the ability of future generations to meet their own needs (Mbakwem, 2016). Sustainable development according to Manafa (2020) is a process of improving the range of opportunities that will enable individual humans and Communities to achieve their aspirations and full potential over a sustained period of time while maintaining the resilience of economic, social and environmental systems. Achieving sustainable development in school involves having quality education. For quality education to be effective, there must be internal quality assurance system established that will be reviewing and checking agreed institutional quality indicators and their associated outcomes. It is on this note that the school principals should endeavour to have effective

monitoring and supervision, motivation of teachers and regular conduct of training and retraining of teachers as strategies for achieving quality education. Internal supervision and monitoring should be encouraged in secondary schools as it is the daily seeing to all education activities, coordination of teachers' activities with correction and cultivation of good working relationship among all the people involved in the teaching-learning process.

Teacher Quality as a tool for achieving sustainable development

Nigeria's considerable achievements in the expansion of Universal free Primary Education in 1976 (UPE) and Universal Basic Education (UBE) in 1999 had resulted in part for the use of unqualified teachers for the former, though these have now been phased out as planning goals start to shift from quantity to quality. Many of the issues about the quality of teachers and teacher training are linked to problems of supply and demand, shaped by specific circumstances. Attempts to solve problems of shortages have included searches for new untapped sources of potential teachers, emergency training schemes and increased use of para-professional teachers (Mkpa, 2012). Those that pick up teaching jobs in our primary and secondary schools today (especially private schools) are graduates that cannot find jobs of their choice. They accept teaching offer out of desperation and frustration. They don't have the prerequisite knowledge of teaching. Being a graduate of economics does not make you a good teacher of the subject if you are not a trained teacher.

Consequently, due to the dearth of professionally qualified teachers in the Primary and secondary school system, the National Teachers' Institute (NTI), Kaduna was directed by the Federal Government to introduce the Teachers Grade Two (TC.II) and those with NCE are encouraged to

upgrade to university degree to remain relevant in the schools system. The programme, delivered through distance learning techniques, was essentially intended to improve on the quality of serving teachers at the primary and secondary school level (Ijir, 2014). Since the programme was designed to meet areas of need of the various states of the Federation, there is different entry qualifications for candidates but majority were either Referred Grade Two teachers or holders of the Senior Secondary School Certificate. The period of training therefore varied from 1 year to 3 years. The minimum number of contact hours for tutorials per academic session is 60 excluding those of self study by the students. The Federal Government has directed that with the Nigeria Certificate in Education (NCE) being the minimum teaching qualification in the school system, the TC.II (DLS) should be discontinued after writing the 2006 June Examination. It is however, worth noting that even though a few states embraced the programme at inception, all states including the Federal Capital Territory, Abuja are all involved now (Israel, 2018).

Teacher Quality for Sustainable Development Goals

The realization of the educational objectives depends on the quality and quantity of the available teaching manpower and can be influence by the availability of adequate training and retraining programmes for those about to teach and those already teaching respectively. Hence, the efficiency of teacher training should be the main determining factor in the success or failure of education to meet the needs of the country (Iheji, Ifeanyieze & Olaitan, 2016). The training is the policies and procedures designed to equip prospective teachers with the knowledge, attitudes and skills they require to perform their tasks

effectively in the classroom, school and wider community. Teachers belong to the profession which has the only potential of determining the social, economic, political and moral destiny of every Nigerian citizen. This fact underscores the necessity for teacher education to be perceived as a sacred duty that must never be toyed with if teaching must fulfill its divine professional mandate of cultivating generations of highly responsible disciplined and useful Nigerians.

According to Oladunjoye and Omenu (2013), teacher education is the provision of professional education and specialized training within a specified period for the preparation of individuals who intends to develop and nurture the young ones into responsible and productive citizens. It is informed by the fact that teaching is an all-purpose profession which stimulates the development of mental, physical and emotional powers of students. Such educated citizens would be sensitive and equipped with peaceful co-existence, environmental management and democratic process. Improvements in education clearly aid in poverty reduction and economic growth. At an individual level, each additional year of schooling strengthens individual earning potential by an average of 10% (Polacheck, 2017). At a national level, an increase in average school attainment by one year has a demonstrated correlation to a 0.58% increase in national GDP per capita growth rates. However, quality improvements in education provide an even more significant boost to economic growth compared to simply increasing attainment. A one standard deviation increase in average test scores (using international student achievement tests) is associated with a 2% higher GDP per capita growth rate (Hanushek & Woessmann, 2018). The benefits that education improvements have across the development goals are most notable in those countries

where achievement of these goals is most lacking. One study estimated that a 12% reduction in global poverty could be achieved merely by ensuring that all children in low-income countries leave school with basic reading skills – this is the equivalent of lifting 171 million people out of poverty (EFA Global Monitoring Report 2011: 8). The OECD projected that lower and middle income countries could enjoy a 28% higher GDP per year over the next 80 years by achieving basic education and basic skill levels for all youth by 2030 (Hanushek and Woessmann 2015: 61).

Teacher Quality and Educational Technology

Since computers are still not widely used in many schools, the teaching process is dominated by traditional methods. It is dominated by the frontal form of work where the teacher had enough interaction with students. Failure to thrive at their own pace and insufficient activity of students was one of the drawbacks of this type of learning. In class, we have children who are not uniform in knowledge and never pay enough attention to those who are not sufficiently mastered the material and those who are above their average (Mbakwem, 2016). This difference is often hampered by teacher assessment work and how to transfer knowledge to a group of children with different knowledge. The teacher chooses to keep average to good teaching where children with insufficient knowledge would not get the necessary knowledge. The children with insufficient knowledge can progress smoothly without unpleasant feeling of their ignorance, no frustration and humiliation while for the most advanced children teaching will be boring (Polacheck, 2017).

With the development of information and communication technology, especially computers, a number of researchers (Morrison, Ross, Kemp & Kalman, 2012)

were trying to see the benefits and the effect of their use compared to older traditional learning. For many years, we tried to give answers to the question of advantages and disadvantages between traditional and modern teaching where the prevailing educational technology. The period from 1967 to 1972 was considered to be a period of consolidation of educational technology, which has become the most commonly, used term in the science of pedagogy and the educational process (Kauffman, 2014). With the application of educational technology, students can independently progress in mastering teaching materials, to choose the pace of work, to repeat the material that is not sufficiently clear, that after tests performed immediately get results and track their progress. Interactive, multimedia content provides a great advantage of modern learning over traditional learning. With the application of educational technology we get feedback between the teacher and the student. Among other things, educational technology motivates students to work independently where the student is more motivated to return to learning and working because modern technical equipment is widely available at any given moment.

Measures for the Achievement of Sustainable Development Goals (SDGs)

Recognizing the importance of the objectives of SDGs, it is therefore paramount to state that these objectives can be achieved and sustained if stake-holders (educational authorities, institutions, teachers, community members, government at all levels) consider the following measures according to Manafa (2020):

i. Re-organization of Curriculum and Teacher Quality Instructional Methods:

The provision of curriculum and instructional methods has to be in accordance to the needs and requirements of the students. The teachers have to ensure

that students are able to adequately understand the lesson plans. The reorganization of the curriculum and instructional methods enables all-inclusive, quality equitable education that will ensure students acquisition of relevant academic concepts, so that they are able to promote academic excellence. It does not only lead to alleviation of educational sustainability, but teachers are able to earn appreciation from the students and acquire job satisfaction. The students take pleasure in learning from the teachers, since they possess adequate knowledge and skill to transfer same.

ii. Sociable and Agreeable Atmosphere:

Within the home and in school, the atmosphere should be sociable and agreeable. Equal educational opportunities need to be provided to both boys and girls. In rural and backward areas, individuals usually are of the view that girls are meant to perform the household chores and education is not meant for them. Hence most people take interest in sending their male children to schools, thereby discouraging the girls from obtaining education. In order to reduce educational inequality to realize SDG4 objectives, it is important that sociable and agreeable atmosphere should be created within homes and schools. Both girls and boys should be encouraged towards acquisition of education.

iii. Health: To make effective use of education, technology is vital to maintain good health. When an individual is healthy and well, he would be able to develop rational thinking and make use of his education to not only sustain the living conditions of his family, but also to bring about well-being of the community. The poverty stricken families are unable to take care of the nutritional requirements of their children. In schools, there should be provision of mid-day meal scheme, where

nutritious meals are provided to the students. When students are provided with nutritious meals, they do feel motivated towards learning. It is necessary that meals should be prepared in a clean and hygienic environment, proper ingredients should be used and the system should be properly organized as physical development is necessary for the mental development of the students (Mbakwem, 2016).

iv. Proper Teaching Quality Methods: The teaching methods that have been prevalent in the present circumstance seem to be counterproductive. For instance, there have been cases of class five students unable to read class three textbooks. This shows that proper teaching methods have not been implemented by the teachers. It is vital for the teachers to make use of proper teaching methods, so that students are able to acquire understanding of the academic concepts and subject areas in an appropriate manner. They should be encouraged and motivated, to generate keen interest and enthusiasm towards learning. The teachers should be qualified and experienced (Becker, 2015).

v. Professional Teacher Quality Competence: The teachers and the staff members, who are part of the educational institutions, should be professional in their conduct. Students may drop out of school due to harsh treatment obtained or unapproachable attitude of the teachers. Even when the teachers are dissatisfied with the performance of the students, they should provide explanation in a polite manner, so that they obtain desirable results in future. Improvements in the professional competence of the teachers are made by providing training facilities, both pre-service and in service.

Within the course of one's job, the teachers have to undergo training programs to acquire knowledge of modern and innovative strategies and methods.

vi. Appropriate Teacher Quality Evaluation Procedures: For SDGs to be achieved, when examinations are conducted, it is appropriate to set up a passing percentage. The teachers employed, work hard towards completion of the course curriculum. Before exams, it is up to the students to adequately prepare themselves in order to obtain good grades. The evaluation procedures that should be put into practice should be fair and motivating to the students. The main purpose is to assess the performance of the students and identify any kinds of flaws and inconsistencies. Grading should entirely be based upon the performance of the students. Various evaluation procedures that are usually put into practice include, class assignments, home-work assignments, tests, exams, participation in competitions, workshops and so forth (Becker, 2015).

vii. Provision of Scholarships and Financial Assistance: As it has been stated that marginalized, deprived and economically weak sections of the society are unable to meet the educational needs and requirements of their children. Financial problems have been a matter of concern to rural people. On the other hand, provision of scholarships and any kind of assistance if made available to these students would enable them to attain education. At present, some states are providing mid-day meals, books, stationary, bags, uniform to the students in schools (Becker, 2015).

viii. Effective Teacher Quality Communication: Within educational institutions at all levels, education and learning can take place in an optimal manner, when the individuals are involved into effective communication with each other. There should be mutual understanding and they should learn how to work in collaboration with each other. Effective communication not only leads to enhancement of learning, but also proper performance of job duties and functioning

of the educational institutions. The teachers should be kind and approachable towards the students. It is vital for the teachers to ensure that they do not feel vulnerable or apprehensive within the school environment. The students should feel that they can approach their teachers when experiencing any problems. Fellow students also need to maintain good communication terms with each other and be helpful and supportive (Mbakwem, (2016).

ix. Elimination of Criminal and Violent

Acts: In educational institutions, students do drop out and leave education, before obtaining the degree, due to prevalence of criminal and violent acts. There have been cases of sexual harassment and mistreatment against especially girls at all levels of education. When they experience such types of acts, they not only drop out of school, but also feel vulnerable in going out of their homes. Experiencing criminal and violent acts, such as verbal abuse, physical abuse rap. Hence, in order to have access to sustainable development goals (SDGs), it is vital to eliminate various kinds of criminal and violent acts (Manafa, 2020).

Conclusion

Educators and educationists all over the country know that ill-prepared teachers will inheritably produce half backed future leaders or professionals. Therefore teacher education institutions should take into account that teaching is an art that we cannot continue to hide under the illusion that anybody can teach. The teacher stands out as one of the most important factors determining the quality of education and its contributions to national development. At every level people who go to school look on the teacher for the acquisition of the necessary skills to enable them become what they want to be. Education is also an important means of implementation for sustainable development and it provides an important construct where the perceived

tensions between economic, social and environmental development can be harmonized and integrated into a single concept and pursuit of sustainable well-being for all. With the application of educational technology, students can independently progress in mastering teaching materials, to choose the pace of work, to repeat the material that is not sufficiently clear, that after tests performed immediately get results and track their progress.

Recommendations

1. Government should make available for the expansion of education and training facilities with a view to fostering and improving knowledge and skills relating to sustainable development.
2. Government should provide grand funding to develop the quality of human resource by providing enough expenditure for education development.
3. Government should be committed to ensuring that every student has the opportunity to learn from a qualified and inspiring teacher.
4. Government should develop a professional culture that respects teaching and learning.
5. Government should promote recognition that becoming a qualified and professional teacher is a long term and developmental process.
6. Government should pay enough attention to teacher welfare to attract the good potential students to enter the teaching profession.

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