

DEVELOPING TECHNICAL COLLEGE TEACHERS FOR PROFESSIONALISM AND DEVELOPMENT IN THE 21ST CENTURY THROUGH RESEARCH AND INNOVATIONS IN RIVERS STATE

Deebom, MtormaBari TamBari

Department of Vocational/Technology Education,
Rivers State University, Port Harcourt, Nigeria.

tambari.deebom@ust.edu.ng

Abstract

Teaching and learning are changing in the world today due to the introduction of the Information Communication Technology (ICT). There is the need for technical college teachers in Rivers State to change and acquaint with skills and knowledge in the subject area or discipline. For this to be achieved, this study seeks to develop a professional teacher in education in the 21st century through research and innovation in Rivers State. The following outlines provide a guide to the content of this work; the teacher in the 21st century, the concept of teacher education, teachers' research and innovation, teachers' professional development and principles as well, as well as challenges facing teachers' education development in the 21st century. Based on the literature reviewed in the study, recommendations were made on ways of developing a professional teacher in the 21st century through research and innovations in Rivers State to include state government budget to invest at least 26% of its annual budget into education as stipulated by UNESCO, Organization of workshops, seminars should be effective either internal or external. This will make teachers realize the new trend in their discipline or career.

Keywords: Innovation, Research, Development, Professionalism, Technical College and 21stCentury.

Introduction

There is no doubt that education is generally regarded as a means to better life and the upliftment of the society at large. Hence, it is seen as a potent instrument for social, economic and political transformation of the nation. This development has thrust a lot of responsibilities on teachers who are the major operators of any education system. It is therefore not an overstatement that the professionalization of teaching and making the teacher the centre of educational reform in Nigeria, will enhance teachers' efficiency, productivity, professional practice and reduce the systemic problems in the educational sector, ensure effective service delivery, engage other sectors of society, as well as place education as instrument par excellence for national development (Okemakinde, Adewuyi & Alabi, 2013).

Education can be regarded as the key that unlocks the development of personal and national potential and all kinds of rights and powers. The increasing awareness of the importance of education to the upliftment of the individual and societal standards has awakened in people and nations a conscious effort at devoting their meager resources to acquiring qualitative education. Balogun (2010) opined that education is the light, without which, the whole world would be in darkness. It is the basis of scientific and technological breakthroughs and the basis of modernity, which have made all nations of the world accord immense priority to it, even though, the levels of priority range from one country to another.

Education has been recognized as a process of imparting knowledge, skills and attitudes to the learners. Teachers' influence is always felt in every aspect of the society. The effectiveness of any educational system depends greatly on the educational attainment of teachers because no system of education can be qualitatively higher than the quality and commitment of its teachers. It is on teachers' numbers, quality and devotion that rest the effectiveness of all educational arrangements, development and growth. This implies that the roles of the teachers are not limited to the classroom activities alone; hence there is the need for their professional development through research and innovations to cope with the societal demands and expectations. A teacher can be professionally developed if there is the zeal to inculcate and imbibe the ability to research. A teacher that is not research-compliant will be limited in knowledge and skill in the particular discipline. The outcome of this is that the individual now becomes outdated, static and stagnant without innovation. A teacher who sees himself/herself as an embodiment of knowledge will not grow professionally as teaching and learning process changes every day especially in this present 21st century and in technical college where teachers need to be skillful in improvisation. Improvisation can be done easily with the use of Information and Communication Technology (ICT) tools.

Teachers of the 21st century need to be developed professionally in content and knowledge digitally as Information Communication Technology (ICT) is making teaching and learning process more advanced and modernized. According to Akindutire and Ekundayo (2012), professionalism is the most primary and fundamental need of any occupation that wishes to deliver qualitative service to society, and as well, have its members well respected and remunerated. Ajayi and Ekundayo (2010) enumerated the following as benefit that will

accrue when teaching is fully professionalized: only those that are appropriately trained and inducted perform the job. Today, with the introduction of ICT into teaching, it is no longer gainsaying that professionalism and competency in teaching has gone beyond being professionally certified and inducted by Teachers Registration Council of Nigeria (TRCN). On the contrary, it is the ability of the teacher to utilize modern instructional aids with the right methods in teaching. Based on this, a teacher who relies on residual knowledge or pre-service knowledge and skills without researching for an update cannot be innovative and creative in teaching and hence, will not be professionally developed in this present 21st century.

In Kaduna State, under the Executive Governor of Mallam Nasir Ahmad El-Rufai; The Vanguard Newspaper of October, 2017 reported that out of 33,000 public primary school teachers who sat for primary four competency test examination in Kaduna State, 21,780 teachers failed. Result shows that good numbers of these teachers are old who have spent years in teaching with experience. In other words, they can be classified as professional teachers with experience and as a matter of such; they can be regarded as been competent. According to the English adage, *“experience, they say, is the best teacher”* but the Kaduna State scenario debases this idea as experienced teachers could not perform. At this point, one may now ask the following questions: what could make an old experienced teacher to fail examination? how often do teachers participate in conferences, symposium, workshops?, how many of these teachers are ICT-compliant?, how often are in-service and on-the-job training organized for these teachers?, how many of these teachers involve in research and innovations? In attempt to provide answer to these questions prompted the study on developing teachers for professionalism and development in the 21st century through research and innovations in Rivers State with emphasis on technical college. Technical college teachers need to be professionally developed through research and innovation because it will enhance their teaching skills and performance especially in area of improvisation and utilization of instructional materials and aids. In order to achieve the purpose of this study, the following were examined:

- ✓ Concept of Technical College
- ✓ Who is a Teacher in the 21st Century?
- ✓ The Concept of Teacher Education
- ✓ Teachers’ Research and Innovation
- ✓ Teachers’ Professional Development and Principles
- ✓ Challenges Facing 21st Century Teachers’ Professional Development

Concept of Technical College

Technical College is an institution designed specially to train an individual at semi-skilled level as artisans, craftsmen and technician in their area of interest and specialization to make them self-reliant (Deebom, Dokubo & Obed, 2018). Technical Colleges in Nigeria are established to produce craftsmen at the craft level and master craftsmen at the advanced craft level (Federal Ministry of Education, 2013). The courses offered at the technical colleges

lead to the award of National Technical Certificate (NTC) and Advanced National Technical Certificate (ANTC). The curriculum programmes of technical colleges according to Federal Government of Nigeria (2013) are grouped into related trades. These include; the computer trades, building trades, wood trades, mechanical trades and electrical/electronic trades. Mechanical trade is a general name used in describing trades that have direct bearing with metal welding/forming and servicing/repairs of machines or machine-related equipment and appliances. The trades in this group include agricultural implement and equipment, mechanics work, auto electrical work, auto mechanics works, auto body building, auto parts merchandising, air-conditioning and refrigeration mechanics works, mechanical engineering craft practice, welding and fabrication engineering craft practice, foundry craft practice among others.

Who is a Teacher in the 21st Century?

A teacher is one certified to engage in interactions with learners for the purpose of effecting a change in their behavior...and assumes different capacities such as facilitator, educator, instructor, tutor, lecturer (Fareo, 2013). Teachers at all levels of the educational system are very important in the overall development of any nation. A teacher is conceived of as a reflective practitioner, someone who enters the profession with a certain knowledge base, and who will acquire new knowledge and experience based on the prior knowledge (Cochran-Smith & Lytle, 2001). A teacher also is who by virtue of training is qualified to be registered by teaching professional bodies like Teachers Registration Council of Nigeria (TRCN), Nigeria Union of Teachers (NUT), and Science Teachers Association of Nigeria (STAN) among others. In Nigeria today, teachers are responding favorably to the activities of the professional bodies through registration. According to the registrar of the Teachers Registration Council of Nigeria (TRCN), Nigeria has two million registered and qualified teachers (The Punch Newspaper, December, 7, 2018). The council has organized many continuous training and development activities to enhance the instructional skills of teachers.

In this study, a teacher is an individual who is academically qualified (certification) and can apply the pedagogy with modern instructional aids in teaching and learning process in technical college. This implies that today's teacher (21st century) must be ICT literate and friendly since the world has been digitalized. Also, the 21st century teachers are those who changes with the educational trend. For instance, the National Teachers Institute (NTI) is fully committed to capacity building for primary and secondary school teachers as demonstrated by the range of retraining programs. Apart from the upgrading courses that the institute has been implementing for many years {Teacher Grade 11 (TCII), National Certificate of Education (NCE), and Pivotal Teacher Training Programme (PTTP)}, the institute introduced proficiency Diploma Courses in Early Childhood Education, Guidance and Counseling, School Supervision and Inspection, and the Postgraduate Diploma in Education (PGDE). Indeed, the institute believes that an effective implementation of the Universal Basic Education Curriculum must begin with strengthening the capacity of existing teaching force through in-service training and re-training that will:

- ✓ disseminate innovative practical skills that will enhance the teachers' effectiveness and thereby enhance the quality of learning;

- ✓ update the teachers' knowledge of subject matter;
- ✓ contribute to the development of positive attitudes and self-concept by the teachers; and
- ✓ enable teachers to make pupils perceive learning as an interesting pleasant activity that promotes self-understanding, inquiry and critical thinking.

Furthermore, in 2002, the institute drew a five-year master plan on the professional development of teachers (2002-2006). The components of the plan are:

- ✓ training workshops on teaching the core subjects of English, Mathematics, Primary Science and Social Studies;
- ✓ training workshops on improvisation and utilization of instructional materials;
- ✓ training workshops on school based assessment;
- ✓ training workshops on improvisation and utilization of instructional materials; and
- ✓ distribution of multimedia learning packages (audio, video, print) on innovative teaching methods that provide on-the-job professional support for teachers, disseminate information on preventive education especially malaria, tuberculosis and HIV/AIDS.

All these efforts made by the National Teachers Institute (NTI) are to enhance effectiveness in teaching in this 21st century. This implies that teachers in technical college must be ICT-compliant which will encourage research, innovation and professional development in education in Rivers State.

Teachers are known to be responsible for the translation and implementation of educational policies. This depends on professional practice. Teachers who are deficient in professional practice are not likely to help the students meet the challenges of learning (Ayeni, 2010). For instance, Ayeni and Akinola (2008) reporting on Ondo State, found that 57% of teachers in secondary schools were not given adequate training opportunities by their principals while facilities to improve their professional competence through in-service training were not adequately provided. This constituted nuisance in professional education practice. The importance of training and re-training to career enhancement and capacity of teachers for improvement in teaching and learning processes cannot be over-emphasized. A study by Emetarom (as cited in Ayeni, 2011) on Owerri Urban and environs, revealed that both teaching experience and formal training in educational administration are necessary for the appointment of principals and vice-principals into administrative posts in education. Also, a related study by Olagboye in Ayeni (2011) revealed that 68.9% of the respondents were in favour of appointing only experienced teachers with formal training on educational administration to the posts of principals and vice principals while 32.1% of the subjects were not in favour. Considering the challenges posed by education in the 21st century today, school principals are expected to be resourceful and well-qualified professionally to be able to design, implement, aid and sustain relevant and effective in-service continuing professional development programmes that are participatory, school-based, focus on students' learning and adequately address the specific training needs of teachers in an e-generation today.

The Concept of Teacher Education in the 21st Century

Education is the bedrock of any development. Teachers are the determinant factor for the level and kind of development to be recorded in any nation; hence their education and training must be given urgent attention. According to Anho (2011), teachers' education is the process which nurtures prospective teachers and updates qualified teachers' knowledge and skills in the form of continuous professional development. According to Eduwen and Osagie-Obazee (2016), teachers have obligation to the development of education and teaching as a profession and these noble objectives can be realized by the training and retraining of teachers through in-service education. In the view of Adewuyi and Ogunwuyi (2002), teacher education is the provision of professional education and specialized training within a specified period for the preparation of individuals who intend to develop and nurture the young ones into responsible and productive citizens. According to Ogunyinka, Okeke and Adedoyin (2015), teacher education refers to professional education of teachers towards attainment of attitudes, skills and knowledge considered desirable so as to make them efficient and effective in their work, in accordance with the needs of a given society at any point in time. It includes training and or education occurring before commencement of service (pre-service) and during service (in-service or on-the-job).

In recent past, Nigeria has witnessed tremendous expansion in the teacher education programmes. It is expected that a well-designed teacher education programme should strive to achieve the set objectives of societal demands and expectations. Teachers' education in the 21st century should therefore revolve around the policies and procedures designed to equip prospective teachers with the knowledge, attitude, behavior and skills required in the performance of effective duties in the classrooms, and in other social gatherings that will facilitate a change. Teachers' education is often divided into three stages namely:

- (a) Initial teacher training;
- (b) The induction process involving the training and supports of the trainees during the first few years of teaching or the first year in a particular school; and
- (c) Teacher development or continuing performing development and intensive process for practicing teachers.

According to Anho (2011), the above processes and stages of professional development of teachers constitute the concept of "teacher education". Osuji (2009) opined that teacher education is the professional education of teachers towards attainment of attitudes, skills and knowledge that will make them efficient and effective in their work, in accordance with the needs of the society at any point in time. Teacher education is an organized institution designed for the professional training of those who engaged in the art and science of teaching. It includes training/education of service (pre-service) and education/training during service (in-service or on the job).

In the context of this paper, teacher education is a training given to teachers of technical college that can make them to function as professionals through research and innovations in terms of ethics, intellect, emotional, competencies, skills and knowledge. For professionalism to be attained by teachers today, its education system should be competitive-based, oriented

with innovations and research motivated especially in a digital globalised village like Nigeria. Also, teacher education can be defined as the policies and procedures designed to equip prospective and intending teachers with the needed research and innovations knowledge, attitudes, and skills they require to perform their tasks effectively in the classroom and the wider society. This education should be effective in technical college since their training and expectation are far and quite different from the conventional grammar school. According to Imogie (as cited in Eduwen & Osagie-Obazee, 2016), teacher education is therefore a formal programme designed to produce academically qualified and component corps of personnel who will continue the process of transmitting worthwhile knowledge to the present generation through the different levels of the school system. This is aptly articulated by the Federal Republic of Nigeria (FRN, 2013) in the National Policy of Education when the goals of teacher education were stated as follows:

- (a) To produce highly motivated, conscientious and efficient classroom teachers for all levels of our education system.
- (b) To encourage further the spirit of enquiry and creativity in teachers.
- (c) To help teachers to fit into the social life of the community, and society at large and to enhance their commitment of national goals.
- (d) To provide teachers with the intellectual and professional background adequate for their assignment and to make them adaptable to any changing situation not only in the life of their country, but in the wider world, and
- (e) To enhance teachers' commitment to the teaching profession.

To realize these objectives, certain institutions are charged with the responsibility to provide professional training for teachers. These institutions are:

- a. Faculties/ Institutes of Education of Universities
- b. Colleges of Education
- c. The National Teacher's Institute (NTI)
- d. Schools of Education in Polytechnics
- e. National Mathematical Centre and
- f. The National Institute of Nigerian Languages.

Every society requires adequate human and material resources to improve its social organization, preserve the culture, enhance economic development and reform the political structures. Education is often seen as a prerequisite for quality manpower development and creation of wealth, a sure path to success in life and service to humanity. Thus, teachers have important role to play to adequately prepare the young for their roles in the society in order to achieve the set national objectives. Thus, this role calls for the importance of teacher's education in the 21st century.

Teachers' Research and Innovation

The quality of any educational system depends to a great extent on the quality of teachers. Teachers are the most important component of any educational system because they are the people to shape the behaviour, thinking and attitude of the pupils/students in the teaching/learning situation. The quality of teachers determines the quality of teaching and

knowledge imparted to the students and the quality of learning outcomes. If quality educational training is to be achieved, government and other educational agencies must be up and doing in the training of teachers to be updated. Quality education is that type of education that is relevant and demanding to the needs of the learners and the needs of the society. It is the education that produces the complete person, a well educated wholesome individual that is intellectually, morally, physically, emotionally and socially developed. According to Majasan (as cited in Akpan & Ita, 2015), quality education should be education that inculcate in the learners dignity of labour, respect, ethical value, religious tolerance, self-reliance, political stability, security, quality leadership and industrial harmony.

Quality basic education is education that empowers the learners with relevant skills, knowledge, ideas, values and attitudes needed for the person to make informed decisions and live a self-sustaining life. To ensure quality education in Nigeria we need to train and retrain the teachers. It is through research that teachers can be updated on the new innovations on the subject area. Improvisation in teaching can only be done by a teacher who knows those current trends in terms of instructional methods and aids. In this era of knowledge explosion as a result of modern technologies, particularly computer and ICT, it becomes pertinent that teachers be provided with opportunities to update and improve their knowledge and skills through teacher development programmes. Akpan (2009) opined that teacher retraining programmes apart from developing in the teacher, self-confidence, it also improves upon the teachers' teaching method, class control, supervision of students, and knowledge of subject matter and use of instructional materials. These enhance teaching effectiveness and quality outcomes.

Research and innovations in teaching are made easy with ICT. Information and communication are two important processes in the teaching/learning situation. In the classroom, knowledge and skills of ICT could be used to enhance quality instructional delivery. It could be used to prepare lesson plan, collect and analyze students' achievement (Onuma, 2007). Akpan (2008) reported that with knowledge of ICT, curriculum contents could be enriched through search in the internet by teachers. Wheeler (2000) in his study reported that ICT improved efficiency in the educational process and effected changes in teaching methodology, assessment of learning, student tracking, communication and evaluation. In support of this, Becta (2004) opined that ICT equipped teachers with new innovations in education and in teaching. Thus, in this age of knowledge explosion and ever increasing number of students/pupils' enrolment in schools, teachers in Rivers State need to be trained in the use of ICT tools to promote quality education through research and innovations.

The introduction and integration of ICTs into teaching-learning processes has called for drastic changes in the role of the classroom teacher in the 21st century. The roles of the teachers are evolving as new expectations to be computer literate and at the cutting edge of technology arise (Flammand, 2012). With ICT facilities in the classroom, teachers must become experts at their usage as well as instruct students on computer usage, internet search, browsing, sending e-mails and receiving, using the computer to prepare lessons and others.

Teachers want to help transform their students into effective critical thinkers and life-long learners. This could be achieved in a setting where the teacher is inquisitive in knowing the current changes and information in the subject domain. Research enhances teachers' critical thinking skills, innovative skills, and analytical skills among others. These skills are mostly needed in technical college where teaching and learning is purely through demonstration. These have made some teachers ineffective. Demonstration is convenient and efficient with the available materials. A situation where the objects are not available, the teacher finds things difficult. At this point, a teacher is prompted to improvise which then cause them to make research and be innovative on the available means of improvising on proffering solutions to the situation.

According to the researcher, the benefits of research and innovation to a technical college teacher are: it enhances individual teacher's capacity, it helps the teacher to find solution to classroom or school problems, it exposes the teacher to professional ethics and contents, it acquaints the teacher with changes in the curriculum, it provides a linkage to source of professional information, it builds in the teacher confident in delivery of lessons, among others. With the introduction of ICT into the classroom, teachers have information at the comfort of the classroom/staffroom/offices. Akudolu (2007) further explained that ICT is not just about applications and systems but also needed skill for life in the society. Acquisition of ICT skill has become a fundamental necessity for living effectively in the modern world of the 21st century.

Teachers' Professional Development and Principles

Teachers throughout the world are experiencing an unprecedented transition in their role and status as demands on them are becoming increasingly multi-faceted... Many teachers do not have the training or experience to cope with this changing role (European Commission, 2000). This calls for why teachers need to be trained for professional development. According to Amadi (2010), professional development refers to skills and knowledge attained for both personal development and career advancement. Professional development encompasses all types of facilitated learning opportunities, ranging from college degrees to formal course work, conferences and informal learning opportunities situated in practice.

For Glatthom (in Fareso, 2013), professional development in a broad sense refers to the development of a person in his or her professional role. More specifically, "teacher development is the professional growth a teacher achieves as a result of gaining increased experience and examining his or her teaching systematically. Professional development includes formal experience such as attending workshops and professional meetings, mentoring and informal experiences such as reading professional publications, watching television documentaries related to academic discipline, etc. (Ganser, 2000). In teachers' professional development, various models and techniques have emerged. According to Mohammed (2006), two most commonly used models in Nigeria are the workshop model and the school-based teacher professional support model. The workshop model entails drawing participants out of their schools to a venue where they are exposed by experts to a core of information and skills. The workshop may be short or long-term. The nature of skills and

processes to be acquired also vary. This is the most common form of Continuing Professional Development (CPD) model in Nigeria. The school-based teacher professional support and mentoring model is an alternative strategy for in-service training of teachers. Here, students or pupils, teachers, supervisors and facilitators are involved collaboratively in carrying out a series of classroom/school-based activities that will help the teacher to improve. The teacher gets professional support from facilitators and supervisors who serve as mentors. Teachers' professional development is particularly important because of the need for teachers to do better and raise academic performance standards of students. In order to meet the challenging demands of their jobs occasioned by technological innovations, teachers must be capable and willing to continually upgrade their content knowledge, skills and practices.

Through teacher professional development, teachers learn new teaching strategies to improve the quality of instruction. This allows them to make changes in the way they teach their students, incorporating innovative teaching methods in the classroom. It teaches them how to work with a variety of learning styles, since not all students learn the same way. It also helps teachers change their day-to-day teaching methods, encouraging them to accept new methods based on accurate education research. From this perspective, professional development includes the following principles according to American Federation of Teachers (1995):

- ✓ Ensure depth of content knowledge.
- ✓ Provide a strong foundation in the pedagogy of particular disciplines.
- ✓ Provide more general knowledge about teaching and learning processes, and about schools and institutions.
- ✓ Reflect the best available research.
- ✓ Contribute to measurable achievements in student learning.
- ✓ Expect teachers to be intellectually engaged with ideas and resources.
- ✓ Provide sufficient time, support and resources to enable teachers to master new content and pedagogy and integrate these into their practice

Challenges Facing 21st Century Teachers' Professional Development

Over the years, teacher education in Nigeria has witnessed tremendous challenges resulting from socio-economic, political and technological advancements. The researcher identifies the following as challenges facing teachers' professional development in Rivers State:

- 1. Teachers' Inability in the use of Information Communication Technology:** Nigerian teachers are yet to be developed professionally on ICT skills, competencies and capabilities which are required for the effective implementation of ICT education. This has stampered teachers' professional development.
- 2. Stiff-necked Attitude for Change:** Teachers today see change as a difficult task to accomplish. This has made a bulk of the teachers to be addicted to what he/she learnt before enrolling into teaching profession and hence cannot adapt to new innovations in the use of modern techniques and aids in teaching.
- 3. Public Relegation of Teaching Profession:** The society has a wrong perception about teaching and that has polluted and affected the behaviour of the teachers inclusive. A teacher is not always recognized and this makes teachers find it difficult to enroll into programmes that can help his/her professional growth.

4. **Poor Salary Scale/Lack of Allowances:** Poor take home salary makes teachers not to invest money into further training. This has become a usual practice because of low salary that ordinarily cannot cater for their welfare.
5. **Lack of In-service Training:** Teachers are not encouraged to go for advanced programmes while they are working. The young newly employed teachers who have the charisma for further training are always discouraged by stringent conditions from the government, principals, headmaster/headmistress etc. such as salary deductions, non-acceptability of the certificate upon completion etc. These among others negate professional development of teachers in Rivers State.

Conclusion

This paper has discussed developing a professional teacher in education in the 21st century through research and innovation in Rivers State. In addition, the challenges confronting the 21st teachers' education professional development has been examined. Key among it are public relegation of teaching profession, poor teachers' salary scale, inability of teachers' to use ICT and attitude of teachers' towards change. From the above discussion, it is no longer gainsaying that 21st century teachers in Rivers State need professional development through research and innovations to be in tune with the present day educational demand standard.

Recommendations

Based on the above discussion, the following recommendations were made:

1. State government budget should invest at least 26% of its annual budget into education as stipulated by UNESCO (2008). This will allow Ministry and other agencies to give free professional training to teachers.
2. Teachers should personally endeavour to participate in conferences, seminars, workshops on related areas irrespective of the costs. This will help them to learn / gain new knowledge, skills and will also enhance their interest in learning research and innovations.
3. Teachers with determination to improve academic qualification should be allowed without placing high stringent conditions. This will in a way motivate others to join the trend thereby creating a learning forum for academic research and innovations.
4. Organization of workshops, seminars should be effective either internally or externally. This will make teachers realize the new trend in their discipline or career.

References

- Adewuyi, J.O. & Ogunwuyi, A.O. (2002). *Basic Text on Teacher Education*. Oyo: Odumatt Press and Publishers.
- Ajayi, I. A. & Ekundayo, H. T. (2010). *Contemporary Issues in Educational Management*. Lagos: Bolabay Publications.
- Akindutire, I. O. & Ekundayo, H. T. (2012). Teacher Education in a Democratic Nigeria: Challenges and the Way Forward. *International Journal of Educational Research*, 3(5), 429 – 435. Available online@ <http://www.interestjournals.org/ER> Copyright © 2012 International Research Journals
- Akpan, C. P. & Ita, A. A. (2015). Teacher Professional Development and Quality Universal Basic Education in Lagos State. *Nigeria. Global Journal of Arts, Humanities and Social Sciences*, 3 (9), 65-76.
- Akpan, C. P. (2008). Lecturers' Perception of the Role of ICT in the Management of University Education for Sustainable Development in Nigeria: *Nigerian Journal of Educational Administration and Planning*. 8(1), 113-127.
- Akpan, C. P. (2009). Teacher Education. Focus on the Training and Retraining of Practicing Teachers. *Teacher Education*. 1(1), 26-28.
- Akudolu, P. (2007). ICT and Educational Development. *Journal of Educational Studies*, 10 (2): 12-21.
- Amadi, M. N. (2010). *Current Issues and Trends in Nigeria Higher Education*. Course Material Written for B.Ed and M.Ed Student, pp. 98 - 99. Lagos: VITAMED Publisher.
- American Federation of Teachers (1995). *Principles for Professional Development*. Washington, DC: AFT.
- Anho, R.O. (2011). The Role of Education Administrators in Nigeria Secondary Schools. *African Journal of Education and Technology*, 1 (1), 39-44.
- Ayeni, A. J. & Akinola, O. B. (2008). Influence of Principals' Leadership Styles and Motivation of Teachers on Quality Assurance in Secondary School: A Case Study of Ondo State. *Ifè Journal of Theory and Research in Education*, 2 (1&2), 162-170.
- Ayeni, J. A. (2011). Teachers' Professional Development and Quality Assurance in Nigerian Secondary Schools. *World Journal of Education*, 1(2), 143-149.

- Ayeni, J. A. (2010). Teachers' Instructional Task Performance and Principals' Supervisory Roles as Correlates of Quality Assurance in Secondary Schools in Ondo State. Unpublished Doctoral Dissertation, Obafemi Awolowo University, Ile-Ife, Nigeria.
- Balogun, A. M. (2010). *Challenges of Higher Education in Nigeria: A Manager's Perspective*. Being a Paper Presented at the Maiden Edition of the Faculty of Education Annual Lecture Series, University of Ado-Ekiti, March 22nd.
- Becta (2004). *What the Research Says About ICT and Reducing Teachers' Workloads*. Available online: www.becta.org.uk/research. Accessed in November, 2017.
- Cochran-Smith, M. & Lytle, S. L. (2001). Beyond Certainty Taking an Inquiry Stance on Practice. In Lieberman, A. Miller, L. (Ed). *Teachers Caught in the Action: Professional Development that Matters*. Pp. 34-39. New York. Teachers College Press.
- Deebom, M. T., Dokubo, I. N. & Obed, O. O. (2018). Collaboration Between Technical Vocational Education and Training (TVET) Institutions and Oil and Gas Industries for Tackling Skills shortage in Niger Delta. *Niger Delta Journal of Education*, 10(2), 47 – 54.
- Eduwen, F. O. & Osagie-Obazee, G. E. (2016). Teacher Education: A Panacea for National Development in Nigeria. *An International Multi-disciplinary Journal, Ethiopia*, 10(4), 106-114.
- European Commission (2000). *European Report on Quality of School Education: Sixteen Quality Indicators*. Brussels: Directorate-General for Education and Culture.
- Fareso, D. O. (2013). Professional Development of Teachers in Africa: A Case Study of Nigeria. *The African Symposium*, 13 (1), 63-68.
- Federal Republic of Nigeria (FRN, 2013). Federal Republic of Nigeria in Collaboration with International Labour Organization (ILO) Action Programme as Education 2004-2005: *Teachers for the Future: Meeting Teacher Shortages to Achieve Education for All. Nigeria: National Policy Brief*.
- Flammand, L. (2012). Traditional Goals With New Resources. e-Howcontributor–http://www.e_how.com.
- Ganser, T. (2000). An Ambitious Vision of Professional Development for Teachers. *NASSP Bulletin*, 84(6), 6-12.

- Muhammed, A. H. (2006). *Creating Opportunities for Continuing Professional Development of Teachers: The National Teachers Institute (NTI) Experience*. Lead Paper Presented at the 1st National Conference of the Faculty of Education, University of Abuja held from 17th – 21st October, 2006 Abuja.
- Ogunyinka, E. K., Okeke, T. I. & Adedoyin, R. C. (2015). Teacher Education and Development in Nigeria: An Analysis of Reforms, Challenges and Prospects. *Educational Journal*, 4(3), 111 – 122.
- Okemakinde, T., Adewuji, J. O. & Alabi, C. O. (2013). The Place of Teacher in National Development in Nigeria. *European Journal of Humanities and Social Science*. 19 (1), 45-52.
- Onuma, N. (2007). Utilization of Information and Communication Technology in Schools: Problems and Suggestions. In Babalola, J. B, Akpa, G. O, Ayeni, A. O. & Adedeji, S. O.(eds.). *Access, Equity and quality in Higher Education*. Pp. 34-36, NAEAP Publication.
- Osuji, S. N. (2009). Teacher Education Curriculum in Nigeria in the Perspective of Lifelong Education. *Journal of International Social Research*, 2(8), 54 - 66.
- Punch Newspaper (2018). TRCN Confirms that Nigeria has Only Two million Registered Teachers. December, 7, 2018.
- UNESCO (2008): *World Education Report Teachers and Learning in a Changing World*. Paris: France.
- Vanguard Newspaper (2017). Shock as 21,780 Kaduna State Teachers Fail Primary Four Competency Test Examination. October, 23rd, 2017. pp.35-44.
- Wheeler, S. (2000). *The Role of the Teacher in the use of ICT Learning Technology Research*. Keynote Speech delivered at the National Czech Teachers' Conference. University of Western Bohemia, May 20.