

Teacher Education Programmes and the Acquisition of 21st Century Skills: Issues and Challenges in Nigeria

Oyenike Adeosun

(University of Lagos, Nigeria)

1. Introduction

Teaching is a versatile field that requires at all times the correct identification of indices of developments in the society. This responsibility makes it imperative that teachers be an embodiment of a constant search for updated knowledge in various fields of life, i.e. latest information, skills and breakthroughs. A concern for teacher quality brought about an ongoing argument over what should constitute the significant portion of a teacher training programme - the knowledge of what to teach or how to teach it? While there is yet to be a conclusive end to the debate, Obanya (2004) noted that gone is the past where all that was required of a teacher was subject matter knowledge. This platitude is becoming more apparent for the 21st century where rapid technological development implies that knowledge is no longer a 'once in a lifetime' experience for the individual. It is rather an asset, which constantly has to be updated. The teacher therefore needs to be equipped with an acceptable standard of general studies of which ICT is paramount. Improving teacher education programmes then is a worldwide concern; with special focus on developing countries, since no education (country) can rise above the quality of its teachers (National Policy on Education, 2004).

2. Teacher Education Programme in Nigeria

The goal of teacher education in Nigeria includes, among others, 'the encouragement of the spirit of enquiry and creativity in teachers, and providing them with the intellectual and professional background that will be adequate for their assignments and also make them adaptable to changing situations' (FME, National Policy on Education, 2004). Section 8B (item 74) of the policy noted that teacher education shall continue to take cognizance of changes in the methods and curriculum and teachers be regularly exposed to innovations in their profession. By the policy stipulations therefore, the professional training of teachers is two-fold: pre-service and in-service trainings. To implement this, certain institutions are charged with the responsibility to provide professional training for teachers. These include:

- Faculties/Institutes of Education of Universities: train teachers for secondary (high) schools by offering Bachelor of Education degree programmes to both senior secondary school graduates and senior secondary school teachers who already have National

Certificate in Education (NCE) qualifications. They also offer Master's and Doctorate degree programmes in education.

- Colleges of Education: offer post-secondary NCE training Programmes, i.e. train teachers for primary and junior secondary schools (basic education). The NCE has become the minimum qualification for primary school teaching as of 1998. Some of the colleges also offer NCE pre-primary courses in order to produce teachers for the pre-primary level of Education. The NCE represents a classic design of teacher education in Nigeria.
- The National Teachers' Institute (NTI): was established to provide refresher and upgrading courses for practicing teachers; organize workshops, seminars and conferences as well as formulate policies and initiate programmes that would lead to improvement in the quality and content of education in the country. In pursuit of these responsibilities, the institute initiated training and re-training programmes for helping unqualified primary school teachers. Recently, the institute also embarked on the Nigeria Certificate in Education (NCE) programme through a Distance Learning System (DLS). It also provides training for the Pivotal Teachers Training Programme (PTTP) by means of a distance learning system, which was introduced in 2002 as a means of producing teachers to fill the gap in teacher supply for the Universal Basic Education (UBE) programme.
- Schools of Education in the Polytechnics: offer diploma programmes for the production of teachers for technical and vocational colleges.
- National Mathematical Centre and the National Institutes of Nigerian Languages: organize specialized training in content and pedagogical skills for in-service teachers. They also develop instructional materials for use in schools.

The requirements for the various teacher-training programmes differ from one level to the other in terms of academic qualification. For admission to colleges of education, prospective candidates must have at least three credits in the Senior School Certificate—including the subjects they want to study—and two other passes. At the university level, the entry requirement is five credits, which must include the chosen major teaching subject. In addition, prospective candidates are required to sit for an entrance examination called the Unified Matriculation Examinations (UTME).

The pre-service training prepares the perspective teacher to participate effectively in the educational system and usually involves exposure to varied concepts of teaching and learning and contents of different subject areas depending on the area of specialization of each teacher. The 3-year NCE programme covers:

- General studies (Use of English, Introduction to Computers, etc.) -14 credits/units.
- Study of the main elements of education (philosophy, sociology, psychology, theory and history of education, comparative education, school administration, classroom management, subject pedagogy, etc.)- 36 credits/units.
- Studies in areas of specialization (school subjects) - 70 credits/units.

- Practice in teaching and conducting co-curricular activities (6 credits/units.). Usually the teaching practice is organized for students by the 3rd year. This implies that teacher-trainees would have been exposed to two or three years of instruction in pedagogy as well as the content of their specialist areas. The duration of the teaching practice is usually twelve weeks when the trainees are posted to schools for some practical orientations in teaching. During the teaching practice, students are expected to imbibe the culture of the schools where they are posted: they are required to be in attendance everyday in their assigned schools during the term. They are also expected to substitute for the regular teacher during the period, often after due orientation and supervision of the regular teachers. The principals, vice principals and regular teachers play significant roles in support of teaching practice while faculty members undertake the supervision and assessment of trainees (student-teachers). The school involvement is limited because they do not grade but only ensure conformity with the scheme of work. Students are also expected to prepare lesson plans for every lesson for which they are responsible, based on the format given earlier during an orientation. The lesson plans are made available to the faculty supervisor during supervision. As for supervision, a faculty supervisor serves as an advisor to the student, providing support for teaching practice. S/he observes, supervises, comments on, critiques, commends and sometimes condemns the student's efforts. It is expected that after teaching practice exposure, trainees are able to acquire practical knowledge needed to jump-start them into the teaching profession.
- Conducting a research project in an area of education/instructional practices borrowing from issues observed especially during teaching practice- 4 credits. At graduation, a teacher must have been exposed to 130 credits of intensive training.

At the end of their trainings, trainees are awarded degrees according to the institution attended as well as their overall academic performance which qualified them to teach at the level of education trained for. In addition, and very recently, they are also required to register with the Teachers Registration Council of Nigeria which is a body responsible for the licensing of teachers. At the fulfilment of these requirements, they are considered professional teachers.

3. Teacher Education Issues in Nigeria

Despite the above arrangements, the efficacy of the teacher training programmes in Nigeria to prepare teachers for the 21st century has been questioned by a number of studies (Obanya, 2004, Ololube, 2006). Teacher- training institutions have been critiqued for their inability to produce teachers who are properly grounded in pedagogy and content as well as having the ability to collaborate professionally in a working environment. Educationists observed that the transition from academic theories in universities to classroom practice has often been very sharp suggesting that student teachers are not often properly groomed to put into practice current pedagogy and interactive skills that have been theoretically learnt. Quoting the Education Sector Analysis,

Kuiper et al, (2008) noted that:

“Complaints about newly appointed teachers, who have low levels of numeracy and literacy skills as well as inadequate knowledge in their chosen areas of subject specialization, are commonplace. The low quality of graduates from the teacher training colleges and universities who are joining the teaching profession is a major issue.... The assessment tests ... make it clear that students enter colleges and universities with very low levels of cognitive skills.... Students are caught in a cycle of low achievement, teachers with inadequate cognitive skills, and then further low achievement by students”. (p.5)

From the above, Kuiper et al (2008) seemed to have a holistic perception of the issues. Other studies/ reports (Education Sector Analysis, 2002, 2008; Ajeyalemi, 2005; Okebukola, 2005; National Teacher Education Policy, 2007; Education Sector Support Programme in Nigeria (ESSPIN) Input Visit Report, 2010) give a rundown of the issues as follows:

1. The Teacher training curriculum in the country does not fully acknowledge the new age environment in schools and classrooms in terms of constructivist learning, learner-centred instructions and integrating technology into the processes of teaching and learning. There is not a sufficiently strong link between the schools' curriculum and the teacher education curriculum.
2. There is gap between the curriculum taught to teacher trainees and the reality that exists in schools. Such realities include dilapidated school buildings, lack of instructional materials including textbooks and writing materials for the pupils, sometimes overcrowded classes, etc. These sometimes overwhelm newly qualified teachers especially when they are required to play multifarious roles to deal with these issues. Essentially, teacher preparation programmes are deemed excessively academic and remote from the real challenges confronting classrooms.
3. The emphasis on content delivery, examination and certification over real learning is also a serious threat to quality. The current system of teaching and evaluation does not allow creativity, innovation and research, which are important tools for lifelong learning. Also, education is construed as an academic exercise that is divorced from the daily-life world of learners and obtaining education qualifications at any level relies heavily, and primarily, on corruptive practices.
4. Primary Education Studies (PES) is the only course in the NCE curriculum that explicitly sets out to prepare students for teaching in the primary school in an integrated and focused manner. However, only 10% of enrolment in the colleges follows Primary Education Studies, while the remaining 90% offer single or double major courses. This leaves a dearth of qualified teachers at the primary school level.
5. There is also the quantity and quality of input for teacher training programmes. Most youths in Nigeria are not motivated to teach, and often opt for teaching as a last resort, that

is, after failing to secure admission into lucrative courses- law, medicine, banking, etc. Since the admission quota for these courses is generally high, and for teacher education low, there is the perception that individuals who opt for teaching are not ‘academically sound’.

6. Learning Materials are not consistently available (students depend on their own notes copied from the blackboard) and thus written materials do not play a coherent and pervasive role in the provision of a strong cognitive and structure-giving basis for the development of the required professional knowledge, skills and attitudes of an effective teacher.
7. Poor preparation and poor recruitment of lecturers, results in a lack of professional development opportunities for lecturers. In addition, in-service training for basic education teachers consists primarily of programmes to provide upgrading or certification through distance “sandwich” courses.
8. The teaching force in Nigeria is heterogeneous, particularly with respect to educational attainment and professional training. Teachers range from those with post-graduate qualifications to secondary school leavers with minimal levels of pre-service training. In most private basic schools, teachers with certificate level pre-service training are predominant. Consequently, as an occupational group, teachers do not have the equivalent level of education and training or the cohesiveness known of well established professions.

4. Imperatives for 21st Century Skills in Teacher Education

Increasing globalization and the emergence of the knowledge economy are calling into question traditional perspectives on the transformational capacity of education systems and the conceptions of teaching as a profession and the roles of teachers. How well Nigeria responds to the above and many other challenges will depend upon her capacity to provide expanded opportunities in the building of stronger competencies for the Nigerian child through high-quality schooling (Fakoya, 2009). Apart from the pressure of globalization, other challenges such as the rapid technological advancements, changing patterns of work, explosion in information access and use all make the inculcation of 21st century skills imperative. Also, peculiar African related issues and problems such as poverty, the digital gap, environmental degradation, diseases, illiteracy, alterations in family and community relations, etc. account for the imperative need for developing 21st skills and knowledge in future leaders and professionals of the world. Darling-Hammond (2006) succinctly puts it:

The importance of powerful teaching is increasingly important in contemporary society. Standards for learning are now higher than they have ever been before, as citizens and workers need greater knowledge and skill to survive and succeed. Education is increasingly important to the success of both individuals and nations, and growing evidence demonstrates that—among all educational resources—teachers’ abilities are especially

crucial contributors to students' learning. (p.14)

In essence principles and strategies must be put in place to ensure productive and successful partnerships in teacher preparation, especially in meeting the challenges of the 21st century.

5. What are 21st century skills?

In a knowledge driven economy pulled by globalization and continuous technological advancement, the term 21st century skills have brought global awareness each country's need to constantly update its workforce in preparation for the future. In response to the question "What are 21st Century skills?", the Partnerships for 21st Century Skills (2008) identify the following:

- A blend of content knowledge, specific skills, expertise and literacies;
- Critical thinking, problem solving, creativity, flexibility, effective communication and collaboration, self directed learning as a base for core academic knowledge; and
- Skills needed to make the best use of rapidly changing technologies and vital to working and living in an increasingly complex, rapidly changing global society.

These skills are captured in a model curriculum for inculcating and developing them by the Partnerships for 21st Century Skills (2009). This is presented as Figure 1 (see appendix). According to the model, the 21st century curriculum should cover four broad areas, namely;

1. Life and career skills, focusing on the ability to navigate complex life and work environments. These include skills such as flexibility and adaptability to change, possessing initiative and self direction, managing time and goals, being able to work independently and yet still work effectively with others, respecting individual and cultural differences, demonstrating good leadership and being responsible to others.
2. Learning and innovation skills with a focus on creativity, critical thinking, innovative thinking, problem solving, communication and collaboration; information, media and technology skills,
3. Integration of 21st century themes within the academic content of core subjects. Such themes include global awareness; financial, economic, business and entrepreneurial literacy; and civic, health and environmental literacy.
4. Information and media technology skills with a focus on accessing information efficiently and effectively, evaluating it critically and competently, and using the information accessed accurately and creatively to solve problems. It also involves understanding how and why media messages are constructed, creating one's own media products; and using technology as a tool for research, organization, evaluation and communication, and finally, managing, integrating, evaluating and creating information to successfully function in a knowledge economy (*P21 Framework Definitions, 2009, p. 4-9*).

6. How can these components be incorporated within the context of teacher education programmes?

Since teachers are key personnel in realising the national goal of a knowledgeable society, essentially teachers need to be lifelong learners themselves in order to shoulder the heavy responsibilities entrusted to them and be capable of positively influencing the students in their thoughts, behaviours and lifestyle (Kolo, 2009). Candy (2002) also recommended the emphasis on lifelong learning and information literacy in the context of teacher education programmes. Lifelong learning, according to him, is described as:

... a continuously supportive process which stimulates and empowers individuals to acquire all the knowledge, values, skills and understanding they will require throughout their lifetimes and to apply them with confidence, creativity and enjoyment in all roles, circumstances and environments. (Candy, 2002, p.6).

Information literacy was also seen as a major component of lifelong learning and comprising:

- Effective information seeking;
- Informed choice of information sources;
- Information evaluation and selection;
- Comfort in using a range of media to one's best advantage;
- Awareness of issues to do with bias and reliability of information; and
- Effectiveness in transmitting information to others. (Candy, 2002. p. 7)

In addition, Oliver & Towers (2000) focus on the acquisition of ICT literacy which is using digital technology, communications tools and/or networks to access, manage, integrate, evaluate, and create information in order to function in a knowledge society, (ICT Literacy Panel, 2002). This component was expanded by Churches (2008) that in harnessing those resources s/he is surrounded with, the networked teacher needs to:

1. Adapt the curriculum and the requirements to teach to the curriculum in imaginative ways. They must also be able to adapt software and hardware designed for a business model into tools to be used by a variety of age groups and abilities. They must also be able to adapt to a dynamic teaching experience.
2. Locate the potential in the emerging tools and Web technologies, grasp these and manipulate them to serve their needs.
3. Leverage on collaborative tools (Blogger, Wikispaces, Bebo, MSN, MySpace, Second life, Twitter, RSS) to enhance and captivate learners, and must also collaborate in sharing, contributing, adapting and inventing.

4. Take risks and sometimes surrendering himself to the students' knowledge. Have a vision of what s/he wants and what the technology can achieve, identify the goals and facilitate the learning.
5. Continue to absorb experiences and knowledge, endeavour to stay current, must learn and adapt as the horizons and landscapes change.
6. Must go beyond learning just how to do it; but also know how to facilitate it, stimulate and control it, moderate and manage it.
7. Model the behaviours that s/he expects from her/his students (tolerance, global awareness, and reflective practice).
8. Be a leader and work with clear goals and objectives.

Simmons (2010) also noted that effective teaching in the 21st century requires more than a basic understanding of educational theory and classroom management. Teachers must also collaborate with other educators to learn how to implement new technology in the classroom, and how to prepare students to enter a global economy. Therefore, s/he is faced with the task of effective classroom management, making content relevant to students daily lives, developing critical thinking in her/his students, working with new and evolving technologies to create meaningful and effective lessons, giving students understanding and importance, having students work in teams to ensure that all students receive an equal education regardless of what teacher they have, and finally staying current on new issues and developments in the field of teaching as well as content areas.

The National Institute of Education, Singapore developed a teacher education model for the 21st century tagged TE21 (2009), in which expected skills and knowledge of the 21st century teacher were discussed, as shown in Table 1 (see appendix). This knowledge and the necessary skills require a serious overhaul of the education programmes in Nigeria. Furthermore, in a comparative review of effective teacher education programmes in selected contexts, Darling–Hammond (2006) noted the following as strong areas:

- a common, clear vision of good teaching that permeates all course work and clinical experiences, creating a coherent set of learning experiences;
- well-defined standards of professional practice and performance that are used to guide and evaluate course work and clinical work;
- a strong core curriculum taught in the context of practice and grounded in knowledge of child and adolescent development and learning, an understanding of social and cultural contexts, curriculum, assessment, and subject matter pedagogy;
- extended clinical experiences—at least 30 weeks of supervised practicum and student teaching opportunities in each programme—that are carefully chosen to support the ideas presented in simultaneous, closely interwoven course work;
- extensive use of case methods, teacher research, performance assessments, and portfolio evaluation that apply learning to real problems of practice;

- explicit strategies to help students to confront their own deep-seated beliefs and assumptions about learning and students and to learn about the experiences of people different from themselves;
- Strong relationships, common knowledge, and shared beliefs among school- and university-based faculty jointly engaged in transforming teaching, schooling, and teacher education (Darling-Hammond, 2006, p. 15).

Based on the above, he therefore recommended that to develop and execute a 21st century focused teacher education programme, coherence and integration that establish links and relationships between courses are of importance. Also overriding this is an extensive, well-supervised clinical experience which spans a full year of the academic programme, and supported by newly emerging pedagogies—such as close analyses of learning and teaching, case methods, performance assessments, and action research. Of emphasis is the use of case notes in teaching:

It is worth noting that many professions, including law, medicine, psychology, and business, help candidates bridge the gap between theory and practice—and develop skills of reflection and close analysis—by engaging them in the reading and writing of cases. Many highly successful teacher education programs require candidates to develop case studies on students, on aspects of schools and teaching, and on families or communities by observing, interviewing, examining student work, and analyzing data they have collected. Proponents argue that cases support both systematic learning from particular contexts as well as from more generalized theory about teaching and learning (Darling-Hammond, 2006, p.16).

He concluded that “powerful teacher education programmes have a clinical curriculum as well as a didactic curriculum” (Darling-Hammond, 2006, p. 16), therefore requiring a major overhaul of the relationships between universities and schools.

7. What policies indicate that Nigerian education is ready for the 21st century? How far are these policies implemented?

Apart from the review of the National Policy of Education which further reiterated the importance of quality teacher education as an impetus for national development, an attempt was made to develop a specific national policy for teacher education in 2007, with the following overall goal:

“In recognition of the pivotal role of quality teachers in the provision of quality education at all levels, teacher education shall continue to be emphasized in all educational planning and development.” (FME, National Teacher Education Policy, 2007, p.1.)

However, in recognition of the issues earlier isolated in teacher education, the policy hopes to re-orientate and restructure teacher education through the following objectives:

- Create adequate incentives to attract and retain capable teachers;
- Recommend rigorous admission and graduation requirements and apply them consistently;
- Ensure that teacher education institutions are well equipped both in human and material resources;
- Recommend that teachers have sufficient mastery of content and varied methods of teaching that are subject-specific including teachers for Special Needs Learners;
- Ensure structured, effective and supportive supervision of teaching practice and induction as well as certification and licensing;
- Produce sufficiently trained teacher educators capable of imparting and modelling desired knowledge, skills and attitudes;
- Motivate teachers and provide opportunities for their continuing professional development, retention, advancement and improvement in their chosen career and
- Recommend that teachers need to constantly upgrade their skills in order to remain competent and relevant.

To achieve the above, policy statements were developed around the key education challenges earlier identified, covering admission and graduation requirements, curriculum and instruction and quality assurance issues, clinical practice, induction, certification and licensing, quality of teacher educators and continuous professional development for in-service teachers. One must note that there is yet to be a comprehensive strategy for effective translation and implementation of these policy statements.

In addition, the National Economic Empowerment & Development Strategy (NEEDS) which is the national translation of the Millennium Development Goals in Nigeria, recognised education as a vital transformational tool and a formidable instrument for socio-economic empowerment (National Planning Commission, 2004). The critical elements were summarized as value re-orientation, poverty eradication, job creation and employment generation; with one significant strategy for achievement as empowering people through education. The NEEDS document set some goals for education including improving the quality of education at all levels including teacher education. However, a United Nations assessment of NEEDS in 2006 noted a lack of any system of in-service training to ensure that teachers maintain standards after their initial teacher training among other issues of funding and teacher deployment.

As a quality assurance measure at the university level, the National Universities Commission developed in 2005 Minimum Academic Standards (MAS) and Benchmark Minimum Academic Standards (BMAS), minimum standards that guide academic operations, philosophy, objectives, contents, admission requirements, and course contents, as well as the overall physical facilities for all academic programmes in Nigerian universities. The MAS and

BMAS documents are expected to provide the yardstick for the evaluation of programmes in Nigerian universities with consideration to factors that are germane in the delivery of quality university education from entry requirements to staffing laboratories, libraries, and other physical facilities to meet graduation requirements.

The Federal Ministry of Education, through the National Commission for Colleges of Education (NCCE) also published a document that provides a minimum standard for Teacher Education programmes. The document suggested that the curriculum and practicum of initial teacher training programmes at certificate (NCE), degree (B.A. & B.Sc., B.Ed.) or postgraduate diploma level (PGDE) should be based on stipulated standards thereby calling for revision of existing curricula. It provides a basis on which to consider what kinds of initial teacher education programmes best suit the preparation of primary and secondary school teachers; focusing on the ‘development of education programmes that will optimize teacher opportunities to demonstrate knowledge and skills designated as important for them to engage with the demands of a highly competitive, rapidly changing and technologically oriented society’ (NCCE, 2002, p.5). Kuiper et al (2008) noted that these standards are organized around three broad themes: professional knowledge, professional practice and professional engagement. The standards are developed into a competency based, output driven teacher education programme summarized in Table 2 (see appendix).

The above informed the commencement of ongoing teacher education reforms at the NCCE level set to:

- Review teacher education curriculum content areas (Early Childhood Care & Education, Primary Education Studies, Junior Studies, Special Needs, and Adult/Informal Education) and develop minimum standards for a curriculum implementation framework;
- Prescribe Minimum Standards for institutional management to ensure that colleges provide the appropriate resource-base for the delivery of quality teacher education;
- Develop a quality assurance system that focuses on quality curriculum implementation and college management rather than only on checking the availability of minimum levels of staffing and other resources (Internal College Quality Assurance and External NCCE-led Quality Assurance);
- Develop a standardized Teaching Practice Model; and
- Establish an efficient, practical Quality Assurance System that supports the creation and maintenance of quality.

From the framework, the minimum standard for best practices in curriculum implementation agrees with our focus on training teachers with 21st century skills. This framework is divided into five core areas covering educational practices, teacher standards, learning opportunities, assessment and teaching practice (ESSPIN, 2010, pp.26-28):

The **educational approach** section focuses on the minimum standards for curriculum content and practice which are based on the current views of what constitutes best practices in

education. This includes: emphasis on learning instead of teaching; recognition that children learn in many ways; ensuring that students learn the appropriate concepts and ideas rather than teach to cover the curriculum content; shift from ‘transmitting knowledge’ to ‘creating understanding’; ensuring that student-teachers learn and practise to be effective teachers; and focus on learning to learn.

The **Teacher Standards** set the vision of the New Teacher that Nigeria needs and demand measurable evidence that a student-teacher has achieved all Teacher Standards to an acceptable level, and subsequently builds a career path through continuous improvement throughout the teaching career.

Learning Opportunities focus on the essential way through which the effective development of learning to be a teacher can be assisted. These include: lecturers planning effectively for each course; providing a variety of effective, high quality learning materials; student-teachers asking questions during lectures whenever they need to; individual and group assignments as well as sufficient opportunities to practice skills in microteaching and in Teaching Practice. They are also given regular feedback on their performance so that they know where their learning of being an effective teacher is not yet fully developed.

Assessment should not focus only on reproducing knowledge, but on finding out whether student-teachers have developed conceptual understanding and problem solving and practical teaching skills. Minimum Standards for Assessment should include: formative assessment, summative assessment: informing the student and teacher what has been learnt as a group and in individual assignments, practical work, research projects, tests and examinations, Student Reflective Journals on Micro-Teaching and Teaching Practice, and Observation reports of Teaching Practice from school-based and college mentors.

Teaching Practice is the only opportunity for student-teachers to apply and develop their practical professional skills. The minimum standards expected include the teaching of method courses in the context of content; relating micro-teaching to pedagogy courses and using it as effective preparation for Teaching Practice. The duration and frequency were also determined. Lecturers are expected to effectively coordinate the overall teaching practice preparation programme. This should contain a gradual building up of assignments, micro-teaching and classroom observation activities in a way that student-teachers are prepared through their various courses in a consistent and effective manner of Teaching Practice. It should be assessed by applying the relevant teaching standards and providing evidence of how well student-teachers achieve them.

8. A Case in Study: Curriculum Reforms at Kwara State College of Education, Oro

The above model informed the ongoing NCCE Teacher Education Reform based on a trial experiment in a College of Education in Nigeria, with the aim of supporting the transformation of various aspects of Teacher Education in Nigeria (April, 2008- April, 2010). This was an ESSPIN

consultancy project supported by DFID and developed in conjunction with the National Commission for Colleges of Education (NCCE), Kwara State Ministry of Education, and the College of Education, Oro. The terms of reference have three clear focuses:

1. Reform the teacher education curriculum being delivered at the state College of Education. This comprises review/overhaul/development of learning programmes, materials, assessment tools, and the teaching practice programme through continuous workshops; quality assurance system; and develop teacher standards for different levels of teachers and head teachers to be used as benchmarks for a teacher career path.
2. Use lessons learned from (1) above to influence teacher education programme at Colleges of Education in other ESSPIN States (Lagos, Kwara, Kano, Kaduna Enugu, Jigawa)
3. To see how the experiences above and best practices inferred can further inform the Teacher Education Curriculum Review at the Federal level through NCCE (ESSPIN, 2010, p.5).

Strategies for achieving the terms of reference include capacity development workshops for teacher educators and college management, policy development, design of planning tools and processes, streamlining the annual students' intake and the overall restructuring of the college from five to three schools. While most of the terms of reference have been completed, it was the expectation of ESSPIN that the College of Education put into practical implementation the policies, tools and practices that have been developed within the two years of the project.

9. Lessons Learned and Challenges

From the presentations made to the NCCE team by the project consultants, the following suggestions were made as lessons derived from the project, especially regarding curriculum implementation:

- Since the goal of producing a quality teacher determines all aspects of programme delivery, a new vision for teacher education should evolve, as well as the understanding and tools to plan for and deliver effective learning opportunities to attain teacher standards;
- Organised, coordinated and effective pedagogy courses, in addition to effective microteaching and teaching practice systems can demonstrate growth in achieving teacher standards; and
- New, varied, and effective assessment related to teacher standards can be developed.

However, the following challenges need to be addressed to ensure an effective and sustaining overhaul of the reforms. These are:

1. From the structure of teacher education in Nigeria, a number of agencies are involved in the process. These include, the National Commission for Colleges of Education (NCCE) which coordinates and monitors teacher education in all colleges of education, the National Universities Commission which regulates the Faculties of Education curriculum in Universities, the National Board for Technical Education whose focus is on training teachers for technical colleges, the National Teachers' Institute (NTI) which provides in-service training programmes and the Teachers' Registration Council (TRC) which maintains a national register and code of conduct for teachers. Efforts should be made to incorporate inputs from these agencies to ensure relative uniform teaching and teacher standards, no matter where a teacher is trained.
2. The administrative structure in Nigeria gives the states a semi-autonomous status where each state of the federation can develop her own administrative structure for education. There are state-funded and thus state-controlled higher institutions. By implication, policy formulations and implementation often vary. Ensuring uniformity across these states may pose a challenge.
3. Students only opt for education courses when they cannot seek admission into some perceived lucrative and socially accepted courses which are highly competitive, hence the rejects from other courses are admitted into education programmes. In addition, non-performing students in other courses are encouraged to transfer to education courses. This culminated in the fact that at the end of the day, we mostly have unmotivated, uninterested and poor performers as graduates of our education institutions. Incentives are required to attract quality students into the teaching profession.
4. In spite of the above, student intake into education courses still outmatch the existing infrastructure. This is often a serious challenge to a teacher educator who often has to cope with large crowds of students inside ill-furnished and ill-equipped classrooms and therefore rely on the transmission model of teaching to cope with the large classes. Training 21st century teachers require an environment where 21st century technologies are in place and where students have the opportunity to use them. Infrastructure is a huge challenge in Nigeria. Moreover, in a country where only 10% of applicants into higher institution are eventually admitted, streamlining student intake may pose a serious challenge.

10. Conclusion

In the Information Age, students must be able to purposefully access information from a variety of sources, analyze and evaluate the information, and then integrate it to construct a personal knowledge base from which to make intelligent decisions. To foster these capabilities, educators must re-examine their assignments and teaching strategies. We must recognize and accept the fact that knowledge is changing so fast that no traditional curriculum can sufficiently supply students with the fact-based learning needed for the challenges they will face. Instead, we

must teach them the skills to continue learning independently long after they are out of school. Developing a 21st century teacher requires the development of the spirit of creativity and enquiry, and intellectual and professional competencies among in-service and pre-service teachers. It also depends upon certain characteristics of teachers, the teacher educators, the environment as well as methods of instruction. In congruence with Awoyemi (1986), the identification of these characteristics may be necessary if effective teacher training programmes are to be evolved. Lawal, Maduekwe, Ikonta & Adeosun, (2010) summed up the idea that “the educational system will not be modernized until the whole system is drastically overhauled, stimulated by pedagogical research, made intellectually richer, more challenging and extended beyond pre-service training into a system of continuous professional renewal and career development for all teachers” (p.6). It is therefore recommended that there should also be clearly identified and unified modalities of assessments where students will be assessed based on how they are able to plan and deliver instruction, manage classrooms effectively, promote equity in the classroom as well as meet professional standards/requirements.

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Appendix: List of Tables & Figures

Table 1: The Skills and Knowledge Paradigm

Skills	Knowledge
<ul style="list-style-type: none"> • Reflective skills and thinking dispositions • Pedagogical skills • People management skills • Self-management skills • Administrative and management skills • Communication skills • Facilitative skills • Technological skills • Innovation and Entrepreneurship skills • Social and emotional intelligence 	<ul style="list-style-type: none"> • Self • Pupil • Community • Subject content • Pedagogy • Educational Foundation and Policies • Curriculum • Multicultural literacy • Global awareness • Environmental awareness

Source: National Institute of Education, Singapore, (2009).

Table 2: Competency-based, Output Driven Teacher Education Programmes

Segment	Techniques
Education Courses	Integration around context-based education issues of different academic education sub-fields to create an applied understanding of education theory, relevant to Nigerian schools
Learning Materials	Varied formats (written, internet, digital, video, etc.) organizing varied learning tasks and experiences designed to assist student teachers in developing an effective classroom practice and modelling learning materials they themselves might use/develop in their own teaching.
Teaching Method	Creation of purposefully designed and varied learning experiences through lecturing, group work, self-learning, self- and peer-assessment, etc. aimed at constructing conceptual knowledge, skills and attitudes directly related to professional competencies and demonstrated concretely and practically
Teaching Practice	Student-teachers further develop their learning of how to design their own learning programmes that aim to create applicable and context-relevant conceptual understanding, skills and attitudes in their own school-students
Method Courses	Student-teachers learn how to provide open-ended learning experiences, to their own school students, that effectively promote conceptual understanding and the development of practical skills and positive attitudes, rather than rote-learnt theoretical facts
Assessment	Various practical as well as written forms provide students with the opportunity to showcase their conceptual understanding, skills and attitudes, as described in the list of professional competencies, in context-rich and open-ended problem situations.

Adapted from Kuiper et al, (2008)

21st Century Student Outcomes and Support Systems

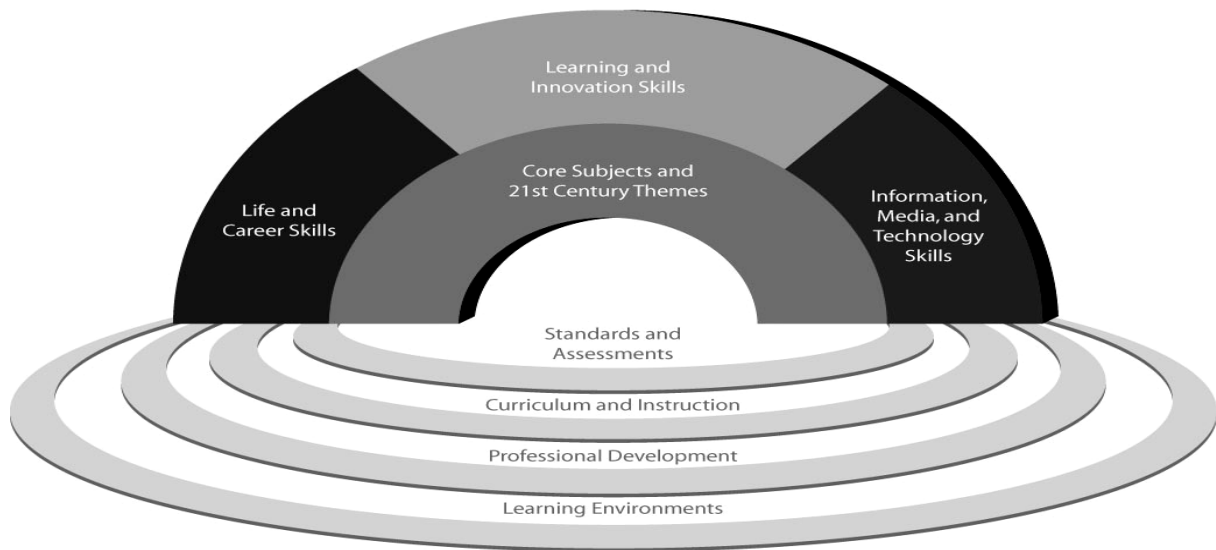


Figure 1: 21st Century Student Outcomes and Support Systems
(Source: P21 Framework Definitions, (2009))