

STRATEGIES FOR ATTAINING QUALITY MATHEMATICS EDUCATION FOR SUSTAINABLE DEVELOPMENT IN NIGERIA: POSSIBLE WAY FORWARD IN THE 21ST CENTURY

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ABSTRACT

Quality Mathematics Education for sustainable development in Nigeria is indeed imperative in this era of 21st century. The reason is obvious in recent times from reports that mere acquisition of mathematics literacy and competencies is inadequate. This is because the reports continue to show students' / pupils' distaste for the subject. Precisely, UNESCO (2012) reported that, mathematics knowledge and competencies fall short of the expected level due to continuous low achievement of students in teachers' and standardized examinations / assessments. That is the reason why, this paper is per-
scoping Quality Mathematics education in 21st century under the following sub-
headings: Quality mathematics education and sustainable development with main
paragraphs as, the role of quality mathematics education in sustainable development and
what the mathematics teachers need to know; Challenges facing mathematics education
in 21st century; and the possible way forward in form of suggestions for achieving
quality mathematics education for sustainable development. The challenges facing
mathematics education in 21st century include: building a professional consensus about
the values and accessibility of a challenging mathematics education for everyone,
building a professional consensus about teaching and learning mathematics. It was
concluded that, the sustainable development which is required for a developing nation
like Nigeria needs quality mathematics education. As such, the interplay of Mathematics /
Teacher factor relationship resulting to quality teaching and learning of mathematics is a
panacea for mathematics education and its sustainability. Recommendations were made
that Governments at different levels particularly the Federal has been doing a lot
towards the enhancement of Mathematics education. However, there is still need for
special focus on quality mathematics education whereby tertiary institutions such as
Colleges of Education, Universities' Faculties of Education/National Institute of
Education and National Teachers' Institute (NTI) that are concerned with mathematics
teachers preparations should put more emphasis on the programme of Teacher
Education in conducting and using current researches, particularly action research.

INTRODUCTION

Mathematics exists as a discipline from the beginning of civilization because it is considered as an excellence integral part of human existence. Therefore, Adegboye (1998) opined that mathematics is being developed as the need of mankind arises, by extension, mathematics increases both in context and application at different times and different cultures. Indeed, competency in mathematics has been recognized at all levels of men's existence as one of the key competencies for personal fulfillments, active citizenship, social inductions and employability in the knowledge society of the 21st

century. Therefore, it has become very necessary or inevitable to make everybody/all to learn the subject- Mathematics.

Indeed, the knowledge society of 21st century need more mathematics than ever before because, the principles, laws and theorem of mathematics are continuously applied in scientific and technological development which affects the man and his environment. Consequently, nations of the world today are classified based on technological developments.

However, as important as this subject is world-over and Nigeria in particular, the students performance in this subject both at national and international level as reported in both teachers and standardized examinations/assessments continue to show/indicate low achievement. Precisely, UNESCO (2012) reported that, mathematics knowledge and competencies fall short of the expected level. Moreover, disparities observed between and within countries give cause for concern. Even among pupils who obtain satisfactory evaluation results, many do not like mathematics and do not see the point of spending so much school time on the subject. Consequently, the expected outcome of quality mathematics Education for all is not self evident and is a subject of continue debate.

Several factors are said to be responsible for that as reported in the literatures ranging from students factor, curriculum factors to teachers factor. However, the point of contention in this paper is on the Mathematics – Teacher factor quality in teaching and learning mathematics.

Mathematics Education and Sustainability

Mathematics Education is the practice of Teaching and learning mathematics along with scholarly research (Wikipedia, 2013). However, sustainability is the development that meets the needs of the present without compromising the ability of future generation to meet their own needs. (WCED, 1989):

By this definition, sustainability requires knowledge and understanding of past events as well as the ability to make informed predictions of future events. Hence mathematics Education for sustainability means the knowledge and understanding required in the practice of teaching and learning mathematics along with scholarly research that enables the individual to portray the practices of those who produce or use mathematics to make informed predictions and conduct activities so that the human needs can be improved and maintained for future generations. Indeed, meeting these imperatives calls for more than hard work and good intentions. This calls for mathematics teacher's belief in his own ability to teach and student ability to learn Mathematics, this invariably leads to quality Mathematics Education. Therefore, the focus of this paper is on quality mathematics education for sustainable development discussed under the following subheadings:

Quality Mathematics Education and Sustainable Development

Quality Mathematics Education is the framework that would enable the learners to form positive and appropriate image of mathematics. And to achieve that, the teacher must be faithful to mathematics in its content and practices. He/she must make adequate preparation towards achieving the objectives for sustainable development.

Quality mathematics education must be understood by the learners not as a static corpus of knowledge but as an abstract logic that serve as fulcrum for other science

disciplines. This is demonstrated in many aspects of Advanced Chemistry and Physics where competency in calculation is required.

The teacher's preparedness towards attaining quality mathematics education is a catalyst which serves as basis towards solutions of today's world major challenges.

The sustainability of quality mathematics education is a vision that must be actualized for sustainable development driven by technological transformation we are all yearning for, as Nigeria is still a developing nation.

Mathematics activity is a multifaceted human activity very different from the stereotypes often attached to it in popular culture; the instructor's preparations towards achieving diversity in the different mathematics content gradually encountered by the learners. This is by setting or formulating problems to make them amenable to mathematics, by modeling exploring, conjecturing, testing, representing and formulating using specific vocabulary, arguing and proving, developing methods, working out and connecting concepts within structural spaces, exchanging and communicating. Such would be a complete packaged – education that portrays mathematics to be an individual and collective life experiences for desired sustainable development.

(i) The Role of Quality Mathematics Education in Sustainable Development:

Sustainable development is a process that is hugely complex and requires more subtle and mathematical tools than we currently have to unravel them. Asking the right questions is a challenge and in itself possible step towards solutions.

A mathematics teacher must integrate into his lesson, models from other aspects of life – as it affect the learner for sustainable living, and the task presents dramatic new challenges.

An enduring sustainable development requires partnership between Mathematics education, the learner's environment / community and the larger society. More quality Mathematics teachers for qualitative Mathematics teaching and, to interact with others (within and without) their immediate environment is paramount.

(ii) What the Mathematics Teachers need to know: Although, there is no genuine population statistics particularly of birth rates and death rates in the nations of world; according to UNESCO's report (2012), there is an assertion that the human population worldwide is growing towards 10 billion.

And, it is obvious that people are and would be in dear need of basic necessity of life like: food, water, housing and energy, etc. This implies that to stay on this planet, an individual needs extraordinary clever ways or ideas about how to utilize the earth resources, that clearly define here that the need for quality mathematics education.

Challenges Facing Mathematics Education in the 21st century:

Mathematics Education continues to face major challenges as we begin the new millennium.

According to the report from National Council for Teachers of Mathematics (NCTM, 1998) the challenges could be summarized as follows:

- Building a professional consensus about the values and accessibility of a challenging mathematics education for everyone.

- Building a professional consensus about teaching and learning mathematics. By implication, all stakeholders should take the responsibility to bring to an end the shortsighted and harmful bickering in the concept of mathematics education and to begin to breakdown stereotypes and make the importance of mathematics for our nations clear that would enable particularly all teachers to teach better mathematics and teach mathematics better.

- Continuing the reconstruction of mathematics education. This includes our views of mathematics - how to look at and think about mathematics; how we see our roles as educators; our students' roles; our teaching goals and outcomes; developing and interpreting new tools that would let us look beyond right and wrong answers and evaluate problems solving strategies and mathematical thinking. Also, very crucial is training teachers who are committed to the ideals and ready to face the challenges of teaching meaningful mathematics to all students.

Although, research data showed that millions of people have been victims of false assumptions about who has the ability to master mathematics. The teacher is an indispensable factor in school mathematics reform by implication, his/her preparation.

It was reported in HTML (IGI - 19495285) of 2013, that in the past four decades, attention in research on teaching had turned from the content or teaching and learning to the context in why they occur. Many researchers, now viewed learning as active contribution rather than passive absorption and teaching as facilitation rather than transmission.

Teacher Education programme also plays an integral role in familiarizing teachers with current recommendation and realizing those visions. Students' perception of mathematics often times is retrogressive, according to Orton (1992) and other psychologists as cited by Hassan, (2007) that one of the challenges before the mathematics teacher is on how best to inspire the learner to choose to learn mathematics as many learners had the belief that it is a difficult subject and they try to avoid it, because they find it difficult to remember materials exactly as it was taught.

Some of man's challenges include: the need to know what the impacts of his actions are on the environment he depended on, the need to know how the natural world functions. Invariably, he needs to plan for the inevitable changes. All these require enormous and assuming extremely complex and multi-disciplinary questions in the emerging mathematics education for sustainable development. Indeed, quality mathematics requires qualitative insights.

The teacher's difficult task is to mediate between the two worlds. This, the write believes is critical for quality mathematics education. There was a research report confirmed that a movement has emerged which sees mathematics education as a potential means of empowerment for disadvantaged teachers and students; this approach sees mathematics education as a means to better understand and critique the world. This clearly substantiates the fact that change is a process but not an outcome.

The Way Forward: Possible Suggestions for Achieving Quality Mathematics Education for Sustainable Development

That, mathematics teacher has the responsibility to collect enough evidences on how the different individuals in his/ her class can be inspired positively towards learning the subject. This could be done by creating dynamic learning environments which attempt to strike a balance to meet the needs of the curriculum and his/ her deeply held belief.

Hassan (2007) is also of the opinion that the Mathematics Teacher Education of the 21st century should be prepared to make teacher's teaching style dynamics by choosing among the various new suitable methods at his disposal. In particular, the use of ICT, Concept Mapping, Questioning Techniques etc which cooperate principles of dynamism, Construction perceptual variability. This could be attained in teaching style that permits the learner to handle, observe and experiment with materials and allow him to compare past experiences with new one so as to enable him take new decisions or amend his old precepts and adding new one.

Conney (2002) stated that, the teacher determines the nature of mathematics and mathematics learning because they determine teaching and evaluating the content (mathematics). This is contained in Education Teacher preparation: IG2 - 3403200391 HTML 's report.

The Teacher's degree of preparedness would be determined by strictly adherence to his/her self - inventory which includes the following:

- Self appreciation of mathematics.
- Clearly envisaging what to accomplish as a teacher in the 21st century.
- Believing, not just thinking that students can learn to reason mathematically.
- Feeling confident in his/her mathematics ability as a teacher.
- Be ready for the challenge of teaching everything to everyone.
- Instilling the ability to 'dream big' in students that is excellence in learning mathematics.
- Going beyond teaching basic skills and modeling the joy and beauty of mathematics.
- Having the mathematics abilities developed beyond the level of performing basic procedures

Understanding and interpreting for students the mathematical worlds that surround us.

Also, in the NCTM's report of 1998 (pages.45 & 46) five imperatives or needs were identified for all students, these include:

- becoming mathematical problem solvers.
- reasoning mathematically
- communicating mathematical knowledge.
- reasoning mathematically.
- learning to value mathematics.

becoming confident in one's ability to do mathematics, these in effect should be the cornerstones of new mathematics literacy - what is needed to survive and thrive in the next century.

In a nutshell, meeting these imperatives requires more than hard work and good intentions, but requires belief in our own abilities to teach and belief in our students' abilities to learn, while the teacher's self inventory suggest something's to ponder and talk about as you set your goals' for professional development and growth.

CONCLUSION AND RECOMMENDATIONS:

In conclusion, the Nigeria philosophy of Education that portrays education as just about the desire to learn not an obligation should be redefined and restructured. Indeed, the knowledge society of 21st century needs more Mathematics Education than ever before because quality mathematics education is the focus of scientific and technological development which is required for sustainable development of a developing nation like Nigeria. That, mere acquisition of mathematics literacy and competencies is adequate because reports continuous to show students' / pupils' distaste for the subject.

As such, the interplay of Mathematics / Teacher factor relationship resulting to quality teaching and learning of mathematics is a panacea for mathematics education for sustainable development.

Mathematics Education for sustainability is the practice of teaching and learning mathematics resulting to the development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

That, quality mathematics education in the 21st century requires curriculum review, teacher's self inventory at preparatory stage and the inculcation of desire basic principles of mathematics education in the students.

Indeed, the challenges facing mathematics education in the 21st century include among others, building a national consensus about values and accessibility to mathematics for every one; building a professional consensus about teaching and learning mathematics and continuing the reconstruction of knowledge of mathematics from the views of all stakeholders- educators, students, teachers, etc

In the light of the above, the following suggestions were proffered that for quality mathematics education for sustainable development to be attained

1. Although Governments at different levels particularly the Federal and State Ministries of Education have been doing a lot in their commitment towards the enhancement of Mathematics education. However, it is imperative at this point that special focus must be on quality mathematics education with more financial commitments in the developmental efforts towards curriculum and instructional programmes; all geared towards to sustainable development.
2. Tertiary institutions such as Colleges of Education, Universities and National Teachers' Institute (NTI) e.t.c. which are consigned with mathematics teachers preparations should put more emphasis on the programme of Teacher Education in the area of research particularly action research; where learning promotes active participation rather than passive assimilation and, teaching that enhances contextual concept presentation rather than meaningless or inadequate inductive acquisition of experiences.

3. The teacher being a powerful force to be reckoned with in any educational system. Mathematics teacher is more important in this era of science and Technology. As such, teachers' self inventory is the spring board towards achieving desired objectives while in preparation to attain quality mathematics education for sustainable development.
4. And, on regular basis, workshops and seminars should be organized by agencies such as NMC, NERDC, NTI and other professional associations such as MAN, STAN. These would avail the participant to current information, skills and new knowledge of presentation and acquisition of knowledge. Hassan (2007) cited Okolo (2003) that, these latest information and associated technologies in the field are powerful approaches to teacher's development in the 21st century.

Indeed, quality mathematics education is a panacea for a sustainable development in the 21st century. The reasons are numerous, for the simple fact that the teacher, whose role is complex and diverse, requires among others the ability to apply advanced learning theories in teaching and learning with adequate painstaking preparation that would enhance his/ her strengths and reduce weaknesses that invariably impact positively on his /her effectiveness as teacher.

5. Nigeria as a nation must begin to 'Dream Big' which is a prerequisite for teachers in the 21st century to eradicate illiteracy in Nigeria. We need more than basic training to function, at best the knowledge and understanding require for quality mathematics education is the driving force.

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CHALLENGES OF PROVIDING QUALITY PRIMARY SCHOOL MATHEMATICS UNDER THE UNIVERSAL BASIC EDUCATION SCHEME, (PROGRAMME)

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ABSTRACT

There is great concern on Education sector more so at the basic level. Given what education sector has become, there is the need not just to come up with new system but one that is functional and effective. The purpose of this paper is to highlight the value of mathematics to the individual and society at large. Secondly to bring out some of problems and challenges that may militate against our efforts to provide quality Basic Mathematics Education under the UBE Scheme. These challenges are mostly in the area of curriculum implementation in terms of Human and Material Resources, Urban - Rural Imbalance, Gender and in adequate funding. Finally, a projection of what could be done or focused upon to overcome the challenges was presented.

INTRODUCTION

All over the world, it seems there is an ongoing tremendous reformation and transformation in all sectors. It is not abnormal as the society is dynamic. The education sector generally is not left out in the scheme of this positive changes. It is very clear that today in the education sector that there are tremendous expansion in the number of Primary, Secondary and Universities with a corresponding increase in the number of pupils/students enrolment. This was carried out with the sole aims to serve as model for improvement of the existing ones and a catch up with current trend in the world. In line with those changes is the growing awareness of the importance of Science Technology and Mathematics Education. Thus, much emphasizes is now given to these subjects in our primary schools. As contain in the UPE (1977, 1981, 1989 and 2004), Primary Education is the bedrock to the Educational attainment of the nation. The policy therefore maintain that the Education given to the child at this level is the "key to the success or failure of the whole Education System". Thus for the objectives of this first level Education, the policy emphasizes on the "Ability of the child for permanent literacy and numeracy and ability to communicate effectively". The policy envisages that Permanently acquired literacy and numeracy will lead to other primary objectives which include:

- (i) Basic for scientific and reflective thinking
- (ii) Citizenship Education
- (iii) Character and moral training
- (iv) Ability to adopt to changing Environment
- (v) Development of manipulative skills
- (vi) Basic tools for further Educational development

Glancing through this objectives, the writers would like to asserts that Primary School Education is to train the child to think rationally in order to contribute to nation building, unity and integration of the citizens. Thus, also are the objectives for Mathematics Education at this level. However, performances in Education in general and Mathematics Education in particular in Nigeria, according to research report is declining, Adetula (1988), Harbor – Peter (1992) etc.

Therefore, the writers will highlight some of the critical issues or challenges of providing quality primary school mathematics under Universal Basic Education Scheme/Programme.

IMPORTANCE OF MATHEMATICS:

It is imperative to discuss that Mathematics Education is the key to the success in our efforts to meet up with modern world of science and technology. As is rightly put by Adetula (1989) that, Mathematics is Pervasive in today's world, competence is vital to every individuals meaningful and productive life and outstanding ability is a precious societal resources solely needed to maintain Leadership in a scientific and technological word. In essence, Mathematics is integral to every thing about life. Every occupation which the pupils may choose to pursue in life are full of the opportunity and the need to apply Mathematical knowledge and skills. There is wisdom in the saying that Mathematical Studies provides Examples of the power of free and rational thought, since it reflects societal thought, feelings, beliefs and action. Therefore its study is very important for self and national development.

NATIONAL PROBLEM:

In view of the significant position of Primary Education and as the foundation level of Nigeria's Educational System, it has become very clear to all concerned that, there is an increasing need for the pupils of Primary School age to learn more mathematical terms, principles, operations and scientific pattern of thoughts. Thus reasons why more attention is given to Primary School Mathematics Syllabus that generate life problems which are in line with pupils levels of understanding. However, the low level of literacy in mathematics in particular and science and technology in general are now recognized as a single most inhibiting factors in our efforts towards development in science and technology. Wasagu (2005) affirmed this, by reporting that, A 1999 and 2003 survey on minimum learning achievement confirmed low level of numeracy and literacy among Primary four and six pupils in Nigeria. Similarly, the National literacy rate for 2001 was found to be 48.9% well below the mean for Sub-Saharan Africa put at 63.2% worst still, Nigeria compares very unfavourable with countries such as South Africa (84%), Kenya (79%), Cameroon (72%) and Ghana (68%). In the area of female literacy, South Africa has twice the number of literate female adult recorded in Nigeria. Equally importance, the environment in which teaching and learning are taking place in Nigeria is to say the least harsh. He went further to say that, school infrastructure is largely poor, teachers quality and quantity are deficient, curriculum are over ambitions and over loaded.

In another related literature by Wasagu (2005), reported that, 2000 National Stake holders Meeting organized by the Federal Ministry of Education concluded that schools have become un-attractive for parents and their children alike, especially the girls child.

In addition, SAA (2001) confirmed that in all National measures in Basic Education including access, retention, performance in school and public examination (ie WAEC, NECO, etc), the Nigerian situation is far from encouraging.

From the situations cited above, it is becoming a common knowledge that our most serious Educational disability has to do with creative application of knowledge. What is responsible for this? Could it be connected with our Educational goals? The instruments needed to execute the programme? The execution and management strategy (ie Implementation), the Evaluation facilities/findings and finally, the issue of insufficient funding, can we say UPE has succeeded? If not why?

UNIVERSAL BASIC EDUCATION (UBE)

Nigeria has again launched another Mass Oriented Education Programme, this time branding it the Universal Basic Education (UBE). According to Shaaba (2000), Universal Basic Education can be interpreted to mean Minimum Education Expected to be received by all. It is to be of Nine years duration, five years in the Primary School and three years in Junior Secondary School (continuously). It is a compulsory, free for all children of Primary and Junior Secondary School age children in Nigeria.

GOALS OF UBE

According to President Olusegun Obasanjo (1999) UBE is an Expression of the desire of government to entrench viable participatory democracy and enhance national social economic development. UBE was intended as evidence of Nigeria's commitment to the world's declarations on Education for All to drastically reduce illiteracy within the shortest possible time and finally, UBE was launched to broaden access to quality Basic Education as a foundation stone for the sustainable socio-economic development of the African continent.

OBJECTIVES OF UNIVERSAL BASIC EDUCATION

Having significant will formulated goals and objectives, is a powerful determinant to the success of any programme. It can be equated to like a compass to the navigator. Once they are faulty, you can be certain that every other activity geared towards achieving such goals/objectives is bound to be fruitless. Thus the objectives of Universal Basic Education include: (UBE Act, 2004)

- 1) Developing in the citizenry a strong consciousness for conclusion and a strong commitment to its vigours promotion.
- 2) The provision of free, Universal Basic Education for every Nigerian child of school age.
- 3) Reducing drastically the incidence of drop-out from formal school system through improved relevance, quality and efficiency.
- 4) Catering to the learning needs of young persons, who for one reason or another have had to incurrupt their schooling, through appropriate forms of complementing approaches to the promotion of Basic Education.
- 5) Ensuring the acquisition of the appropriate levels of literacy, numeracy, communicative and life skills as well as the ethical, moral and civic values needed for laying a solid foundation for life by learning.

The necessary questions that need to be raise here are:-

- a) How viable or feasible are these set out objectives?
- b) How attainable and measurable are these objectives?

- c) Did we consider our readiness, state of preparedness or potential as individuals or nation, before arriving at this goals?
- d) Are we simply carried away by the race of development in the world?

Sincere answers to these questions are bound to guide us into achieving these viable Educational goals of the UBE scheme. In the light of the above, how would you and I evaluate these objectives? Some things are apparently not of place as rightly observed by Shaibu (2005) that, Nigeria Policy statements are elegant and laudable. However, their implementation, and indeed the achievement of the of the stated objectives in any empirical and quantifiable parameters leaves much to be desired. In addition tradition, there seems to be little if any, attempt to periodically monitor and evaluate the extent to which these objectives are being implemented and achievement being attained on the part of all stake-holders. Therefore to achieve these noble objectives, attempts must be made to overcome some challenges of Primary School Mathematics Education.

CHALLENGES IN PRIMARY SCHOOL MATHEMATICS EDUCATION.

The recognitions that mathematics at the primary school level is important for development underscore the need for urgent intervention. Mathematics Education is the key to meeting the minimum needs of human society in our age of science and information technology. Similarly, in order to derive the actual and potential benefit of science and technology, it requires an informed population which understands the nature, important issues and challenges of Mathematics Education, under the Universal Basic Education. Hence to discuss the challenges of providing quality primary school mathematics under the Universal Basic Education Scheme has become necessary at the Primary School level. These challenges ranges from Nature of mathematics, curriculum Teachers welfare or parent implementation, funding and other related activities.

(a) Nature of Primary School Mathematics/Nature Learner:

Mathematics teaching and learning at the Primary School level is perceived by Fakunde (1981) as an activities that has to do with particular way of thinking and using numbers in general. This call on the learner involved in mathematics study to see it as an activity in an organized manners which requires thinking. In this sense, it has to be made attractive by the teacher in such a way that many children could be happily disposed towards it. If a learner perceives doing mathematics in activity form, it helps in taking care of the abstractness of the nature of mathematics. It is this abstractness of mathematics that places upon the mathematics teachers a greater responsibility to improve its teaching and learning at primary school level, because it is at the level that the foundation of mathematics has to be laid, Lassa (1987). Fonancier (1984) in Ahmed (1997) contends that, Primary mathematic that has emerged is used to solve the problem that provoked the search and to solve related problems as well. In the same vein, Rose, J. B. and Boraji. R. (1989) said, one of the biggest challenges for mathematics instruction today is presented by the great number of students, showing an inappropriate approach to the subject and its learning. Most mathematics students/pupils seem to interpret their role as essentially acquiring (ie memorizing) fact and algorithm that can be immediately applied to the solution of given exercises, few students expect mathematics to be meaningful and few still see mathematics as a creative undertaking.

b) Implementation of Primary school Mathematics Curriculum.

Irrespective of how laudable the objectives and the plans of a programme are, if the instruments for the execution are lacking both in quality and quantity, there bound to have problems in the success of the entire programme. Primary School Mathematics Education cannot be an exception. As Adetula (1988) says, the most immediate problem is not the mathematics curriculum, but the need for more, better qualified effective, efficient and adaptive mathematics teachers, since he is the main channel for the communication of the mathematical ideas to the child.

The most important "tool" in the success of Primary school Mathematics under Universal Basic Education Scheme after the learner is the Teacher. After all, there is an adage which says man dictates the pace. In other words, even in situations where some materials resources (e.g. funds) are lacking, the person in charge of the programme could improvise using his useful creative potentials. In another perspective, our hasty desire to implement these laudable objectives while most of the available teachers are not too competent, particularly with the newly introduced curriculum and syllabus. The report had it that while some primary school mathematics teachers skip certain topics apparently because they did not understand it too well, Salman (2005).

(c) Large class syndrome

The introduction of Universal Basic Education Scheme will mean more than ever before having more number of pupils in our mathematics classroom. Furthermore, the pupils come from different home background with varying abilities. Research Evidence has it that large classes have the tendency of limiting performances of mediocre since high ability pupils always dominate in such classes, (Sadker and Sadker, (2000). The implication of this in the Primary school mathematics Education is great as more and more textbooks, classrooms, other teaching and learning facilities are needed in order to improve and maintain the set standard in both access and retention of objectives of the scheme.

(d) Gender Issue.

Experience have shown that there is an imbalance in girl access to Education in general and mathematics Education in particular. Thus, there is an inconclusive debate over the girl's attitude and performance in mathematics. For instance, Uché (1984) reported that, this gender imbalance is attributable to parental attitude towards mathematics. Similarly, Ojo (1986) said, many students, particularly girls have negative attitude towards mathematics. After all, they have been told that mathematics is a masculine subject which belongs to a selected few. This situation is worsening by teachers who use teaching techniques and approaches that make mathematics frightening to students. However, (Imoko) and Agwagati (2006) is finding show that, there is no significant difference in the mean interest score of boys and girls in trigonometry. Also Sukthankar, (1999) reported that mathematical competence is essential for advancement in virtually all the fields even at grass root level and traditionally women have been active in socio - economic activities, however, there is shortage of qualified female applicants in science and mathematical skills needed to move the nation forward in science and technology. The challenge of primary school mathematics under UBE scheme is to design and execute overcome fundamental conceptual barrier

when learning mathematics particular seeing mathematics as a masculine course of study.

Therefore, the challenge here is for stake holder in mathematics Education in particular at the primary level to use our wisdom (teaching and learning) to help females not to see mathematics as only a masculine subject. This can be in the form of giving every individual in the class equal chance of participation in the classroom activities. This setting allows the female pupils to develop their ability and self confidence needed to excel in their pursue. In addition, this situation may shape the trends in the access and performance of female pupil in mathematics in particular and science and technology in general and consequently will led to an increase in the level of classroom interaction which allows the females to have or develop confidence need to Excel in their pursues. According to Sukthanker (1999), these situations when created in the classroom allowed the female students feel more comfortable and start to take more active role in the learning process. Their participation in, and their ability can shape the trends in the performance in mathematics.

(e) **Urban – Rural In balance**

To some extent it might be correct to say that the quality and quantity of Primary Mathematics Education received by the pupils in our rural schools is not in any way comparable to those in the urban areas. This is from writers personal observation. The quality tends to be poor in the rural areas due to factors such inadequate supply of well qualified mathematics teachers, poor classroom accommodation, non-availability of instructional materials. The most interesting concerned is, it is in the rural areas that we can find an abundance of material resources and examples that are relevant, easily accessible that can be use to facilitate the teaching and learning of Primary School Mathematics but they are either not utilized or under-utilized or not even aware of their existence. Mostly due to the in competence or non availability of mathematics teachers, the challenge is, would this ugly situation be different under the Universal Basic Education Scheme? Therefore, Primary School Mathematics teachers are expected to use their professional training or wisdom to make maximum utilization of these opportunities to raise the curiosity and motivate the pupils to learn more mathematical concepts, and principles as it relates to their immediate environment.

To address the issue of inadequacy in the number of mathematics teacher in our rural areas, there is the need for the implementing agencies to adequately address the welfare of teachers which is ones of the problems that led to the failure of UPE Scheme, Suleiman (2006).

FINANCE

Virtually all levels of Nigeria Education System are in dire need, the most disturbing level is the basic level where there is no enough buildings and other teaching facilities and the quality of knowledge provided are nothing to be proud of. Yet, the government is still in the habit of allocating less money to the Educational sector. It was reported by Achi (2004) that Nigeria allocation to Education is compared with that of other less affluent societies in Africa, the picture becomes more discouraging. Unless, Nigeria change her value system and invest on Education, in general, and science and

technology of which mathematics is the bedrock, the goals of Universal Basic Education would only be a mirage.

RECOMMENDATION/CONCLUSION:

Many children today are taught to believe that mathematics is learnt through memorization against the background that the best way to learn and understand mathematics is by doing (activity). It is against this background that the quality of Primary School Mathematics under the previous reforms failed to catch-up with the World Standard. As reported by Wasagu (2005). Therefore, the following are some of the identified challenges of providing quality Basic Mathematics Education. These include, pupils view of mathematics, curriculum implementation by the mathematics teachers, and other involve in the implementation, large-class syndrome due to high increase in the pupils enrolment, gender issue, rural-urban in-balance and finally the finance allocation to execute the programmes.

It is against this background that the following suggestion were made.

1. Importance of Teachers cannot be over emphasized, their effectiveness depends largely on the professional training and the content acquired. Therefore, it is suggested that NCE with mathematics specialization must be the ones to teach Mathematics at Basic level.
2. All teacher training institutes must make Basic Mathematic course compulsory to be treated in the teachers undergraduate level for those specializing in sciences.
3. The Federal Ministry of Education in conjunction with states and local governments must run more and compulsory teacher orientation courses in Basic Mathematics – to update the serving teachers and improve their methodology.
4. Information Technology must be given desired attention as another modern way of approach to teacher preparation. This will add impetus to teacher change in practice.
5. Government must increase its funding of Education at all levels and special preference must be given to the Basic Mathematics Education the bedrock of any scientific and technological development. Thus, teachers welfare, instructional materials and conducive environment is need if only our goals of Universal Basic Education is to be achieved.

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This paper looks at the role of culture in the development of mathematics education in Nigeria. It examines the historical and cultural factors that have influenced the teaching and learning of mathematics in the country. It also discusses the challenges facing mathematics education in Nigeria and offers some suggestions for improvement.

1.1 INTRODUCTION

Human beings and its society are dynamic. This dynamism is mainly in the most cases sustained by the introduction of technical educational programmes. The Nigerian case therefore is not unique. The history of Nigerian education is associated with programmes initiated by various governments at various times with the intention of bringing about the purpose of optimising process and product. From 2001, since the introduction of western education in Nigeria in the later part of 19th century various policies and reforms have been put in place to sharpen the educational system for the better (Osakoya, 1994). Among such reformatory policies include the education ordinance of 1987 and Phelps Stokes report of 1921. The most interesting the Universal Primary Education (UPE) of 1976 and the 6-3-3 system that took off in 1987.

The Federal Ministry of Education (1987) opined that the Federal Government of Nigeria has adopted education as an instrument for economic development. This is based on the fact that investment in education is believed to be crucial in the fulfillment of socio-economic, cultural and political needs of the nation. This is why the FME (1987) states that:

Education will continue to be highly valued in the new national development plans because education is the most important instrument of socio-economic development. Education is an integral part of social culture. It is the only sector that can be provided for in educational plans.

The Universal Basic Education (UBE) is a model of the 10th September 1997 by the government of President Abacha. It is another educational revolution that is being implemented in Nigeria. The proper position in the country of education is the present technological revolution. This is a call for an all-round development of the