1. Introduction

This is a summary of a book jointly authored by the two writers and published by Nova Science Publishers [Daniel N. Sifuna & Nobuhide Sawamura (2010) Challenges of Quality Education in Sub-Saharan African Countries]. It is noted that during the 1970s and 1980s, most policy makers concerned with education in developing countries limited their attention to school access or enrolments. Over the years however, it became clear that access to school was not sufficient to ensure a decent level of basic learning. While the gains in enrolment had been quite impressive in many parts of the world, including the Sub-Saharan African region, low quality and high dropout rates led to the perception that many of the children left school without having obtained a sustainable level of basic reading, writing and numeracy skills. The rising concern with education quality was strongly reflected in the protocols of the World Conference on Education for All held in Jomtien, Thailand in 1990 and the World Education Forum held in Dakar, Senegal in 2000. It was perceived that ensuring education quality is a necessary complement to educational access and hence quantity and quality had to go hand in hand. This summary paper focuses on the educational concept of quality, its function, issues of quality education in early childhood care and education, primary, secondary and higher education.

2. The concept of education quality

In studies of quality and equality issues in education in third world countries, it is pointed out that there is as yet no consensus on the definition of the term “quality”. More importantly, notions of quality change over time and are tied to societal values. Another important point that has been raised relates to the relative paucity of meaningful data that could provide indicators of quality.

For many people, casual and expert observers, political authorities, parents and communities, teachers and education administrators, “education quality” is defined by national examinations. In their role of measuring quality, they actually specify what it is that they want. The logic of such an orientation is quite straightforward. Education systems set objectives and those objectives are then operationalised in the curriculum and teachers’ guides. The mastery of the curriculum is measured by national examinations. Hence the best indicator of high quality education is a high score on the national examinations. When students perform well on national examinations, then it
is reasonable to conclude that they have had a high quality education (Samoff, 2007). In this regard, when families see that the poor quality of schooling will not provide their children with the skills or diplomas they are sent to acquire, they stop sending their children to school. However, the focus on examination results especially in developing countries can be detrimental to the quality of teaching and learning as teachers tend to rely on rote teaching and learning to prepare children for the tests (O’Sullivan, 2006).

Many studies continue to show that efforts to engage with quality are fraught with difficulties, not least of which is a consideration of what quality is. Equally problematic are efforts to effectively achieve, improve and measure quality. Consequently, as much as is written about quality, a reading of the literature can be quite confusing as numerous and conflicting definitions of quality are presented, depending on how the term is conceptualized. The normative nature of the concept provides some explanation for this particular situation. As Motola (2001) points out “debates in the international literature faces the difficulty in finding a definition of quality that would apply to all situations.” There are for example, educators whose conceptualisation of quality is grounded in a competency approach, where quality is the effectiveness of the degree to which objectives are met or described levels of competence are achieved (in the references this is Adams and Sandfort, 1992).

There are also some educators who argue that the concept of quality is elusive because its content depends upon how we choose to define our preferred outcomes of schooling. It is however, noted that common to all education systems is the objective of improving the cognitive achievement of pupils. Furthermore, all nations also wish to help create, through education, better citizens, namely; people who can support and help strengthen the values that the particular society holds dear. The former objective is universal in form and content. The latter objective is not, which means that cross-national comparison of the quality of education is only partly possible. Such an endeavour has historically focused upon comparing the performance of school leavers in national or international tests of cognitive achievement. By implication those school systems with leavers who consistently score highly on such tests are taken to be of a higher quality than those having leavers who typically do less well. There are for example factors which are ignored in the selection, such as whether the socioeconomic background of students in different schools is similar or the income levels of the localities chosen are comparable. These and related factors have considerable influence in cognitive outcome differences which are attributed to school-level variables (Colclough, 2005).

In addition, there are educators who define quality within a contextual setting. A contextual definition/conceptualization of quality education can address the problems associated with the normative nature of the concept. In this regard, quality is grounded in the cultural traditions, social relations and economic and political life of the people. Quality education, in this context is unique to each nation and culture. A notable Minister of Higher Education, Training and Employment Creation in Namibia is quoted to have aptly described that the notion of “quality and standards should be measured in relation to the context and environment in which education is
located” (O’Sullivan, 2006).

The literature on the definition of education quality is quite massive and hold different and contradictory positions, which is not possible to summarise it here. What seems however, clear is that while it has become increasingly popular in the discourse of education, especially in the less industrialized countries, there is little consensus on what it means and a universal valid way of measuring it (Lowe and Instance, 1989; Smith, 1997). As already discussed, there are scholars who have described the quality of education in terms of the extent to which, and the manner in which aims and functions of education are achieved. Aims are the anticipated effects of learning and functions refer to what schools are expected to accomplish (Vedder, 1994). The notion of quality is therefore relative. It changes over time and differs geographically due to variations of aims, functions and the means to realize them. In this regard, the quality of education is linked to people and how they perceive education (Rissom, 1992).

As a multi-faceted concept, most definitions highlight the different elements of the basic input-process-output model that commonly underpins education research and policy analysis (UNESCO, 2002). Here quality is associated with the view that efficiency in the school system refers to a ratio between inputs and outputs. In this regard, a more efficient system obtains more output for a given set of resource inputs, or achieves comparable levels of output for fewer inputs, other things being equal. The output of education refers to that portion of student growth or development that can be reasonably attributed to specific educational experiences (Lockheed and Hanushek, 1988; Stephens, 1997). Each of these aspects is in turn made up of a number of variable elements.

In the analysis of indicators of educational quality, there are a number of internationally recognised indicators of quality that are highlighted in the substantial body of literature which attempts to determine the appropriate school quality inputs required to boost student achievement. For example, Torres (2003) (Not in references) highlighted the World Bank’s reliance on nine indicators of quality in primary education. In a review of priority indicators, according to the World Bank, they were in the following order: (1) libraries; (2) instructional time; (3) homework; (4) textbooks; (5) teacher subject knowledge; (6) teacher experience; (7) laboratories; (8) teacher salaries; and (9) class size. It is generally perceived that school improvement focused on input and process quality measures, especially on the learning end which is likely in principle to have the effect of improving output quality, namely; student achievement since students are able to better master the curricular content that is mandated for each grade (N’chougan-Sonou, 2001).

The World Bank tends to equate quality with efficiency in attaining school outputs. It utilises school achievement (cognitive achievement of pupils or efficiency of output compared to inputs to measure quality (Psacharopoulos, 1981; Heynemann and Loxley, 1983). Its position on the strong relationship between students’ cognitive achievement and the provision of inputs features highly in its sponsored study by Lockheed and Verspoor, Improving Primary Education in Developing Countries, in which it is stressed that “the achieving of the correct mix of inputs will bring about the desired outputs” (Lockheed and Verspoor, 1991). It identified five major in-school areas for improving the quality of education. These included: improving curriculum,
increasing learning materials; increasing instructional time; improving teaching; and increasing the capacity of students. In general terms research on inputs has focused on materials such as textbooks, desks, and blackboards as well as teachers and students.

The outputs include proxies of achievement (promotion and completion rates) as well as measures of actual achievement which include the kinds and quantity of facts and skills learned. The output characteristics of quality education is therefore the quality of student achievement and it is the amount and degree or perfection of learning according to the various levels of intellectual achievement, from recall to application and creative innovation. A minimum level of quality is a full functional literacy and a good mastery of basic mathematical operations including the capacity to apply them to simple everyday problems (Bergmann, 1996). In the World Bank’s study on *Education in Sub-Saharan Africa* (World Bank 1988), it is noted that when an attempt is made to measure output as a direct indicator of quality, the most common approach is to concentrate on the scores of cognitive achievement. It is emphasized that such an approach makes sense to the extent that enhancing cognitive achievement is prominent among educational goals and contributes centrally to a student’s ultimate productivity. Citing results of tests carried out by the International Association for the Evaluation of Educational Achievement (IEA), it was concluded that the quality of education in Sub-Saharan Africa is well below world standards. One explanation for this low quality was that expenditure per student, a highly aggregated proxy for educational inputs, was very low by world standards. Per student expenditure in African education was not only low but was declining. The combination of essentially constant budgets since 1980 and rapidly expanding enrolments had made the financing of education’s recurrent costs ever more difficult (World Bank 1988).

In the process factors, emphasis is placed upon the experience and the complex processes that interact in the daily delivery of education. The extent to which inputs can improve quality is directly related to the extent to which teachers effectively use them to improve the teaching and learning process. The process quality is therefore, the quality of the teacher-pupil interaction in the teaching-learning process. It means the use of teaching approaches suited to the given situation such that pupils’ opportunities to learn are optimized. Normally, if classroom conditions permit, it means pupil-centred methods of instruction, a full mastery of the lesson content by the teacher, a calm and ‘orderly’ learning environment, and availability of the basic materials needed for pupil activities and exercises. It also means error-free and relevant teaching content as well as the absence of fear among pupils. The quality of the teaching and learning process depends on the quality of the curriculum, of its contents, methods and manner of implementation. The quality of curriculum implementation depends in turn on the teaching and learning materials, the working conditions, and the pedagogical skills of the teachers, the total instructional time, and on the importance assigned to quality by the key stakeholders. These factors depend, to a large extent on the control exercised by the school and the parents themselves (Bergmann, 1996).

In terms of input-process-output measures of quality, it is generally believed that intervening at the school and classroom levels is crucial in raising the quality of primary education in Sub-Saharan Africa as ultimately educational quality is obtained through pedagogical processes
in the classroom where knowledge, skills and dispositions are acquired (Anderson, 2002; Verspoor, 2003). Therefore, managing the quality of classroom interaction is seen as the single most important factor in improving the quality of teaching and learning, particularly in contexts where learning resources and teacher training are limited (Anderson, 2002; O’Sullivan, 2004).

In addition, sex differences in school enrolment often emerge during teenage years, suggesting that school quality, particularly those aspects affecting retention, may also have a gender dimension. In which case, it is not only critical to identify what school factors affect enrolment and retention more generally, it is also important to determine which ones matter more for girls and which ones matter more for boys. This is because boys and girls may have different experiences in the same school as a result of differences in curricular opportunities within the school; differences in treatment by individual teachers; and differences in rules, regulations and administrative practices. Furthermore, even if the school environment is the same for both boys and girls, gender differences in school outcomes could occur if particular aspects of that environment have a differential impact on the retention of boys and girls (Lloyd et al. 2000) Not in references.

3. The function of good quality education

Although the concept of quality education is still contentious, it is clear from a lot of research that good quality education facilitates the acquisition of knowledge, skills and attitudes that have intrinsic value and also helps address important human goals. Evidence is now clear-cut on the links between good education and a wide range of economic and social development benefits. Better school outcomes as reflected in student scores are related to higher income in later life. Empirical work has also demonstrated that high quality schooling improves national economic potential. There are also strong and significant social benefits. It is now believed that the acquisition of literacy and numeracy, especially by women, has an impact upon fertility. More recently, it has become clear that cognitive skills required to make choices about HIV and AIDS risk and behaviour are strongly related to levels of education.

Part of the returns to school quality come through continuation in school. Consequently, students who do better in school, as evidenced by either examination grades or scores on standardized achievement tests tend to go further in school or university. In this regard, higher student achievement keeps students in school longer, which leads, among other things, to higher completion rates at all levels of schooling.

Using simple measures of basic cognitive skills, studies show that skills are separately important in determining earnings, apart from the effect of schooling attained. Although there is still data paucity, which suggests the need for caution in interpreting the results due to other extraneous factors, there is some strong evidence associated with an increase in test scores suggesting a substantial return to higher levels of cognitive skills and the probability of higher levels of school quality (Glewwe, 2002). Not in references

Quality education is perceived to have a strong impact on a country’s development goals. It
is generally believed that formal schooling is one of the key contributors to individual skills as well as human capital. Although there are other factors which play a similar role, schools have a special place, not only because education and skill creation are among their prime explicit objectives, but also because they are the factors most directly affected by public policies. It is also well established that the distribution of personal incomes in society is strongly related to the amount of education people have had. In general terms, more schooling means higher lifetime incomes. These outcomes emerge over a long term. It is not people’s income while at school that is affected, nor their income in their first job, but their income over the course of their working life (UNESCO, 2004).

Quality education is also perceived to have an impact on a country’s economic growth. The relationship between measured labour force quality and economic growth is said to exert an even stronger influence than the impact of human capital and school quality on individual productivity and incomes. Economic growth determines how much improvement can occur in the overall standard of living of a society. More specifically, a more educated society may translate into higher rates of innovation, higher overall productivity through firms’ ability to introduce new and better production methods, and faster introduction of new technologies. The following section focuses on challenges of quality in selected levels of education which include: early childhood care and education, primary, secondary and higher education.

4. Early childhood care and education

Despite efforts to promote ECCE in Sub-Saharan countries, access continues to be a significant challenge. Enrolment rates in pre-schools in the region are often below 10 percent, mainly due to limited facilities being available and the effect of poverty. While there seems to be common agreement on the need to increase access to pre-schools, this is not without tensions and dilemmas, including who should provide pre-schooling and how it can be financed.

Although in many countries in the Sub-Saharan region, pre-school education is not part of the formal education system, governments do appreciate the value of pre-school education and the sector is contained in official policy documents. An examination of official policy documents from many countries reveals that goals and objectives are clearly stated and are generally similar. They define goals and objectives of ECCE centers as offering non-formal education that aims at not only providing an all around development of children, but also to prepare them for formal education.

There is a compelling case for more and better ECCE programmes as they help to reduce existing and future disadvantages faced by many children, through addressing their nutritional, health and educational needs. ECCE participation reduces the prevalence of malnutrition and stunting, improves cognitive development and contributes to increased school participation, completion and achievement. ECCE becomes the guarantor of children’s rights and can open the way to all the EFA goals.

While ECCE programmes in many countries have made considerable progress as a result of
the policy strategies and guidelines, the quality of many programmes is still unsatisfactory, especially with community-based ECCE centers. Among the key contributory factors to this situation is that the policy which makes parents and local communities responsible for the development and recurrent costs of ECCE centers, has led to the establishment of many unregistered institutions with very poor facilities. Many of them operate at sub-standard levels, especially with regard to physical facilities, teaching and learning materials as well as teachers.

A number of measures therefore need to be put in place to improve the quality of Early Childhood Care and Education (ECCE). Many countries should establish national frameworks for the financing, coordination and supervision of ECCE programmes for very young children. There is an urgent need to control the mushrooming of unregistered ECCE centers to ensure that the stated objectives and goals are pursued and minimum standards are maintained. There is also the need for the governments to subsidize salaries of community managed ECCE centers. Teachers also need to be trained in various aspects of simple child care, health monitoring, nutrition and cognitive stimulation as well as payment of their salaries by the states, especially those in public pre-schools. The syllabus for such training needs to be basic, with an emphasis on practical competence rather than theory. Above all, it is important to provide school feeding programmes for ECCE centers.

5. Primary education

Considering the importance of primary education in national development, it would be expected that many countries would have launched programmes to increase access leading to achieving universal primary education. This has however, not been the case with many of the African countries. They reflect enormous differences in enrolments and participation, with some countries having achieved close to universal provision, while others continue to lag behind. Among the key underlying factors affecting primary school enrolment rates are economic ones. Research indicates that poverty is one of the most important economic factors accounting for the low participation. Many households, especially in the rural areas are too poor to afford direct and opportunity costs for their children to enroll in school. As economists tend to demonstrate, economic development normally boosts educational growth. In this regard, countries which have more resources to allocate to education, both as an investment and as a consumption good, achieve a higher participation in education as shown by evidence from more industrialized countries.

In response to the globalised framework of Jomtien and Dakar as well as the Millennium Development Goals (MDGs) for achieving universal primary education (UPE) by 2015, many Sub-Saharan African governments have abolished school fees in public primary schools under the banner of the free primary education policy. In addition, increased access to good quality education is seen as an important means of achieving many of the other development goals. Following the introduction of free primary education, many countries have experienced robust increases in primary education enrolments. Despite such enrolment increases, especially over the
last decade, many countries have fallen short of achieving the goal of universal primary schooling for all in both quantitative and qualitative goals.

Although UPE policies have contributed significantly to access and equity in primary education, the push for UPE in many countries has come to be identified with increasing deterioration of the quality of primary education right from the provision of physical facilities, teaching and learning materials, deployment of teachers and performance to the transition from primary to secondary education. There seems to be strong evidence of internal inefficiency, due to enrolment of over-age children, high rates of repetition and dropout rates, and use of unsound pedagogical approaches.

Among the measures to improve the quality of primary education, there is strong evidence that increasing the provision of instructional materials, especially textbooks is among the most effective ways of raising the quality of primary education. The scarcity of learning materials in the classroom is the most serious impediment to educational effectiveness in most African countries. The availability of all instructional materials has declined in recent years as increased fiscal stringency has led to severe cuts in non-salary expenditures.

Teachers’ use of time and other classroom resources is known to be a principal determinant of pupil achievement. To the primary school teacher falls the important task of turning into reality government strategies for improving quality. However, for that to happen, the teacher needs to be motivated and dedicated. The lifting of teachers’ morale through monetary incentives is a major challenge due to poor economies, but some measures need to be taken to regenerate their professional pride and enthusiasm through improving working conditions as well as increasing supervisory support and services. There is also the need for most countries to address the policy of the medium of instruction, with an emphasis on the use of vernacular languages in lower classes of the primary school.

6. Secondary education

In terms of access secondary school systems exclude most of the population of secondary age children in Sub-Saharan Africa. In 2005, the region was estimated to have a total population of about 600 million. Of this population about 86 million were of general secondary school age. The gross enrolment rates (GERs) at secondary school averaged 25 percent. On this crude basis, about 64 million, thus 75 percent of secondary age pupils are not enrolled in the region. The proportion of those excluded is likely to be higher than this, since some places are filled by repeaters. In this regard, it is probable that the numbers of those who failed to enroll were in the amount of 70 and 75 million, or over 80 percent of the total number of secondary school age children.

With regard to quality, most governments in the Sub-Saharan African region recognize that facilities and teaching-learning materials, particularly in science and practical subjects do lead to achieving the stated secondary school objectives. However, in many countries, there are large backlogs of workshops, science laboratories and home science rooms. While in some countries
the provision of these facilities has improved through donor assistance, due to cost-sharing policies, the construction and equipping of facilities is currently the responsibility of parents and communities. Considering the continued downward trend in the economies and rising costs of education which parents are required to meet, the provision of facilities and teaching-learning materials has seriously deteriorated.

The main teaching strategy that characterizes secondary school teaching is the large amount of teachers’ talk, which involves mainly the teacher presenting information or lecturing to the students, inter-sparsed with questions, generally asked to the whole class, with predetermined answers. A minimal amount of time is spent by teachers talking to students on an individual basis and throughout most of the lessons, the students play a passive role. A considerable amount of teaching-learning time is also spent with pupils silently working on teacher assigned tasks.

By use of the national examinations to assess the efficiency of the secondary schools, it is clear that in most countries, many students score very poorly mainly because of deficiencies in the use of foreign languages, lack of teaching and learning resources and the use of rote memorization in many subjects of the curriculum.

To improve quality, funds for the improvement of physical facilities, acquisition of laboratory/workshop equipment, textbooks and other supplementary teaching resources, especially in science and vocational subjects need to be provided. In particular, there is an urgent need for locally developed textbooks appropriate for secondary school examinations, instead of reliance on imported science textbooks which are widely used in schools.

7. University education

Higher education, especially at the university level is of paramount importance for Africa’s future. Africa requires both highly trained people and top-quality research in order to be able to formulate the policies, plan the programmes and implement the projects that are essential to economic growth and development. Preparing individuals for positions of responsibility in government, business, and in professions is a central role of the continent’s universities and supporting these individuals in their work with research, advice and consultancy is another equally important role.

Although there was rapid expansion of university education in many countries of the Sub-Saharan African region, which increased access, demand for places still outstrips supply. In spite of the expansion, only a small proportion of the eligible age group has access, based on the assumption that the great majority of university students are aged between 19 and 24 years. In many countries no more than 2 percent of the eligible age group attends public university education. With the addition of students in private and foreign universities, most countries would average 3 percent of eligible students.

Like other levels of the education systems, there are major regional imbalances in access to university education. Communities which made early and stable contacts with colonial institutions enjoy better access to university education than those who did not. This is particularly
the case with students from the arid and semi-arid lands (ASAL), which are inhabited by the pastoralist groups. Admission procedures by individual universities or centralized bodies tend to reproduce existing regional and gender disparities in access to university education as they are not quite sensitive to specific educational environments and their effects on examination performance.

In most countries, the proportion of female student enrolment declines as they move up the educational ladder. University education in particular is characterized by large gender disparities to the detriment of females. Gender disparities at the university are seen in relation to what happens in the earlier levels of the education system, especially at the secondary school. Due to a variety of demand and supply factors, including socio-economic and cultural influences and less favourable settings in girls’ secondary schools, female participation in terms of access, persistence and achievement is lower than that of males. These disadvantages translate to inequitable selection and participation at the university level.

The quality of university education, like other levels of education can be measured through an analysis of: (a) inputs such as teaching and non-teaching staff, curricula, facilities and technologies for teaching and learning arrangements for students’ catering and institutional management; and (b) outputs such as tests and examinations. Physical planning in the public universities in many countries does not commensurate with their rate of growth and expansion as more students are enrolled, the managers of universities continue to accommodate them in the existing facilities. This has often led to an over-stretching of such facilities. As a consequence, there is congestion in lecture theatres, workshops, laboratories, libraries and boarding facilities. The situation is most deplorable in the sciences and technologies. The required inputs which include adequate laboratory space and workshops as well as spare parts for equipment maintenance and repair, routine replacement and upgrading of equipment, reagents and other consumable supplies are seriously lacking in most universities in the region.

Libraries are among the worst hit facilities in public universities in most countries. Despite increased enrolments, universities do not invest much in the acquisition of books. Libraries hold less capacity of the required books most of which are too old. Some libraries which were designed to accommodate 600 students now serve as many as 10,000 students. Apart from inadequate space, most libraries cannot afford to contribute to current journals and other scholarly publications from outside Africa have greatly declined. There is also a scarcity of reference materials.

The massive expansion of enrolments without a corresponding increase in the number of teaching staff has meant that the staff to student ratio has risen. Normally each university has its own staff development scheme. However, there are many indications that due to financial constraints, post-graduate study, which is the basis of staff development does not meet the demands in the university faculties. To recruit academic staff for the public universities, the tendency has been towards relaxing the recruitment and promotion criteria. In many universities, a Ph.D degree is no longer a requirement for tenure and publications are less important criteria for judging who should be promoted. Consequently, many of the academic staff who in the past
would not have qualified for university teaching are now doing so. Moreover, due to very low salaries, it is no longer possible to attract competent staff from abroad to teach in the public universities.

From the poor situation of the teaching and learning environment and the quality and morale of the academic staff, not much is expected in the quality of instruction. Many lecturers in public universities use old material (yellow notes), which means that the courses they teach are also out of date. Coupled with the flight of the best lecturers from the public universities, the situation has affected the quality of instruction in the public universities. With lack of reading materials, students prefer the familiar expository method of teaching as they perceive university education to consist primarily of the reproduction of assimilated lecture materials for purposes of passing examinations.

Measures to increase the quality of higher education through teaching and research remains the principal objective and not to abolish universities as at one time proposed by some leading researchers at the World Bank. Long-term development goals cannot be met without it. It is however, appreciated that improvements in quality are unavoidably expensive. The improvement of quality can be achieved through a variety of measures. Urgent attention should be paid to the establishment and gradual implementation of standards of provision for the full range of inputs to teaching and research. The provision of libraries with the necessary books and periodicals should be the highest priority, closely followed by supplying laboratories and workshops with consumables and materials needed for equipment maintenance and repair. The revival of long-term efforts to upgrade the academic qualifications of staff is also quite essential through postgraduate training in masters and doctoral programmes.

**References** All page numbers are missing in the references. (The publisher of the book did not require them and therefore they were not provided).


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