16

Curriculum Theorizing and Practice in Teacher Education

Bade Adegoke

Introduction

The training of teachers, either initial training or in-service or on-service training, should focus on their competence and effectiveness in the teaching-learning milieu. This is inevitable if the professional problems of teacher education are to be strategically solved and the foundation as well as the quality of the educational system consolidated and further enhanced. It is certain that only competent, efficient, effective, transformative, conscientious, creative, reflective, honest, dedicated and well-motivated teachers can impact positively and significantly on the education system and national development as well as the restoration of professional dignity. It is also certain that a creative, reflective, effective, transformative teacher education is inevitable for the preparation of professional teachers as profiled above.

One tends to agree wholeheartedly that the school is worth precisely what the teacher is worth. Properly trained teachers play an important role in the complete wellbeing of a nation. Well-qualified, competent and effective teachers are the only people that can really make a difference to teaching, learning and the quality of a nation's workforce; hence, the importance of teacher education.

Curriculum Theorizing and Practice

Curriculum theorizing is both an art and a science. As a worthwhile field of study in teachers' education, it involves propositional knowledge (knowing what) and practical knowledge or process knowledge (knowing how). Theory and practice are indescribably interwoven in the field of curriculum, where any good theory, when applied, should enhance the practice. In curriculum theorizing, the crux of the matter is to provide practical answers to very practical curriculum questions.

The test of any good curriculum proposition is whether it can guide practice. There is nothing more practical than a good theory. It is also essential that good practice is based on theory. This explains our basic interest in praxiological theories without overlooking the usefulness of the other types. The term 'praxiology' is derived from the Greek word 'praxis' meaning 'a doing' or 'an action'. Praxiology is the key to competence education and to most other purposeful education at all levels. It is based on descriptive and situational knowledge. It goes beyond this to explore for efficiency, effectiveness and rationality in practice.

Curriculum theorizing has to do with philosophizing, conjecturing and understanding the complexities of curricular issues, techniques, paradigms and development at its frontiers. The nature and essence of teacher education demands that curriculum theorizing should be of direct and practical help to classroom teachers.

Curriculum theorizing has two vantage points in the context of teacher education: one conceptual and the other methodological. From a conceptual perspective, curriculum theory offers trainees a framework for thinking about – and making judgements about – curriculum. The conceptual perspective in curriculum theory seeks to justify curricular decisions by reference to a grounding base of knowledge about the nature of learning and the effect of teaching choices on various learning outcomes. From a methodological perspective, curriculum theorizing offers a range of procedures for attempts to understand and advance curriculum theory and practice by grounding them empirically in systematic studies of student learning and classroom understandings, and ensuring appropriate curriculum development products.

Curriculum theorizing should help trainees and teachers to engage in the process of curriculum development. Curriculum theorists should theorize and be involved in the practical.

Furthermore, empirical investigation in curriculum theorizing should aim at revealing what it is that students/pupils are being taught and what it is that they are learning and what they have actually learnt, the appropriateness of what is designed and provided, as well as the use and effect of resources.

Curriculum theorizing in teacher education should bring to bear, on educational matters in general, the outlooks of scholar disciplines and socio-political perspectives that have been overlooked or largely ignored. It should develop and insist on the use of rational guide and articulate the underlying reasons, rational foundation and ground for curriculum practice and offer explanation and expositions.

What is fundamental about the field of Curriculum Theory in Teacher Education?

- It is one of the growth points in education;
- It is an art and a science;

- It is a compendium, which is fundamental in its unique form of knowledge;
- It has its own foundations and it tilts towards integrative tendencies;
- It is a field of inquiry with adapted substantive and syntactical structure drawn largely from philosophy, sociology, history, psychology, anthropology, economics, management, as well as learning and teaching theories. Thus, it is a unique set comprising the intersection of elements from several others;
- It fits a 'field' more than a 'form' of knowledge, using Hirst's postulation of the fundamental structure of knowledge;
- It is clearly centred on such foci as purpose, content, experience, evaluation and contextualizations;
- It has a community of academic experts (curriculum theorists), and curriculum practitioners communicating with one another in the search to give meanings to curricular concerns;
- It has a history and its tradition is being rigorously intensified and consolidated;
- It has a heritage of literature and a communication network manifested in professional bodies, journals, and meetings run by curricularists;
- It has emotive appeal to its adherents who enjoy working esoterically within it;
- It is apparently a high-status subject as a core course in all colleges of education, faculties and institutes of education, and universities of teacher education.

Domains of Curriculum Theory

George Beauchamp (1981) divides curriculum knowledge into planning, implementation and evaluation. Fenwick English (1983) views the domains of curriculum in terms of ideological (philosophical-scientific), technical (design) or operational (managerial) issues. Edward Short (1987) outlines the domains into policy making, development, evaluation, change, decision-making, activities or field of study, forms and language of inquiry (or theory). Linda Behar (1992) identifies nine curriculum domains as: curriculum philosophy, curriculum theory, curriculum research, curriculum history, curriculum development, curriculum design, curriculum evaluation, curriculum policy and curriculum as a field of study.

On the basis of the curriculum themes covered by different major curriculum textbooks, journals and postgraduate studies in teacher education, the following appears a more comprehensive boundary of curriculum theory, bearing in mind that the frontiers of any discipline are elastic and dynamic:

- Art and Practice of Curriculum Development;
- Curriculum for Business and Industry;
- Curriculum Commissions and Policy;
- Curriculum Context;
- Curriculum Design;
- Curriculum Thought;
- Curriculum History;
- Curriculum Evaluation and Assessment;
- Curriculum Implementation;
- Curriculum Integration;
- Curriculum Innovation and Diffusion;
- Curriculum Issues and Trends;
- Curriculum Leadership and Supervision;
- Curriculum Monitoring and Evaluation;
- Curriculum and Public Debate;
- Curriculum Planning;
- Curriculum Research;
- Curriculum Politics;
- Curriculum Control;
- Curriculum in Subjects;
- Curriculum Understanding;
- Borderless Curriculum;
- Futuristic Curriculum;
- Multi-cultural Curriculum; and
- Theory of Knowledge and Content Selection.

It is also important to note that curriculum research is conducted in seven different traditions of research:

- Analytical Studies;
- Descriptive Studies;
- Evaluative Studies;
- Interpretive Studies;
- Model or Organizational Scheme Studies;
- Predictive Studies; and
- Theoretical Studies.

Three major paradigms – interactionism, functionalism and conflict theory – dominate inquiry in curriculum research at present:

Role of Curriculum Specialists

The emergence of curriculum theory as a field of study in teacher education has resulted in the concomitant creation of its specialists (curriculum theorists or curricularists as distinct from methodologists). The work of such curricularists is varied and necessary in any educational system. It includes:

- Obtaining up-to-date information about local, national and international trends and conditions that influence education in general and curriculum in particular, and providing means of encouraging teachers to inform themselves about such facts;
- Surveying school curricula to determine how well classes and curricular activities comply with present-day opportunities and needs of children;
- Securing resources needed for new or revised curricula;
- Organizing task forces for development or improvement projects and monitoring their work;
- Working with other school service providers to integrate curriculum with other school services;
- Helping to evaluate continuously both the appropriateness of the curriculum and the quality of the curriculum development programmes;
- Working with other stakeholders to develop school curricula that fit present-day opportunities and challenges;
- Providing situational analysis data and other vital statistics for curricular decisions;
- Providing indispensable technical leadership role in curriculum development;
- Providing consultancy services on any technical curricular issues;
- Facilitating the production of appropriate curriculum materials (textbooks, curriculum, syllabus, scheme, lesson plan, etc.);
- Redefining or improving content;
- Acting as a change agent;
- Coordinating or evaluating students' needs survey;
- Serving as a curriculum supervisor;
- Understanding and reflecting current research in teaching, learning and curriculum;
- Developing standards for curriculum and instructional evaluations;
- Having skills in human relations and social engineering, monitoring and evaluation;

- Coordinating or planning staff development programme, including large classes;
- Facilitating the enrichment of curricula, etc.;
- Planning or scheduling classes/school calendar; and
- Blending theory building with practice.

Curricular Challenges in Teacher Education

A sober reflection upon the commonplace debate, dialogue, observations, research report, monologue and soliloquy about teacher education may reveal curricular challenges requiring honest, pragmatic but realistic answers to a number of pertinent questions. Such questions include the following:

- Who is a teacher and where does the distinctiveness of teaching as a profession lie?
- What should be the requirement and procedure for recruiting and retaining quality students for teacher education?
- Does teacher education influence significantly the 'native' theories of pre-service teachers?
- What are the desired and desirable roles of teachers and related worthwhile curriculum needed for them to optimally perform those roles?
- Is there any connection or disconnection between theory as taught in teacher education institutions and practice in the field, i.e. does the curriculum of teacher preparation match the needs of the schools and classrooms?
- What will be the influence on the quality of the teacher training if one shortens the time of study in favour of a longer time-span for internship?
- Should teacher educators not focus on identifying decay, redundancies, overlaps and gaps in their existing teacher education programmes?
- Should teacher educators not consider how the world in future may be different from what it is today and how that difference will affect education, particularly teacher education?
- What is the most worthwhile structure of the teacher education programme and how best can this be conducted?
- Are the foundation courses not disconnected, disintegrated and unrelated to practice and how can foundation courses be reconceptualized and then reconnected to the substance of teacher education?
- In view of global interdependence, should teacher educators not develop a global perspective for teacher education programme without jeopardizing local relevance?

- Should the preparation of specialists like guidance counsellors, adult educators and educational administrators be postgraduate programmes in order to focus adequately on professional development?
- Is teacher educational programme not lopsided in favour of pedagogy at the expense of the content of the teaching subject?
- What model of teacher preparation and professional development should a university of education adopt to be unique and worthwhile for that purpose, both locally and internationally?
- What is quality teaching practice and how can it be best conducted?
- What is that fund of knowledge upon which the whole teacher education as well as the teaching profession rest?
- If teaching is to be a genuine learned profession, should the education of the future teacher at the undergraduate level not be an education in the liberal arts and sciences, not in pedagogy?
- Should teacher education not produce men and women with disciplined minds, cultivated interests, and a wide range of professional basics and competitive knowledge?
- How can teaching be more attractive to young men and women of serious intellectual purpose and high intellectual capacity?
- What constitutes the fundamental components of teacher education and how can the various components and elements of the teacher education programme be profitably proportioned, combined and ordered?
- What does inclusion really mean and how can it be best provided for in teacher education?
- Is quality professional teacher training possible by means of distance training?
- Can we comfortably achieve optimal professionalization of teaching without addressing the shortcomings, lapses and gaps inherent in initial and further teacher education programmes?
- Do licensing requirements limit or encourage the diversity of the teaching force?

Admittedly, the various observations and highly charged debates have somehow been generalized in these questions in order to focus the discussion. A very objective analysis of these and other questions readily reveals merit, confusions, ignorance, misconceptions, mischief and logic. Teacher educators should neither ignore them nor react in panic. We need to be guided by the normative, ideographic and esoteric imperative of the teaching profession, without being oblivious of the clarion call for the enhancement, and without being apologetic for whatever

borders on worthwhile professionalism. A teacher education college,faculty or institute should prove itself worthy of its existence in the discharge of its statutory professional functions.

Who is a Teacher?

A teacher is a properly trained, certificated, registered and licensed professional who has attended a teacher training institution and successfully completed its prescribed rigorous systematic and validated teacher-education programmes in the art and science of teaching his or her specialist teaching subject(s) at a particular level of the educational system. The essence of being an effective teacher lies in knowing what to do to foster learning and being able to do it.

What is Teacher Education?

Teacher education, commonly referred to as planned teacher preparation and professional development, is the art and science of institutionally providing systematic pre-service, in-service or on-service training to education students in the theoretical basis, specialized knowledge and the acquisition of practical and applied skills, concepts, principles, strategies, techniques and styles with adequate attitudes and orientations, with a focus on professional standards, professional ethics and professional competence, efficiency and effectiveness.

Teacher education involves the systematic integrated formal professional training of a prospective teacher. Teacher education is a complex, multifaceted, interactive process made up of in-service, pre-service, on-service training and lifelong education. The teacher education system relates to the context in which such training is given to trainees for the pre-primary, primary, secondary and tertiary institutions.

Every form of teacher education involves a close study and understanding of the complex nature and process of teacher, learner, teaching and learning; and systematic study of the joint and independent activity of the teacher, the learner and the environment in any type of classroom. Teacher education is central to both quality of education and development. Hence, the diverse interest in the philosophy, goals, content, structure, quality control, certification and procedure of the teacher education programme.

Teacher education is a necessity, not a luxury, as no meaningful development can take place without adequate manpower resources; and no adequate manpower training can take place without competent teachers who are products of effective teacher education programmes. As long as there is the public demand for teachers, the need for teacher education and its institutionalization will continue to be inevitable.

A teacher is made, not born, even though certain individuals may possess certain traits that make them particularly and easily amenable and more responsive to certain aspects of teacher education. Teaching is a profession. So, it requires competence in subject mastery, pedagogy, teaching practice, communication and general studies. A teacher should be efficient and effective. A teacher training centre should be strategically placed to provide these essential components based on certain fundamental principles like creativity, collaboration, critical inquiry, classroom practice, contextualization, action research, knowledgeability values, ethics, diligence, virtual learning, communicability, professional commitment, local and global standards. Pedagogy is the set of concepts and skills (i.e. theories, principles, strategies, techniques, styles, etc.), abilities and dispositions a teacher professionally employs when helping, aiding or facilitating others to learn.

Teacher education is the statutory function of pre-service and in-service training agencies like teacher training colleges, colleges of education, polytechnics (with special bias for teacher education), university faculties of education, institutes of education, university of teacher education and the National Teachers' Institute. There is also an increasing use of non-conventional methods like distance learning and school-based training with no institutional residence. The common nomenclatures for certification include: T.C.II, Associate Certificate in Education (ACE), Associate Diploma in Education (ADE), Nigeria Certificate in Education (NCE), BEd or BA/B.Sc Education and the Postgraduate Diploma in Education (PGDE), apart from other postgraduate studies in education.

The above structure is based on a two-pronged approach. There is the consecutive approach which provides for the acquisition of intellectual knowledge and competence in a specific subject as a foundation before exposing student teachers to the fundamentals of pedagogy as typified by the PGDE Programme. There is also the concurrent approach whereby subject mastery and fundamentals of pedagogy are offered concurrently as training programmes progress, as seen in the BEd or BA/BSc teacher training programmes. Each approach has its own merits and demerits. For example, although teachers require subject mastery, the notion of 'kicking pedagogy upstairs' is worrisome, especially when one bears in mind the amount of work required and the limited time available. The arrangement whereby pedagogy is deferred until after scholarship in subject areas encourages detachment which is professionally injurious. Equally worrisome is the alleged greater emphasis given to education courses at the expense of subject mastery in a concurrent approach (Adegoke 2000). The ratio may range between 70-80 per cent subject content and 30-20 per cent pedagogy.

Some Paradigmatic Shifts in Teacher Education

The paradigmatic shifts in teacher education include:

- teacher-centred to resource-oriented learning including ICT-based teaching and learning;
- closed to open systems without formal parameters;
- provider-driven to user-centred curricula;
- factual work to effective performance-based learning contexts;
- isolated to network environments;
- one-way to interactive creative, reflective and transformational teaching;
- local/national to global context (borderless education);
- single-subject mastery to broad-based integrated education with specializations, capabilities, transformability, competence and effectiveness;
- change resistance to anticipatory educational management.

It is also increasingly noticeable that there is likely going to be:

- greater emphasis on skills and innovative tools;
- greater emphasis on processes, on learning how to learn, and on basic principles, as the obsolescence of narrow factual knowledge will be more noticeable in the era of rapid scientific and technological discoveries;
- more integrated (as opposed to parochial subject-based) curricula;
- greater reliance on materials outside the specific basic texts and textbooks generally, owing to information technology;
- greater emphasis on linking school work with the world of industry/work, labour market, self-reliance and self-empowerment;
- increasing need for new devices for exposing student-teachers to school practices, e.g. micro-teaching, videotaped classroom interaction, conferencing, etc.;
- increasing need for pre-teaching practice and post-teaching practice (workshops) activities;
- tolerating and dealing with students' outrageous (unusual) behaviours based on modernity;
- greater public debate on the structure, curriculum, certification, competence and effectiveness in teacher education;
- greater emphasis on linking professional development to the life and culture of schools.

Characteristics of Effective Teacher Education

It is very clear that an inevitable process of change in teacher education should indeed be largely driven by the teacher education sector itself. If this is not the case, then grave consequences could result. To be effective, the teacher training institutions must strategize and re-strategize by:

- being creative, innovative, responsive and transformational;
- offering and upholding high quality training based on a balanced curriculum for knowledge and professional excellence;
- ensuring competitive entry on intellectual merit and inherent interest;
- offering lifelong learning opportunities, including learning-to-learn;
- linking to the world of work and contextualization, and serving personal, local, national, regional and international development needs;
- ensuring optimal professionalization of teaching and its effectiveness;
- cultivating professional dignity and confidence;
- using the cognitive apprenticeship model and mentoring system;
- using school teacher as legitimate participant in the professional development of the intern;
- introducing action research as a tool for engaging in reflection on trainees 'native theories' as well as the problems they encounter in their teaching;
- integrating technology in the preparation of teachers;
- recruiting, training, re-training and mentoring well-motivated quality staff;
- ensuring well-articulated extended field experiences sequenced with theory;
- ensuring a well-defined, accepted standard of practice and evaluation to guide modular course work and clinical experiences;
- enforcing policy on ethical and professional standards;
- using effective quality control and quality assurance mechanisms;
- enhancing creativity, motivation, good personality and positive attitude as models;
- ensuring adequate funding and sustainable development based on strategic action plans.

In an article entitled 'Nigeria Teacher Education System in the 21st Century', Adegoke (2000) argued for a balanced competence-based teacher education as a panacea for coping with the various fundamental challenges facing each of the five components of teacher education, namely:

- General education (communication skills, personal relations skills, teamwork, generic skills, etc.);

- Educational sciences (the foundations, curriculum and instruction, management disciplines theory to guide practice, etc.);
- Specialized subject matter (content knowledge of specific teaching subjects, e.g. geography and physics);
- Specialized educational services (guidance and counselling, special needs education, adult education, etc.);
- School practice (internship/practice teaching/practicum).

We should try to look at each of these components in the context of the questions listed at the beginning of this chapter. Each of these components is problematic in terms of quality, quantity and structure. The quality of teacher education is central to its effectiveness. Quality must be seen in its multi-dimensional perspectives as an objective to be reached in all processes of teacher education. Quality is linked to relevance. Relevance is considered particularly in terms of the role of teacher-education as a system, and the relationship of each of its components to teaching, the education system and the society's expectations. The real professional issue in teacher education is competence-based preparation and effective classroom practice. What should be the proportion of each component in terms of structure, coverage, depth and duration? The structure is concerned with the organizational arrangement like content, length of training, time-tabling, sequence, balance, integration, examination, certification and licensing. How should the components of teacher education be proportioned, combined, ordered, presented and evaluated?

Objectives of Teacher Education

The opportunities and challenges associated with teacher education could be better appreciated by considering the objective of teacher education as stipulated in National Policies on Education. For example, the National Policy on Education (NPE) (4th edition) for Nigeria (2004) stipulates that the objectives of teacher education are:

- to provide highly motivated, conscientious and efficient classroom teachers;
- to encourage further the spirit of inquiry and creativity in teachers;
- to help teachers fit into the social life of the community and society at large;
- to produce teachers with the intellectual and professional background adequate for their assignment; and
- to enhance teachers' commitment to the teaching profession.

The Presidential Committee on the Review of Education Reforms in Ghana stated the objective of teacher education in Ghana as the 'training and development of the right type of teacher who is competent, committed and dedicated'. Such a teacher should be capable of:

- applying, extending and synthesizing various forms of knowledge;
- developing attitudes, values and dispositions that create a conducive environment for quality teaching and learning in schools;
- facilitating learning and motivating individual learners to fully realize their potential;
- adequately preparing the learner to participate fully in the national development efforts (Republic of Ghana 2002).

These broad, meaningful, focused and pragmatic objectives reasonably became the technical base and useful reference points for deliberating, determining and evaluating policy and practice in teacher education at various levels. It is useful to determine the extent to which each of these objectives has been pursued, achieved and sustained, using available analytical variables associated with attendant input, antecedent process and output indices. The result will be a true manifestation of the state-of-the-art and will provide useful inputs.

What then should be the role of teacher educators? They include:

- guiding and facilitating the development of trainees in the acquisition of knowledge and skills, self-understanding, pedagogy and collaborative school culture;
- acting as models of best practices;
- conducting research, particularly action research, into teaching, teacher education, curriculum relevance, cognitive learning styles, etc;
- understanding and implementing policies on teacher education;
- participating in policy formulation/analysis;
- participating in curriculum development, evaluation and reforms;
- providing services as a resource person, consultant and as a professional critic and energizer.

Models of Teacher Education

A review of available literature on curriculum theorizing for models of teacher education shows variations in perspectives, conceptualizations, structure and value systems. It is, therefore, not uncommon to find models based on teaching and learning methods, values, morals, institutional framework, philosophical reflections, typical teacher provision and normative image. Although there are observable conceptual variations in the available theoretical framework, the pervasive themes include reflective practice, creativity, transformational practice, decision making, inquiry, effectiveness and competence. It may suffice in this attempt to select some models for illustration, amplification and further investigation and discussion.

Models for Teaching and Learning Applied to Teacher Education

Instructor-centred Model

This is the most frequently used instructional model at the tertiary level, including education instructions. The instructor decides on what measurable information to transmit and the students try to acquire the information and demonstrate adequate knowledge acquisition. Typical materials in this model include curricula, syllabi, reading list, pre-determined assignments/projects, tests, etc.

Student-centred Model

This model may be found on rare occasions in the on-service and in-service programmes for practicing teachers. The over-arching principle is student control of the learning process. The instructor only operates as a facilitator.

Community-centred Model

Community found some researchers and practitioners experimenting with programmes and courses based on the model. An example is *Reading Recovery Teacher Training* by Clay and Watson (1983) and Paula Moore. It is the most appropriate for guiding teachers' learning because it focuses on discussion.

Flexner (1909), an educator model for medical education, requires two years of basic science, done discipline by discipline, before any clinical work is permitted. John Burgess of Columbia University had in 1884 argued for the importance of foundations in professional education. Larry Cremm's *The Transformation of the School* is a history of progressivism and progressive education in the United States as well as the account of the creation of a very special school at Teachers College, Columbia University, called the Lincoln School. This was created to exemplify the principle that there is something more important than the classic disciplines for constructing curriculum; that the curriculum ought to be constructed around real events, real problems, real tasks and real projects that students could engage in.

Lee S. Sh'ulman's argument for a withering away of the field of educational foundation was based on his belief that it is currently presented as separate and disconnected studies in psychology, sociology and philosophy of education, etc. In his view, foundation must be given as an integral part of the connective tissue that gives shape and meaning to the education of teachers. To him, the true foundation disciplines are the arts and sciences and that foundation should be taught in a way that it is bound up with the content of instruction. Hence, it does not make sense to separate the content from the pedagogy.

Deweyan Kind of Integrated Model of Teacher Education

Dewey (1991) believed that teachers must be more than 'subject matter specialists'. He took a more integrated view of the knowledge base for teacher education. Dewey was a strong advocate of social and psychological foundations in a manner

that was integrated with the teaching of curriculum and the teaching of pedagogy. He was of the view that it was impossible to divorce the question of methods from that of subject matter. He called his school in the University of Chicago Campus a laboratory school and not a training school.

Dewey's overall plan for teacher education included the study of teaching methods and activities-centred curriculum. Dewey wanted prospective teachers to link theory to practice. He argued that education is a discipline.

Models for the Provision of Teachers

There are basically three possibilities for the provision of teachers to schools (Kachelhoffer 1995):

- appoint teachers with no academic or professional qualifications in schools. The use of teachers with no academic qualification is a near disastrous practice for the school system;
- appoint partially trained teachers in schools. This can also become a highly unsuccessful practice;
- appoint properly trained, competent and effective teachers in schools. This is the ideal all over the world and this is the one to strive for.

Models of Teacher Education based on Institutional Frameworks include:

- Three-year model for direct entry admission;
- Four-year BA/BSc Education Concurrent Structural Model. A one-phase model containing academic and professional preparation – an integrated programme;
- Five-year BA/BSc Education Sequential Structural Model (Education deferred till the fifth year) – a two-phase model;
- Five-year BA/BSc (Honours in teaching field) culminating in Masters Degree or PGDE in Education. This is also sequential – and a two-phase model;
- Structural Graduate Programme for graduates either for the award of PGDE or Master's Degree in Education, for graduates from recognized higher institutions. The award of Master's Degree is meant to attract bright college and university graduates into the field of teaching (quite useful during a period of teacher shortage and perceived inadequacies). These programmes differ from the traditional Master's Degree in Education because they are initial licensure programmes. This is also a two-phase model;
- Alternative structural teacher education programmes are often created to respond to shortage of teachers but, more often, they result from

dissatisfaction with the quality of the traditional programme graduates. They provide short, intense, remedial introduction to school and schooling prior to employment or in-service. This approach could be described as apprenticeship or on-the-job training. The emphasis is more on content knowledge and less on pedagogy. It is site-based.

Models Based on Curriculum Organization

In teacher education, the curriculum can be organized in there ways:

- *An integrated programme* – academic studies and professional preparation are totally integrated. No academic territoriality is allowed and there is collaboration and mutual respect in the development and teaching of classes;
- *Parallel or concurrent programme* – academic studies and professional preparation take place at the same time. The identity of disciplines is maintained. There is intra-departmental, inter-departmental and inter-facility dialogue and collaboration. Teaching can be synchronized;
- *Consecutive programme* – academic studies and professional preparation follow each other.

Models of a Teacher's Work

Mentor (2011) has tried to draw out four competing models of – or approaches to defining – teachers' work. These are the effective teacher, the reflective teacher, the enquiring teacher and the transformative teacher. In whichever of the various models, the curriculum for teacher training usually consists of five parts as identified earlier in this chapter, viz: general education, educational sciences, specialized subject matter, specialized educational services and school practice.

A Proposal

In the context of the discussion so far and the need for inevitable pragmatic but realistic and curricularist responses, our proposition is that we need an eclectic holistic, worthwhile, competent and effective teacher education model.

The conceptual framework for this proposal centres on worthwhileness. The use of worthwhileness is limited to seven of its variables as referential precepts. These are relevance, scope, sequence, balance, timeliness, competence and effectiveness.

The relevance of the teacher education programme is used here as a measure of the relationship between the programme and the needs of the trainees, the society, the nature of the discipline and professional requirements. If it can be demonstrated that the relationship is poor, then the programme suffers from impoverishment and imbalance. The matrixes of relevance as developed by Sheman

Stanage (1976) offer a very useful referential taxonomy of relevance, viz: syntactical relevance, descriptive relevance, etymological relevance, metaphorical relevance, typal relevance and paradigm relevance.

Conklin (1968) identifies seven types of relevance as logical relevance, causal relevance, aesthetic relevance, teleological relevance, correlation relevance, phenomenal relevance and identity relevance.

Scope deals with the breadth and depth of the learning experience (subject content, pedagogy, etc.) presented in the programme. A rational sequence is expected to be the product of the interaction between what is known about child growth and development and what is valued by subject experts (perspectives, skills, techniques). Types of sequence include time order, chronological order, logical order, level of difficulty, etc. Concept mapping is a useful strategy here. The concept of balance considers the critical issue of giving proportionate, adequate and optional considerations to the input that each component of the programme should make to the entire programme. If this is not attained, the programme is out of balance – it is lopsided. A competence-based teacher education programme is the one that focuses on the ability to cope with basic and general problems and challenges encountered on the job or at work. It is essentially criteria-referenced. The emphasis is on productive work, empowerment, task management, task skills, environmental management, contingency management, intellectual skills, cognitive strategies, information, attitudes and motor skills, etc.

Competence is seen as the ability to cope with a certain class of problems encountered on the job or at work or any desired activity. Competence education is more than mere scholastic achievements. It pertains to how well the educational system prepares the students to become responsible professional teachers and instils in them attitudes, moral values and abilities relevant to the modern teaching profession. A fully competent professional is one who can cope successfully with any problem or task requiring the application of knowledge, attitudes and skills already acquired. The capability to harness specialized knowledge to the solution of the practical classroom problems, whether personal, professional or social, may conveniently be labelled competence. The emphasis is on productive work, empowerment and sustainability, thereby giving adequate coverage to capability, coping, creativity and cooperative action as the four fundamental elements of competence. In the United Kingdom, competence has come to reflect expectations of work place performance (Fletcher 1992:18). Mansfield and Matthew's job competence model (1985) provides a wider and less mechanistic view of competence than this definition suggests. The model, as adapted from Elizabeth Rolls (1997: 198), makes visible four different elements, which are required for competent practice and effectiveness in a teaching-learning context.

Assumptions

An effective, eclectic, holistic and competence-based curriculum design for teacher education is based on a number of fundamental assumptions. These are:

- that teacher education must possess certain unique and specialized knowledge, skills, techniques and professional dispositions capable of facilitating the balanced empowerment of its trainees;
- that sustainable empowerment through curriculum offering ultimately depends on enhancing trainees' capacities as individuals and groups to improve their own lives and to take greater control over their own destinies;
- that every profession has a knowledge, procedural ethical value and attitude base, and these will usually be learned most efficiently in close juxtaposition;
- that the multifarious roles and functions involved in teaching can be defined and expressed procedurally (not necessarily mechanistically);
- that trainees of intellectual quality found in a teacher training institution for a specific future teaching role, when given appropriate instruction, can all master the prescribed basic performance and operate competently and effectively;
- that learning results from experience, and the more meaningful and significant the experience in teacher education, the more it is learned and applied;
- that greater opportunities for self-employment and creativity can be fostered if the trainees develop greater skills in decision-making, creative problem-solving, adaptability, inquiry resourcefulness collaboration, personal commitments and sustainability, that public learning at both individual and public instances must be a means to the solution of individual and societal problems.

Three questions are sufficiently fundamental for our attention at this stage. How can one approach the task of providing competence and effectiveness in teacher education through curriculum design? How can one generate a solid competence-based curriculum, taking into account all varieties of learning (e.g. information, attitude and skills), essential supportive prerequisite and the complexity of cultural values, politics and socio-economic realities as well as modernity that shape the construction of meaning and influence effective application in the classroom? To what extent should productive work, vocationalization, contextualization, collaboration classroom practice, inquiry, modernity drive teacher education?

There must surely be alternative ways of answering these questions and others by the curricularists. In this chapter, an attempt is made to propose and describe the procedure for deriving an eclectic, effective competence-based curriculum model which we believe to be worthwhile, feasible, responsive, timely and experimentable. It is essentially problem-centred, focusing on persistent professional

imperatives and contemporary challenges. The eclectic competence-based curriculum design process involves eleven major phases constructed of overlapping and interacting system, which allows for flexibility, inter-dependence, inter-relatedness of decisions and action, and contextualization.

These phases are:

- Situational Analysis (needs assessment);
- Job Description;
- Task Analysis;
- Course Objectives;
- Content Selection;
- Selection of Learning Experiences;
- Trial Testing and Formative Evaluation (peer review);
- Feedback Information for Further Improvement;
- Institutionalization;
- Evaluation (summative);
- Maintenance (sustainability).

Situational Analysis

It is logical to identify, analyze, diagnose and understand the context, terrain, milieu or the environment of the teacher education programme socially, politically, culturally, demographically, historically, ideologically, economically, legally and educationally. The curricularist must always bear in mind that the process of making decisions about what ought to be taught, experienced and evaluated is fraught with sub-texts and power politics as well as the economic and socio-cultural imperatives propelling the new thinking and orientation contextually.

Two of the major considerations at this stage are:

- Curriculum conceptualization and legitimization;
- The collection and analysis of relevant comprehensive data on resources, cultural values, power distribution, educational system, problems and challenges of the existing programme and global challenges.

The purpose of situational analysis is to collect basic information required for a meaningful curriculum building; identify tasks, problems and difficulties and seek possible alternative solutions. The professional analysis should be responsive research-oriented, humane in nature, democratic and clinical in approach, comprehensive in scope and diagnostic in effect. All the research methods available in all the fields of social science and education are relevant and the selection of research techniques and procedures must be carefully and rationally made on the

basis of terms of reference, time, scope, coverage, finance, personnel, professional excellence and need. The information required from the analysis of the situation has been described by Taba (1962); Nicholls and Nicholls (1972); Hawes (1979); Skilbeck (1976); Bishop (1985); Adegoke (1988), etc. These include: changes and trends in society, parental expectations and requirements, values and attitudes, resources for learning, school number and distribution, staffing, current legal provision, current curricular practice, social and cultural policy requirement, cognitive and language developments of the learner, training and retaining facilities for teachers' role, potentials of various agencies and institutions, and public debate. A situational analysis of the world of work is critical. This information can be gathered from the following major categories of sources:

i. imperatives for professionalism and teaching profession;
ii. library materials (i.e. reports, periodicals, pamphlets, books,theses and research reports);
iii. reports of commissions and major curriculum conferences, reports of educational agencies, national policies on education, various provisions on development plans, public debate;
iv. observation of existing practices, processes and products and relevant lessons elsewhere;
v. globalization and internationalization.

It must be borne in mind that the stage of situation analysis is very demanding in terms of preparation, provision of support systems, monitoring personnel, equipment, coordination, information processing, synthesizing and general logistics.

Job Description

This stage involves function mapping and the process of assessing needs and defining competencies and effectiveness from the perspectives of the experts, the society, the learner and productive work imperatives. This stage provides a general functional framework. A job description explains the job as it is and suggests the special or unusual conditions associated with the competent and effective performance of the job and/or work.

The approaches which may be used in listing and describing the teaching job of a teacher include:

- Specifications in the national and international policies on teacher education;
- A personal account of activities, e.g. a daily narrative diary kept by the practicing professional or the use of user-encounter form over a fixed time period;
- Observation (i.e. of an individual professional records andactivities carried out by someone else, using an observation guide and checklists;

- Expert judgement, which has traditionally been the major mechanism for identifying the professional behaviour;
- Societal needs and problems, i.e. the identification of the societal needs and the professional resource available to meet those needs;
- Relevant job or work statistics;
- Job or work records;
- Studying the natural history of job problems;
- Analysis of frequently used textbooks, journals, etc., in the training of teachers.

Task Analysis

This stage involves the detailed analysis of the competences, listing each competence and the comprehensive tasks/steps involved through systematic investigation, content analysis and concept mapping. It is also required at this stage to indicate the frequency of performance, with a view to determining critical skills. The steps involved in each task should also be listed in a sequential, logical and interactive order, bearing in mind contextualizations.

Based on the expansion of Lawless framework as quoted by Rowntree (1981), a framework for analyzing a task-based component in a curriculum has been presented by Adegoke (1989):

- What sort of problem and challenges are the competent and effective experts in the field interested in? What are the professional profiles?
- What are the specific tasks and sub-tasks involved in teaching?
- When should the task be carried out?
- What are the enabling contextual factors and skills required?
- What are the objects on which the task is carried out?
- How is the task carried out? What order is followed? How long does each step take?
- What are the most likely margins of errors?
- What are the criteria of capability?
- What are the criteria of competence and indicators of effectiveness?
- What kind of conceptual frameworks do the experts operate within the classroom and outside the classroom?
- How do they explain and justify their solutions?
- How much practice theory, must be built into training, subject mastery and pedagogy, etc.

Course Objectives

The fundamental question which a curricularist seeks to answer at this stage is: What kind of things should the trainee be able to understand and do at the end of the course that will most facilitate his becoming a competent and effective individual in the least amount of time? (Mager and Beech 1969:20).

The formulation of specific and detailed curriculum objectives which are appropriate to a given age range and social environment is a difficult, time-consuming, value-laden but useful exercise. The major sources from which objectives may be derived include the society, the nature of teaching, the nature of the profession and the trainee. The analysis of the particular culture and society should reveal the problems, needs, requirements and demands of that society. An insight into some critical societal needs must have been obtained during situation analysis. The analysis of the learner and of the learning process should reveal his needs for self-development, self-fulfilment, self-actualization and requirements for professional development. All the interest groups and agencies concerned with curriculum development and the labour market should be reasonably involved by means of well-coordinated public debates, conferences, seminars, review of available materials and existing situations, and memoranda. The statement of objectives should be precise, measurable, observable and presented in a form which makes them most helpful in selecting competence-learning experiences and evaluation techniques.

The other practical challenge at this stage is that of the need to classify the objectives with a view to ensuring taxonomic balance. Such taxonomic schemes are very useful as a device for ensuring balance, explicitness, a common and consistent focus and a comprehensive basis for the evaluation of knowledge, skills, attitudes, etc. Curriculum literature contains a number of useful guides for deriving behavioural objectives. One of such guides is that of Robert Mager (1962). Generally, the problems of writing the objectives of teacher education centre around coverage, balance, relevance, specificity, clarity, timeliness, sequence, responsiveness and professionalism.

Content Selection

Content refers to facts, concepts, principles, theories, generalizations and relevant aspects of social, emotional and attitudinal development. In a balanced competence, curriculum trainees have opportunities to develop competences in knowledge, skills and attitudes and to internalize and utilize them in ways that are appropriate for their professional, personal, social, cultural and intellectual needs. Both content and process are germane. The basic questions are: What knowledge, skills and attitudes are of the greatest worth in engendering competent and effective practice? What is the most profitable structure/order of presenting the tasks?

These two questions relate to proportionate selection and sequence. There should be a clearly defined set of criteria for the selection of content. Such criteria include significance, validity, professionalism, interest, utility, continuity, self-sufficiency, learnability, feasibility, globalization, modernity, comprehensiveness and consistency with socio-economic realities and learner's characteristics (e.g. maturity, readiness, motivation, etc). Total work practice should be arranged by considering logical sequencing, chronological sequencing, level of difficulty (from general to specific, from simple to complex, etc.) and copious opportunities for reflection and practice.

The major problem of selecting curriculum content lies in the selection of particular subject matters from the vast range of possible ones. Since one cannot teach or learn everything, one must select from the plethora of knowledge and civilizations. Some alternative answers to the questions of content selection in the process of curriculum development have been attempted by some writers (e.g. Phenix 1964; Skillbeck 1976; Taba 1962; Hirs, 1965; Tyler 1949; Wheeler 1971; Pring 1978) who suggested a set of criteria for content selection which may be considered together and listed as: contiguity, reinforcement, repetition, social utility, social responsibility, common cultures, cognitive concern, learnability, sequence, validity, structure of the subject, necessaries, social pressure, basis for further education, opportunity for multiple learning activities, consideration of the aims, goals and objectives, consistency with social realities, flexibility, personal satisfaction, resources, integration and balance.

Selection of Learning Experiences

The critical question at this stage is: What training strategies and other educational materials will be required to make teacher education task-effective and enjoyable, bearing in mind that the varieties of learning are information, attitudes and skills? In view of the fact that the goal in this approach is to master the elements of work or job competence and technique effectively, mastery learning offers a powerful learning approach despite its limitations (Adegoke 1989). It is essential to expose trainees to critical inquiry, classroom practice, contextualization, collaboration, and continuous sustainability (Babalola 2010) through strategic and balanced section and offerings in teaching subjects, pedagogy, education studies, general studies and teaching practice, with full ICT integration.

It is the curriculum designer's task to select from among the various options: technique, strategies, methods and materials which seem most appropriate forthe objectives, the needs of the trainee professionals and the constraints of the instructional situation and context. The selection and development of instructional strategies is one of the most critical and complex components of the process of curriculum design and implementation. The selection of an instructional strategy requires the consideration of several variables, viz: the size of the class, the nature of the subject area, the characteristics of the student audience, the availability and

accessibility of resources and materials, the quality and preferences of the teacher, the specified general goals and instructional objectives, and the teacher education context (i.e. professional, political, cultural, economic, ideological and social factors of the school and environment). The selection of instructional strategy is also often based more on designer's preference and expertise than on any other factor mentioned so far. It is problematic to state that one method is superior to another. It depends on the contextual circumstances. Practical approach is often plausible.

Weston and Cranton (1986) have attempted to describe teaching methods in four categories. These are:

1. instructor-centred;
2. interactive;
3. individualized;
4. experimental.

According to Adegoke (1989), it will be useful to consider the following when selecting learning experiences for competence education for trainees:

- choose the technique that most closely approximates the performance conditions called for by the objectives;
- choose the technique that causes the students to perform in a manner most closely approximating the competence called for on the job or in a work and the indicator of effectiveness;
- choose the technique that will bring about originality, knowledgeability, ingenuity, innovativeness, imaginativeness, inspiration, resourceful-ness and communicativeness.

Evaluation of Teacher Education Programmes

Evaluation (both qualitative and quantitative paradigms) is an integral component of the teacher education programme and it is to ascertain its effectiveness, using a variety of techniques to look at a wide range of admission processes, teaching-learning processes, environmental factors, quality, motivation and dedication of trainees and trainers, quality of academic, professional and practical instructions, availability, adequacy, access, quality and use of resources, quality of examination process, quantity of teaching practice process, excellence in socialization, graduation, induction process, absorption, developmental efforts, professional ethics, integration of ICT, transformativeness, creativeness and reflectiveness. There is the need for strategic self-evaluation, peer review, programme and institutional accreditation, employers' feedback, etc.

Conclusion

Motivation is central to a competence-based education. We need competent teachers who are organizers, facilitators, motivators, innovators and inspirers, without necessarily controlling the learners' thinking. Learners must be viewed as capable of learning by treating them fairly and equitably,and engaging them in equity-based pedagogical practices. Most importantly, creative, reflective, transformative and effective teachers will produce creative learners who may be described as intelligent, aware, flexible, innovative, responsive, original, inspiring, fluent, questioning, non-conforming, humorous and self-reliant.

Teachers need to know how to conduct action research, interpret and use such research reports to address concerns about the educational quality of students, curricular experiences and pedagogical conditions, if competence-education and effectiveness are the ultimate goals in teacher education.

Most effective teachers engage in informal action research in their own classrooms from day to day. Each day, they observe the responsesof learners to each other, to the teachers' methods and to work problems. This, no matter how informal, is essential in the improvement of the curriculum and instruction. By practice, teachers can refine such methods to the point at which they yield good results quickly and competently.

In this era of globalization and information communication technology, a competence-based curriculum demands a technology-based approach (e.g. e-curriculum, e-teaching, e-learning), a new competence examination focus, a responsible implementation culture and very inspiring and highly motivated students.

While a competence-based curriculum must be culturally relevant to be meaningful, the strategies to be adopted must be experientially appropriate for students to take responsibility for their own learning. The need therefore arises for the modification and shifting of teaching strategies to match students' learning styles, norms, practices and other contextualizations. This required paradigm shift entails a movement away from the traditional teaching to problem-solving, from rigid classroom instruction to the use of the entire environment as a resource, from teacher-based to learner-centred, from mere certificationism to certified functionalism, and from lip service to genuine, honest and pragmatic service (Adegoke 1999: 10).

Any model is as good as the people who operate it. The strength or weakness of any model is invariably contextual. There can hardly be only one best model for teacher education because of certain fundamental variations like conceptions, perceptions, power and authority, value systems, economic considerations, technical know-how, the nature of the educational system, etc. Programmes that may be regarded as outstanding vary in structural and conceptual formats.

Questions about which types of teacher education programmes produce teachers who are best at causing their students to learn have hardly been addressed holistically, let alone answered. For obvious and hidden reasons, the criticism of teacher education will ever remain a recurring theme. Teacher educators' curriculum theorists and other stakeholders should see it as one of their sources of inspiration and exploit it for further enhancement of teacher preparation. We should develop our capacities and those of our prospective teachers for competence, innovation, spontaneity, perception, reflection, intuition, creativity, collaboration, self-improvement, professional distinctiveness, dignity, confidence, knowledgeability, dedication, commitment, efficiency and effectiveness.

One may wonder if a theoretical curriculum framework can remain so if it consistently runs counter to practice, at least in emphasis. This raises the issue relating to the esoteric nature of scientific theory in general and the intuitive, prudential and moral nature of curriculum theorizing, which is essentially normative and praxiological. Certainly, without theorizing, curricularists would remain ignorant of the complexities involved. But the theory needs to be supported by frequent trips to the real curriculum world if it is to have the much required practical value, and if scepticism, conflict and confusion between theory and practice are to be avoided. Education has a vital role to play in solving individual and societal problems. An eclectic, holistic and effective competence-based teacher education becomes imperative if the future generations are to be empowered to learn to know, to be and to live together. To ignore this is to ignore worthwhile teacher education.

References

Adegihe, K.A., 2003, 'Curriculum Theorizing for Competency', an inaugural lecture delivered at the University of Lagos, Wednesday, 20th August, Lagos: University of Lagos Press, pp. 1-13.

Adegoke, K.A., 2010, 'Which Teacher Education Model Holds the Most Promise for the Nigerian Educational System?', 2010 Convocation Lectures for St. Augustines College of Education Akoka, Lagos, Nigeria, pp. 1-23.

Adegoke, K.A., 2000, 'Nigeria Teacher Education System in the 21st Century', 4th Pry. U.M. O. Ivowi Birthua Lecture organized by the Uduogie Ivowi Education Foundation, 8th December, 2000 at the Faculty of Education, University of Lagos, Akoka, Yaba, pp. 1-5.

Babalola, J.B., 2010, *In Search of Excellence in Teacher Education: The University of Education Model*, Ijebu-Ode: Awemark Publisher, pp. 1-22.

Buchmann, M., 1982, 'The Flight Away from Content in Teacher Education and Teaching', *Journal of Curriculum Studies,* (14) 61, p. 68.

Clay, M. and Wastson, B., 1982, 'An In-service Program for Reading Recovery for Teachers' in M. Clay, ed., *Observing Young Readers: Selected Papers,* Portsmouth, NH: Heinemann, pp. 192-2000.

Dewey, J., 1916, *Democracy and Education,* NY: Macmillan, pp. 22-29.

Dewey, J., 1991, 'Pedagogy as a University Discipline', in J.A. Bodydston, ed., *The Early Works of John Dewey,* Vol. 5, pp. 281-299, Carbondale, IL: Southern Illinois University Press.

Flexner, A., 1923, *A Modern College and Modern School,* New York: Doubleday, pp. 1-34.

Jackson, P.W., 1992, 'Conceptions of Curriculum and Curriculum Specialist', in P.W. Jackson, ed., *Handbook of Research on Curriculum*, New York: Macmillan Publishing Company, pp. 3-40.

Mentor, I., 2010, *Teachers-formation, Training and Identity*, New Castle: Creativity, Culture and Education, pp. 1-26.

Moore, P., 2009, 'Models of Teacher Education: Where Reading Recovery Teacher Training Fits', *Network News*, Fall, pp. 23-27.

Owhotu, V.B., 2009, ed., *Innovation and Best Practices in Teacher Education,* Lagos: Faculty of Education, University of Lagos, pp. 5-49.

Peters, R.S., 1977, *Education and the Education of Teachers,* London: Routledge and Kegan Paul, p. 15.

Scannell, D.P., 1992, 'Models of Teacher Education', Report to the American Council on Education, President's Task Force on Teacher Education, INTASC, pp. 1-4.

Shullman, L.S., 1990, 'Reconnecting Foundations to the Substance of Teacher Education', *Teachers College Record,* Vo1. 91, November 3.

Singh, A., 2009, 'Innovations and Best Practices in Teacher Education', in V.B. Owhotu, eds., *Innovation and Best Practices in Teacher Education,* Akoka: Faculty of Education, University of Lagos, p. 3.

Ukeje, B.D., 1975, 'Pedagogical Problems in Nigeria Education Today', *Presence African,* No. 95, pp. 30-320.

Willson, J., 1975, *Educational Theory and the Preparation of Teachers,* Windsor, England: National Foundations for Educational Research, p. 10.