



Problems of Teaching and Learning Mathematics in Primary Schools in Aba-North Local Government Area of Abia State

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Abstract: *In order to be an active learner at the primary level of education each pupil is expected to be treated as a special learner who has some rights over the learning situation in form of asking questions and clearing of doubts this paper therefore tend to look into the concept of teaching and learning, primary education, and some of the problems of teaching and learning mathematics in primary schools in Aba-North local Government Area of Abia State. The paper made some suggestion on how to overcome these problems. The paper concludes by calling on the government, parents and teachers and all that is concerned to do all within their reach to breach the gap by doing the needful*

Introduction

Concerns about problems of mathematics at primary, secondary and post-secondary school level are not new. As far back as 1935, UNESCO started paying attention to these stages of studying mathematics. In general, the subject of mathematics has been a scourge on learners (Beckman, 2005, Bay Williams, 2010). One sorry aspect of this problem is that though it is recognized by all concerned for what it is, yet little is done to solve it. Before the learner embarks on the study of mathematics, even at the junior primary level certain challenges militating against the pursuit of the subject are generated in them. Some of these challenges are unborn while others are due to external influences. Though, few learners possess innate abilities, while a great many of them do not.

The principles of mathematics are generally understood at an early age. When missed, it gives birth to anxiety which includes a feeling of tension, apprehension or fear that interferes with mathematics anxiety which is a phenomenon that cut across some learners in primary and secondary school students because they tend to miss its principles.

Umeonyang (2017) referred to mathematics as the foundation for science without which a nation can never be prosperous and economically independent. He further noted that

competence in mathematics provides many of the opportunity for personnel required by industry, science, technology and education. Considering the contributions of mathematics to the contemporary world, one would have expected mounting interest on it as a discipline that is truly the language of science and technology but the reverse seems to be the case.

According to Uwadiae (2009) quoted in Punch newspaper, 2009 that 77% of the candidates who sat for the 2008 West African Senior School Certificate Examination failed to get credit in mathematics. In view of this, the problem of mathematics became a national challenge, this study sought to find out what could have influenced the problem. Since mathematics was introduced into the syllabus with proper study, so many problems have been confronting effective teaching and learning of mathematics at the primary level of education like:

- ❖ The attitude of pupils towards the learning of mathematics
- ❖ Unqualified teachers or using non-mathematics specialist to teach the subject in our schools
- ❖ Lack of appropriate methods of teaching mathematics
- ❖ Lack of instructional materials

The problems associated with teaching and learning mathematics is seen from the lukewarm attitudes of some mathematics teachers. Lack of learner/teaching relationship has also been seen in the environment in which teaching and learning is conducted. Teaching and learning mathematics at the primary school level is very essential because it is the place where foundation is laid, for a building without proper foundation will surely collapse in the same manner/way where mathematics foundation is not properly laid the learner is bound to crash before reaching post-secondary level. No doubt mathematics is regarded as a yardstick in the development of any nation.

Statement of the Problem

The importance of mathematics to the world and to a nation's technology breakthrough has been highlighted. This has been the reason why mathematics is prominent in the school curriculum and timetable. However, in Aba-North L.G.A. of Abia state, the teaching and learning of mathematics have not been without problems. For sometimes now, there has been a growing concern over the poor teaching and learning of mathematics.

In addition, pupils are likely to attend schools that are poorly constructed with inadequate teaching and learning facilities, most teachers lack teaching effective characteristic and insufficient teacher training program. On the side of the learner, is loss of interest in learning mathematics and the teachers not showing enough motivation to arouse pupils' interest in learning mathematics

To what extent would all these problems of teaching and learning mathematics affect pupil's performance in mathematics? Thus the research on problems of teaching and learning mathematics in some selected schools in Aba-North L.G.A of Abia state.

What is Teaching and Learning?

Teaching and learning is a process that includes many variables. These variables interact as learners work towards their goals and incorporate new knowledge, behaviours and skills that add to their range of learning experiences. (Bariha, 2021).

According to Afzal and MdAbul (2021), Teaching and learning is a process which can be defined as a transformation process of knowledge from teachers to students. It is referred to as the combination of various elements within the process where an educator identifies and establishes the learning objective and develops teaching resources and implements the teaching and learning strategy.

Primary Education

Primary education or elementary education is the first stage of formal education coming after pre-school/kindergarten and before secondary school which provide children with an elementary understanding of mathematics, language, science, as well as skills for their lives. The problems that beget mathematics in primary schools are many and varied. The researchers will discuss some of these problems in the light of the approach outlined. These problems are as follows:

Inadequate numbers of Mathematics teachers:

Teachers play a vital role in helping their pupils understanding. Sarkar and Gomes (2010) are of the view that teachers must have access to continuous professional development through in-service programs, short term seminars and workshops (Gezahegn, 2007). But in Nigeria, low percentage of teachers received training (Stacey, 2004). Inadequate mathematics teachers in our primary schools level has contributed greatly in poor performance in government schools due to inadequate mathematics teachers now you can find CRS, Economics, Agriculture teachers without educational background teaching mathematics in our primary schools which will lead to poor performance of the learners in mathematics. According to Farooq and Shah (2008) the problem of shortage of teachers has been identified as the major problems in effective teaching and learning mathematics at the primary level.

Shortage of qualified mathematics teachers:

The quality of education of a nation could be determined by the quality of her teachers. The most important factor in improving learner achievement in mathematics is by employing seasoned qualified teachers in all schools (Abe and Adu, 2013). Obodo (2004) opined that a shortage of qualified mathematics teachers will result to poor teaching and learning of mathematics and consequently poor achievement and performance of the teachers which

invariably will lead to the production of another generation of poor learner's achievers who will eventually turn out to teach mathematics poorly tomorrow. Therefore, to enter into a teaching career as a qualified teacher both in public and private schools, one has to finish an official teacher training program that involves earning a particular number of subjects and education credits and doing teaching practice being sent into school to teach as a student teacher under the supervision of qualified teachers. According to National Policy on Education (2014) a qualified teacher is a person who has at least National Certificate in Education (NCE). Obodo (2004) submitted that the defeat of the present Nigerian educational system is partly as the result of teachers with poor quality. According to Abe and Adu (2013) the qualifications of some mathematics teachers were found not to be relevant. With mathematics teaching for instance, the qualification of some mathematics teachers were School certificate. Also among these teachers teaching mathematics, some of them have different areas of specialization like CRS, Sociology, and linguistics and so on without educational background. It is believed that undergoing educational courses in teacher training colleges and institution of education is the initiation into the teaching profession. Thus, a teacher who has ordinary National Diploma (OND) or other qualifications such as B.Sc. Sociology or M.Sc Criminology is not professionally qualified to teach mathematics. On the other hand, teachers with National Certificate in Education (NCE) B.Sc (Ed) are both professionally and academically qualified to teach mathematics in primary schools.

Lack of Instructional Materials

Instructional materials have been viewed as dedicative materials things which are supposed to make teaching and learning possible. Instructional materials are the tools used in the educational lessons which include active learning and assessment. Basically, any resource a teacher uses to help him teach his students is an instructional material. According to Abdullahi (2008), instructional materials can be tools locally made or imported that could tremendously enhance the lesson impact if intelligently used. Ikechukwu and Isola (2010) referred to instructional materials as an object or devices which help the teacher to make a lesson clearer to the learner. Instructional materials are also described as concrete or physical object which provide sound, visual or both to the sense organs during the process of teaching and learning. Obi (2005), Emizie (2010) states that instructional materials include those materials and services used in learning situations to supplement the written or spoken words in the transmission of knowledge, attitude and ideas. It is a material that facilitates teaching and learning activities and consequently the attainment of the lesson objectives. It helps in making teaching and learning meaningful.

Adewale (2011) states that instructional material will help teachers to hold student's attention in the class; it helps students understand the mechanism of learning. But the sad news is that these instructional materials are not provided by the government and teachers are not well paid and teachers salary are being held for months before it is paid ending in teaching mathematics and other subjects without instructional materials resulting in distracting the attention of the learners and their failure to understand the mechanism of learning. Lack of

Instructional material in mathematics will make the learners not to perform well in external examination and may not be able to compete favourably with their competitors from other schools.

Poor academic achievement in mathematics could be attributed to many factors among which teacher's strategy was considered as an important factor. This implies that the mastery of mathematics concept might not be fully achieved without the use of Instructional materials. The teaching of mathematics without instructional materials may certainly result in poor academic achievement.

Improper introduction to the basic operations of arithmetic

The basic operations of arithmetic to which reference is made here are those of addition, subtraction, multiplication and division. The challenge here, as with the concept of numbers is an early comprehension and appreciation of what the concept being learned are as far as application is concerned, and as far as arithmetic as a unit of knowledge is concerned, helping learners in developing an understanding of the basic operations of arithmetic through everyday interactions will enhance the learners easier transference of one mathematical concept to another (Wright et al, 2006) in (Mullis et al, 2020). It is clear that when one concept has not been fully grasped, the imposition of another concept, and yet another on so shaky a foundation leads eventually to a situation in which the whole system of mathematical knowledge becomes a bundle of confusion for the learner. The end result is frustration and aversion for mathematics. Looking at the basic mathematical operations in the light of the preceding assignment, after gaining a good insight into the concept of numbers most learners are in a good position to follow this up with a successful handling of the basic operations of mathematics. It is only left to the teachers to adopt the proper approach. According to Fusoon et al (2017) the concept of numbers must now be associated with concrete terms instead of dealing with numbers in the abstract. Ask a learner who has a good idea of numbers, how much he will have if his mother gave him three cents and then father follows with two more cents. Without much effort, he will tell you that he now has five cents. On the other hand, let the teacher just slap down on the chalk/white board the problem " $3+2=?$ " Chances are that many learners who are just beginning these mathematics computations may not be able to supply the correct answer (Wright et al, 2006)

Seeing a number of cents arranged in groups which forms units, e.g in groups of three, the learner will soon learn that the total number of cents in two such groups is six, and in three such group, nine, and so on . In other words he begins to see that the concept of addition which he had acquired can be extended to the context of multiplicity. In this way multiplication begins to make sense to him (Kouba & Franklin, 2013). No amount of exercise like $3 \times 2 = 6$, $2 \times 4 = 8$, all dealing with numbers in this abstract manner could have achieved the same result within the same time as the practical approach of linking up the numbers with the operations. In the case of division, which presents the greatest difficulty to learners at this level, again a down-to-earth approach is best. A typical learner knows, even if it be intuitively, that when he and his brother

are given six oranges to share equally between themselves, he will have three oranges and his brothers will also have three oranges after the division. But once more problem $6 \div 2 = ?$ This creates a momentary black-out in the minds of many learners (Kouba & Franklin's, 2013). We can draw the conclusion that the basic operations of mathematics ought to be introduced to the beginning learner within the context of concrete terms or materials before attempts at abstraction can be made (Verschaffel, Decorte, & Lasure, 2014).

Heavy reliance on memory work in dealing with fundamental mathematical processes

The emphasis on this problem is on the word "heavy". Traditionally, learners in the school are meant to commit certain bodies of mathematical relations to memory. For instance, multiplication tables as those of weights and other measures. These could be some acceptable argument for memorizing these materials but certainly we must face reality in these matters. To memorize the multiplication tables and a few relations may be wholesome enough but there is a great need to associate such memory work with practical situations. While memorizing relations for instance, learners should be exposed to practical situations which enable them to appreciate what they have been memorizing. These are for instance metre rules containing units of the millimetre, the centimetre and decimetre, and finally the metre itself. A direct confrontation with these lengths is essential to make the lesson meaningful. Merely rattling away as children does: Ten millimetres make one centimetre and so on, does little or no good at all. When you as a parent brings a ruler on which these units are inscribed and show them to her, she wants to ignore your efforts emphasizing that the teacher says they must know it by heart. In this situation, there is clearly something missing. The very notion of length seems to be absent as far as the child is concerned. This is a basic problem that must be cleared before the relations between units of length are tackled.

In the absence of this kind of approach, terms such as centimetres, kilogrammes, seconds, minutes, hours, etc remain illusory to the learner for a long term (Anghileri, 2006).

Lack of Practice

We cannot afford to neglect the old adage "Practice makes perfect" There is to be noticed in various countries much apathy in this matter of improving the standard of mathematics education (UNESCO, 2020). This arises from the attitudes of learners, teachers and educational authorities. Let us consider these in turn

i. Attitude of Learner: Frustrated learners are difficult not only to encourage but also to control. Too many learners get frustrated by the way teachers handle the subject matter (Mullis et al, 2020). Some teachers are in the habit of intimidating their learners. This is sometimes very pronounced in the case of mathematics lessons. One hears teachers making statement like:

- ❖ Mathematics is very hard
- ❖ Only very few people usually understand it
- ❖ If you do not sit up, there is no mercy, you will fail

The pity of the whole situation is that the fault may not necessarily arise from the learners, but from some of the stumbling blocks invariably the learner develops:

- ❖ Hatred for mathematics and numbers in general and
- ❖ Hatred for the teacher involved.

It is thus not surprised that they turn rebellious, as it were, whenever they are confronted with mathematics (Walle et al, 2010).

ii. Attitude of teachers and government education authorities: The teaching profession in many countries has ceased to be a noble profession and has instead become a "stepping stone" kind of employment. Too many teachers are itinerant workers, unhappy and dejected (UNESCO, 2020). They move and quite logically non-teachers who must subsist, if not exist as far as the battle for life is concerned full the numerous vacancies that teachers create as they move away. Government educational authorities have always been concerned with this and other related problems. In many countries, financial resources are limited and cannot be enough for teachers and education in general because of other commitments in these societies to which attention must be given, and this leads to a kind of viscous circle between government and teachers. Government cannot help teachers beyond a certain limit, and teachers on their part cannot help government discharge its educational responsibilities beyond the level to which they can bear their crosses (Iwuanyanwu, 2019).

Problem of inadequate textbooks

No one who wants to achieve something can do so without inadequate means. One of the important means of achieving success in the study of mathematics in primary lies in the direction of textbooks and availability of relevant materials. It is most gratifying to note that in these days for instance global information, access to digital books, software program and apps on mathematics are springing up across the world. Some programs aimed at helping learners to develop computer ability of addition and subtraction which include digital mathematics games, example, cross expression (Chen, Looi, Lin, Shaw & Chan, 2012). This has moved the burden of the work on teachers who must produce handouts and notes for learners where textbooks are not available. However, due to lack of access to internet resources and/or unavailability of network infrastructures in some developing countries, the circulation of digital materials is painfully low. What has been said for books also applies to materials and equipment which go into the teaching and learning process. In this connection however, while considering the fact that teachers may be relied upon to improvise at crucial moments, such moments must not assume a high frequency of occurrence. Educational authorities must play their part effectively by making adequate provisions in this connection.

Suggestions

Based on the above, the following suggestions have been recommended for implementation:

Government should liaise with professional bodies to organize workshops for primary school teachers of mathematics so as to be on the alert of the latest development in mathematics at the primary school levels

In-service training should be organized at the primary level this will go a long way to equip teachers with modern methods/techniques in teaching and learning mathematics

Government in their way should take necessary steps in tackling the problems encountered during the teaching and learning of mathematics as a subject such as lack of qualified teachers, poor payment of teachers and lack of Instructional materials and so on

Government on their part also should motivate primary school teachers by paying their salaries as at when due which will go a long way to motivate them teach the pupils without any hitch.

Conclusion

Major problem encountered during the process of teaching and learning mathematics at the primary school level include lack of qualified teachers, lack of interest on the part of the learners, lack of Instructional materials, lack of motivation for both teachers and learners in Abia North L.G.A of Abia State. This paper therefore concludes by calling of the Government, parents and teachers and all that are concerned to do all within their reach to breach this gap by government making sure they employ teachers who have educational background and qualified to teach in our schools, and learners should put interest in their learning mathematics

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