



USING DRAMA IN TEACHING MATHEMATICS AT THE BASIC AND SENIOR SECONDARY LEVELS IN NIGERIA TO ENHANCE LITERACY

NGOZI ELIZABETH EZENWOSU ^a, NKECHI PATRICIA-MARY ESOMONU ^{a≡}
AND CHINEDU CHARLES MGBOLU ^{b*}

^a Department of Educational Foundations, Faculty of Education, Nnamdi Azikiwe University, Awka, Nigeria.

^b Department of Geology, Faculty of Physical Science, Chukwuemeka Odumegwu Ojukwu University, Uli, Nigeria.

AUTHORS' CONTRIBUTIONS

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

Received: 24 January 2022

Accepted: 31 March 2022

Published: 04 April 2022

Original Research Article

ABSTRACT

Mathematics is a service subject and very vital in the life of every student for effective functioning both in school and society. It is an indispensable tool in human development and is essentially needed for sustaining science and technological development in every society. This study therefore looked at using drama in teaching mathematics at the basic and senior secondary school level in Nigeria to enhance literacy. This study was undertaken based on observations and firsthand experience obtained from mathematics classroom which revealed that many students are probably afraid of mathematics and some who are able to understand some mathematical concepts seem not able to apply them in solving real life problems. Therefore this paper discussed the concept of drama and utilization of drama in teaching and learning of Mathematics in basic and senior secondary schools for effective learning outcome. The use of drama in Mathematics classroom activities appeal to individual learner's attention by enabling them to think and figure out problems with ease and confidence and so engender interest in Mathematics Education (ME). Some challenges facing the teaching and learning of the subject in conventional classroom are highlighted. The paper recommends the use of drama to teach Mathematics as a paradigm shift from the conventional classroom where the teacher is taking the center stage solving examples on the board which may be of no value when students confront situations where to apply mathematical concepts in everyday life or issue. The use of drama provide relevant and real situations to get learners see the significance and validity of mathematics in all aspects of life.

Keywords: Drama; literacy; mathematics education.

1. INTRODUCTION

Educationists all over the world are making efforts to realign educational endeavours in order to equip learners with the necessary skills and competencies

for effective life in a knowledge dominated environment of the 21st century. Nigerians yearn for an education system that will produce individuals with high potentials who can work for a functional society for the maximum benefit of all the citizens. To

[≡]Professor;

*Corresponding author: Email: nedumbolu@gmail.com;

achieve this important goal, education requires a shift from the conventional classroom practices to more innovative approaches. Akudolu [1] posited that the model of education should be one that is aimed at developing in the learner the ability to effectively create, acquire, use and transmit knowledge for the promotion of human activities in a knowledge dominated society.

Mathematics Education is one of the vital needs of human beings because through it people develop their natural potentials to think constructively. Ademilokun [2] is of the view that the goal of literacy is to make an individual to develop in their overall communicative abilities, sharpen their critical thinking skills and improve their numeracy skills (mathematics) in order to enable them function optimally in the society for their personal, familial and societal good. Every subject teacher is responsible for developing, strengthening and enhancing literacy, building on the foundation laid by the language arts, hence it is the responsibility of mathematics teachers to develop new ways of delivering their lesson for effective learning outcome. This is because subject teachers know their subject matter and their programme of study better and so they are aware of literacy requirements of their subjects and understand that it is through literacy that meaning is made within their subject area contents. Okebukola [3] observed that the objectives of Nigeria's ongoing educational reform agenda is to improve the quality of teaching and learning with emphasis on literacy particularly at the Basic Education level (BEL) which forms the foundation of the whole educational system. It is an open secret that a large number of students in Nigeria continue to struggle with mathematics and its application. Thus the work of mathematics teachers is to reflectively teach and to continuously seek ways to facilitate meaningful learning.

Mathematic is a core subject from BEL to the Secondary School Level (SSL) both in Nigeria and elsewhere. This shows the vital importance of the subject and the role it plays in the contemporary society. According to Agwagah [4] mathematics equips individual with the capacity to among others enumerate, calculate, measure, collate, group, analyse, and relate quantities and ideas, among others and these are everyday life activities. Agwagah went further to assert that everybody therefore uses, practices and thinks mathematics every day in life without knowing it. However, most average learners find the learning of Mathematics problematic, part of the problem being that many learners perceive it as difficult, hard and complex. Similarly, classroom practices do not provide sufficient authentic problem solving strategies and skills that involve learner's participation. Hence, the use of drama in teaching

Mathematics both at the basic level and secondary level may be more beneficial since drama is a theatrical approach that can be used across curriculum to enhance learning. Using drama as a means to promote literacy in Mathematics can make the class more interesting, enjoyable and enable greater learning for learners [5]. It will prove more rewarding, creative and involving, thereby eliminating and changing the negative notion learners have about Mathematics [6]. It is therefore pertinent to address the suitable technique of teaching mathematics to make it interesting and learners' centered.

2. PROBLEM STATEMENT

Mathematics is a prerequisite for promotion in both external and internal examinations in Nigeria, as such students are expected to learn mathematics with ease and utmost interest in order to perform well in their examination and also apply mathematical principles in solving practical and real life problems. The authors having taught mathematics for several years at different level of education in Nigeria noticed that most students perceive mathematics as a complex and abstract subject and as such find it difficult to learn. It was also observed that many mathematics teachers do not employ stimulus variation and other play way method of teaching neither do they use innovative strategies to deliver their mathematics lessons. As a result, learning of the subject becomes boring and complex to many students. This paper therefore sought to suggest the use of drama as an alternative strategy which could be effective and interesting way of teaching mathematics in secondary schools for maximum learning outcome.

3. THE CONCEPT OF DRAMA

Drama is any text written with the purpose of portraying a story through dialogue and typically intended to be performed in front of an audience. Okeke [7] noted that drama is a work of literature or a composition which describes life and human activity by means of presenting various actions and dialogues between groups of characters. Anggraeni [8] opined that drama is the development of character and situation through speech and action. With this in mind, teachers can promote Mathematics learning in the classroom by various drama activities, which are those that use some sort of performance. These types of activities can promote the development of speaking, listening and comprehension skills. Drama is a theatrical approach which can be used across curriculum to enhance literacy but whose application could be particularly effective in Mathematics. This is because for many students, studying mathematical concepts for extended period

of time (for instance, eighty minutes) may cause numbers to blur but if taught with an approach such as creative drama, they would have the mental energy to stay focused even if difficult concepts take them time to grasp. This is why the play way method of teaching which is rooted in drama is always effective, the goal of a committed and effective teacher is to find effective ways and strategies that authentically enhance the learning activities thereby leading to enhanced outcome in classroom activities. So by creating narratives, the teacher guides learners to act out concepts and ideas that confuse them. Examining the world in this way, learners are able to explore and relate to the variety of topics and concepts that they perceive difficult or abstract. By connecting a topic through narratives, teachers engage learners' emotion and interest. It also encourages the development of vocabulary and independent thought.

Creative drama is learner-centered. Young [5] stressed that Drama is much more than simple play activities, it requires advance thinking strategies, communication and social skills. Through it children learn to do things like negotiate, consider other's perspective, transfer knowledge from one situation to another, delay gratification, balance their own ideas with others and create different information and ideas. It also offers many opportunities for learners such as thinking cooperatively, improved communication, self-confidence and so on. During creative drama activities, information are analyzed, evaluated and

interpreted. Thus creative drama provides room for collaborative learning which is one of the hallmarks of learning in mathematics classroom. Koc and Dikici [9] stated that dramatization in education is an activity which provides learners with all learning styles as well as learning by experience which include movement, active learning, social learning, learning by discussion, emotional learning, collaborative learning and learning by discovering. The teacher serves as a guide. Thus learners as well as teachers are engaged in multi-level communication leading to the following pattern of interaction;

- Teacher teacher collaboration;
- Teacher pupil collaboration;
- Pupil pupil collaboration / student collaboration;

Drama allows learners to participate, demonstrate and observe in a non-threatening environment. This implies that it helps learners to get in touch with their creativity and spontaneity as well as develop confidence in the expression of their ideas since it is a non-traditional opportunity for them. Duatepe and Ubuz [10] pointed out that drama-based mathematical instruction have a significant effect on students geometry achievement when compared to the traditional teaching by promoting students' imagination through improvising a concept or an event and helping them to experience all aspects of the concepts.

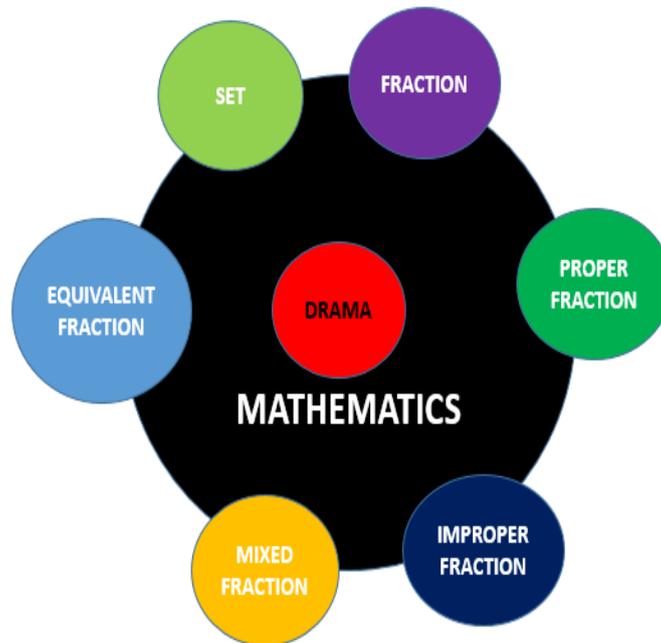


Fig. 1. Concept of drama in mathematics

4. MATHEMATICS EDUCATION

The goal of Mathematics education is to teach students how to be mathematically literate, which

means that they are able to solve real life problems and justify as well as explain the method for solving the problem. For learners to achieve the above feat, they must be proficient in literacy. Mathematics is a core subject in the basic and secondary school system which every learner must be conversant with and even unto adult life. Mathematics is a building block upon which the learner's knowledge must rest. It is documented in literature that students poor achievement in mathematics is caused by many factors such as lack of recruiting qualified teachers, lack of using appropriate teaching strategies, lack of giving individual attention to students and so on [11-13]. Chinwoke [14] stated that the students inherit the notion or fear mathematics because many members of the society profess that mathematics is difficult and abstract in nature. Chinwoke further noted that with good teaching strategies that the notion can be refuted in every learner. Commenting on classroom practices of many mathematics teachers, Eduok [15] lamented that many teachers use only the theory method all the time because it is easier or it allows the teacher to complete the syllabus in time at the expense of the students' mastery of the subject.

Agwagah [4] postulated that Mathematics is a language and as such the four language skills are expected to be taught in school Mathematics. Agwagah still stressing on the importance of Mathematics stated that many natural objects and artificial materials have some mathematical properties, therefore mathematical concepts cannot be divorced from the universal properties. Agwagah quoting Galileo in Petti (2017) stated that God wrote the universe in Mathematical language and the letters are triangles, circles and other geometric figures without which means it is humanly impossible to comprehend a single word hence Mathematics is a basic subject which should be taught to every learner considering its vital importance in the day to day activities of individuals and the society.

The main purpose of teaching and learning mathematics is to develop in learners the process of critical thinking and how to figure out and solve problems. But many learners are not able to explain and justify why they used a certain method to solve a problem which shows that they have not truly learned Mathematics. Kurumeh and Chianson [16] stated that the major learning goals of students in Mathematics are to enable them become problem solvers, critical thinkers, team based workers, logical thinkers and renowned scientists and technologists with innovative abilities. So knowledge of Mathematics is expected to refine a learner's idea. Agwagah [4] argued that most teachers "teach to the test" in school mathematics and as a result children are not getting a comprehensive education experience. They see Mathematics as mere

set of formulas that are meant to be memorized than mastered. Thus a student becomes helpless if the formula is forgotten. From the foregoing, it is clear that a significant part of the problem may lie with classroom practices employed by Mathematics teachers that is, the inability of traditional classroom practices to provide enough authentic materials that promote a continuous and meaningful flow of learning. Classroom practices should require sufficient and significant amount of authentic materials that should help learners establish the relationship between Mathematics and everyday living activities. Eduok and Udosen [17] remarked that it is necessary to remember that the aims of Mathematics education is to circulate permanent literacy, numeracy, reflective thinking and to enable learners engage in meaningful learning.

Mathematics education here means teaching and learning Mathematics in the classroom in accordance with the four pillars of education which are:

- i. Learning to know
- ii. Learning to be
- iii. Learning to co-exist
- iv. Learning to do.

All the outlined pillars are in line with the objectives of Mathematics education as stipulated by the Federal Government of Nigeria [18] which include among other things;

- a. To enable the individual to think creatively and constructively
- b. To enable the individual to acquire manipulative skills
- c. To enable the individual to discover, appreciate, and admire the beauty and elegance of Mathematics.

Many educators [2,3] have opined that learners must be proficient in literacy in order to become mathematically literate. Learners, many teachers and even parents have been accustomed to learners learning facts and solving problems without having to justify and explain why their method is most efficient or effective for solving that particular problem. Hence Mathematics is all about helping learners to explain and justify why they used a certain method to solve a problem. So Mathematics literacy is being able to understand and apply Mathematics not only in the classroom but in everyday life. Hence ensuring that learners are mathematically literate should be every teachers concern. Mathematical literacy is vital because it helps learners to be confident and competent. Garfunkel [19] opined that mathematical literacy is important because it can facilitate students

in solving real life problem related to mathematical concepts and otherwise.

There seems to be, however, a culture among students to dislike Mathematics. They regard it as abstract concept and that perception then manifests as a lack of interest which ultimately results in poor performance. Since Mathematics is assumed to be difficult, abstract and sometimes not so important, it needs a practical approach so as to overcome this negative attitude towards the teaching and learning of this important core subject, hence the introduction of drama. Many educators have equally called for change in methods and strategies employed by teachers of Mathematics [4,17,20]. Drama which is an aspect in literature has been used to successfully improve students' performance in English Language which is another core subject students seemingly lack interest in studying. So Drama can be used to enhance the understanding of mathematical materials better though it has its challenges.

5. WHY THE USE OF CREATIVE DRAMA

Use of creative drama is effective in learning because it is created by the participants as a way of learning. Freeman [21] explained that creative drama is beneficial to the students because it provides them an opportunity that requires them to improvise, analyze the roles and then work comparatively in a creative task. The benefits of using creative drama as a tool for effective teaching and learning is an instructional strategy that coincides with the generally established goals of mathematics education;

- i. Developing the imagination and creativity
- ii. Fostering critical thinking and problem-solving skills
- iii. Exploring and evaluating ideas
- iv. Discovering positive ways of dealing with problems
- v. Expressing feelings and interpreting the feelings of others
- vi. Enhancing communication skills
- vii. Improving literacy

6. SOME CREATIVE DRAMA TECHNIQUES

Creative drama incorporates the following techniques:

Pantomime: Pantomime is the expression of non-verbal communication, showing how much we can say without speaking and how much we communicate with gestures.

Improvisation: Improvisation are scenes that are planned in advance, but the action and dialogue are performed spontaneously in the moment.

Role-Playing: The children act out a life problem and play different roles in the scenario.

Sense Memory Improvisation: These exercises emphasize the five senses - sight, smell, sound, touch, and taste and also work on sound and visual perception. We experience life through our senses. Seeing and hearing are essential tools for reading and comprehending.

Emotion: Children learn to express and understand their emotions with exercises. They have a safe place to explore their own feelings and the feelings of others through role playing.

Characterization: These improvisations teach the similarities and differences of people, such as physicality, culture, age, religion, and ethnicity. Learners can learn about real people and characters in literature and they experience how to think, feel, move, and behave like the person or character they are portraying.

Dialogue: Learners use dialogue to express their thoughts, ideas and feelings. They can discuss and organize the dialogue in the scenes they act out, and then, after the scenes are performed, they express their responses to the scenes.

7. HOW TO USE DRAMA TO TEACH MATHEMATICS

Mathematics makes a lot more sense when it is applied to real situations. Jones, Mooney and Harries [22] remarked that because many people hold the view that mathematics is abstract, difficult and not context bound, to understand a mathematical definition, to make hypothesis and to prove it, to visualize and to solve the problems require a lot of concentration. Creative drama which is the engagement of drama in classroom practices makes learning interesting and can lead to better achievement in the subject. Consequently, a way to help young learners understand and appreciate mathematical information/materials is to have them present in contextual forms appropriate to their level through drama. Ademilokun [2] stated that mathematics teachers can expose students to mathematical operations of addition, subtraction and multiplication through presentations to the class. Learner's level, however, does not always correlate to age. It should be noted that some adult may be learners of mathematics at basic level while some teenagers may be at advanced learner level.

The use of creative drama to teach mathematics is not necessarily designed to be an alternative way to assess learners' outcome. The primary purpose is to expose learners to gain the abilities, become critical and logical thinkers in solving their daily problems in life. The success of the use of creative drama is based on the fact that;

1. It makes learning more appealing and enjoyable to the learners
2. It improves their creative thinking and innovation
3. It can help introverted and insecure learners come out of their shells as everyone is involved
4. It allows learners to observe how mathematics relates to real world

Creative drama can be adopted for various situations of learning in mathematics. For instance learners can be asked to calculate journey time and duration as they take journey across town, quantity of food they ate or bought. Again mathematical patterns can be demonstrated or explored through physical movement and dance as well as asking them to make geometric shapes with their own bodies. Learners can use their bodies to form a circle, a square, a rectangle and other shapes, these makes learning more interesting and learners' centered. When forming groups, the teacher can ask learners to get into even or odd numbers. In all these instances above, the teacher can use improvisation or role-play.

Using creative drama to teach Mathematics is not just the teacher taking the center stage as in a traditional classroom. It involves drama which is controlled by the members of the class while the teacher serves as a guide. Most drama has a setting, characters and uses dialogue, and may be divided into episodes or scenes and so on. The teacher just guides them to choose the above elements of drama as it relates to the topic to be taught, that is the teacher can help the students to identify parts of the drama which will be emphasized in the lesson. In Mathematics classroom, the drama must be Mathematics-based hence the teacher can supply certain words or expressions. Atebo and Abuh [6] asserted that a playlet which is a drama can be used to teach simple percentages.

8. DRAMA IN MATHEMATICS CLASS

One of the simplest forms of drama is role play. Children love role play and tend to partake in it naturally when playing alone, with classmates and friends. In the classroom, role play can have notable benefit and can be adopted for various levels of Mathematics learning. It has a variety of uses in the classroom and can be used in conjunction with all

sorts of lessons to give learners a better understanding of a topic. Examples;

Simplifying an Improper Fraction to a Mixed Fraction: An improper fraction is a fraction in which the numerator (number at the top) is greater than the denominator (number below). A mixed fraction is formed by combining three parts: a whole number, a numerator and a denominator. Improper fraction can be simplify to a mixed fraction using drama by adopting the following procedures;

Preparation: Create papers with large digits from 1-9 and distribute one paper to each student in the class. Create a large stage at the center of the classroom. The teacher may serve as the class Master of Ceremony (MC) or at best the class should choose a student to moderate the drama. The characters that will hold the digits are chosen from the students.

Procedure: The characters (students) holding and displaying their "digit" papers, stand in a semi-circle facing the chair at the stage.

Teacher or student MC: Will the first contestant please come up? (Or some such dramatic statement)

The first two characters (students) in the semi-circle create a human fraction: one student holding a digit stands on the chair while another student holding a digit stands or sits on the floor in front.

The MC dramatically pronounces fractions improper or proper or take votes from the "audience" (students in the semi-circle). When the fraction has been judged, MC calls "Next"

The numerator goes back to the semi-circle, the denominator moves to numerator spot, and a new student takes the denominator spot (Students go up in the order they are standing in the semi-circle). Two digits can combine to make a 2 digit number, if the MC so directs.

Reducing to a whole or mixed number: Now, once a fraction has been judged to be improper, the MC pronounces the punishment: "You are improper. I sentence you to division!"

A student forms a division symbol by bending at the waist. The numerator crawls under the symbol, and the denominator goes and stands to stage right (actor's right) of the symbol still displaying papers, of course. MC: Numerator, what is your new name?

Former numerator: Dividend.

MC: And denominator, what shall be your new name?

Former denominator: Divisor.

MC: Very good. (To semi-circle of numbers) And who shall you choose as your new quotient?

Students choose a quotient, who goes up and stands behind (and above) the division symbol. They go to the board if necessary, to work out this decision.

MC: Fellow digits, do you approve of this quotient? Are we all in agreement?

All: Yes! Or No! (They try again until it is right)

MC: And do we have a remainder? (If so, the chosen remainder comes and stands off to the side.)

MC: Mr. Quotient, I pronounce you the new whole number.

All: Yeah! (MC whips up the crowd to applaud.)

MC: And Ms. Remainder, I now pronounce you the new numerator.

All applaud.

MC: And Mr. Divisor, you are our new esteemed Denominator.

All applaud.

Follow up: (Once the teacher has taken the part of the MC and gotten this scene established, he or she could let a student take that part and just stand back and guide the scene.

Also, the MC can prompt and let the audience respond: "I now pronounce you the! (Audience calls out response)"

MC: Numbers, assume your new positions! (All assume position beside and/or on the fraction chair to form a mixed number or a whole number.)

All applaud.

Simplifying (Reducing) equivalent fractions: For example;

Equivalent fractions are fractions with different numerators and denominators that represent the same value or proportion of the whole. Equivalent fractions can be simplified using drama by adopting the steps below;

Preparation: Place a row of chairs in front of the class to serve as the stage. Each student in the class

receives a digit paper. Make sure there are lots of prime numbers (a number that is divisible only by itself and 1) among them.

Procedure: The characters (students) stand in a semi-circle in front of the chairs. The characters create a fraction on/in front of the first chair, using as many digits as needed.

The denominator (or group of denominator digits) goes over and tags some prime numbers to take his place and then joins the semi-circle. The prime numbers, multiplied together, should equal the denominator. The numerator (or group of numerator digits) does the same.

The replacement numerators take their places standing on the chairs and the replacement denominators take their places on the floor in front of the chairs. (If you wish, place students with multiplication symbols in between chairs.)

Each numerator digit looks to see if there is a denominator digit that matches him or her. If a numerator digit can find a matching denominator partner, they shake hands and walk away together.

Remaining numerator digits multiply themselves together and tag a number to replace them (the product). Same with denominator digits. Whatever is left is the fraction or whole number (maybe the numerator jumps off the chair if nobody is below.)

Of course, an MC character will be helpful here to guide the process as in the first example.

Follow up: Once the teacher has taken the part of the MC and gotten the procedure and scenes established, the teacher should let a student take that part and just stand back and guide the scene.

Teaching Mathematics with Drama in Senior Secondary School: For older students in senior secondary, drama is also applicable and helpful in learning Mathematics. Teachers can run a playwriting and performance activity where the audience has to answer a certain number of math riddles and word problems to help the characters discover clues. For example:

Set Theory: for example; Universal Set (U), union of set (u), intersection of set (n), compliment of set ('), etc.

Preparation: Divide the whole students (characters) in the class into three groups (A, B and C) but two characters will be made to belong to the 3 groups. Create a large stage at the center of the class and have it divided into 4 parts and tag them U (for universal set), A, B and C (for the three groups). The teacher will serve as the Master of Ceremony (M.C).

Procedure:

Universal Set:

M.C: If you are alive and mortal, come to the part of the stage tagged U. (The whole students and the teacher (M.C) gathers at the stage).

M.C: By the power I control as the master of ceremony, I pronounced all of you at this stage citizens (characters or elements) of the "Universal Set".

M.C: In this state of "Universal Set", we have three groups which represent three cities in the land of Universal Set. This groups are known as "Subsets" of the "Universal Set". They are subset A, B and C.

Can all the inhabitants of Subsets A, B and C go to their city. (The students who have been grouped into A, B and C, stands according to their various groups leaving all the M.C at the U part of the stage. The two characters that belongs to the three groups keeps moving round from one group to another).

Union of Set:

M.C: There is a festival termed A union C (AuC) holding today at the center of the stage. Only those that belong to the subsets A or C are invited, come to the stage the party has started. (All the elements/characters in subsets A or B will converge together including the two characters that belong to the whole group).

With power vested on me as the M.C, I pronounce this gathering a "Union" (A union C).

The M.C may repeat the same for A union B (AuB) and B union C (BuC)

Intersection of Set:

M.C: There is a carnival termed B intersection C (BnC) and only the elements/characters in both B and C are invited, please if you are among come to the center of the stage. (Only the two characters that belongs to both B and C will come).

The M.C will then pronounce them to be an "Intersection".

The M.C may repeat that for A intersection C (AnC) and A intersection B (AnB).

Compliment of Set:

M.C: We need a king who must be a "Compliment of the Set", that is, an element or character that is neither in A, B or C but belong to the Universal Set. A union B union C (AuBuC) should gather at the stage!!! (All the characters in the universal set gathers at the stage except the M.C).

M.C: Who is the element in the universal set that is not at the stage now?

Students: The M.C

M.C: I then declare myself the "Compliment of the Set" and that makes me the King.

Applause from the class

Follow up: Once the teacher has taken the part of the MC and gotten this scene established, he or she should let a student take that part and just stand back and guide the scene.

Further Example: The teacher or instructor can lead the class in a warm-up drama game of the infamous "This is a?" Learners stand in a circle in a stage and pass mathematical objects around, such as shapes (circle, polygons, quadrilaterals, etc) or flashcards containing symbols such as number symbol (8, viii, etc), relational symbols (=, <, >) or operational symbols (+, ×, ÷, -). As they pass an object, they chant the following to the beat and fill in the blank with the answer:

A: This is a ____.

B: A what?

A: A ____.

B: Oh, a ____.

This is a challenging drama because different items are being passed around the circle simultaneously. The exercise breaks down when the MC or the moderator decides and few items or objects should be pass round the circle during the exercise so that the learners can handle it. Once a shape or symbol is identified over and over, a new shape or symbol is introduced to the circle.

9. CONCLUSION

Mathematics remains a core subject in secondary schools in Nigeria which every student is expected to pass at all time, but from personal observation and experience of some mathematics teachers, mathematics seems to be difficult to many students and teaching methods employed in teaching mathematics seem ineffective. Despite every effort by

stakeholders to improve interest and achievement in Mathematics Education because of its importance in the life of every child, school children still dislike and fear the subject. This paper is an effort to contribute towards employing other teaching approach that will give every child the needed Mathematical foundation to help them think logically and critically in solving daily life problems in an involving and enjoyable way. The search for the perfect teaching approach will not be over for a world which is rapidly changing, it remains the duty of the subject teachers to discover and explore effective teaching techniques with which to maximize learning experience especially in a complex subject like Mathematics. The study presented drama as an approach that makes all learners active and interested in their learning as well as foster better learning orientation of Mathematical concepts. Mathematics is a language, being a language, the four language skills are expected to be taught in school Mathematics. Drama becomes very effective tool of achieving the above assertion. With play way method of teaching which is rooted in drama, students will develop deep passion to understand some abstract concepts in Mathematics with ease and fun.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Akudolu LR. Emerging trends in curriculum development in Nigeria in Ivomi UMO, Akpan BB (Eds) Education in Nigeria from the Beginning to the future. Lagos: The CIBN Press Limited; 2012.
2. Ademilokun MA. Using literacy to promote learning in primary school mathematics and integrated science classrooms. Reading Association of Nigeria. 2017;172-185.
3. Okebukola FO. Literacy education for good governance and national development: Beyond talk. Literacy and Reading in Nigeria. 2016;16(1):13 -27.
4. Agwagah UNV. An Inaugural Lecture of the University of Nigeria Nsukka: University of Nigeria Press Ltd; 2017.
5. Young, G. The Importance of Creative Dramatic Activities/Games in the Classroom. Journal of Dramatic Studies; 2018.
6. Atabo SY, Abuh J. Learning through theatre and drama (raised edition) Ankpa: Row's Publishers; Ankpa, Nigeria; 2010.
7. Okeke TF. Drama and parts of Drama. Lion Press Enugu; 2016.
8. Anggraeni BK. Role of Drama in Teaching. Journal of Literacy Education. 2012;8(6):18–27.
9. Koc M, Dikici H. The use of Drama as a Method. 2002;81-87.
10. Duatepe A, Ubuz B. The effects of drama based instruction on seventh grade students geometry achievement. Middle East Technical University, Ankara; 2002.
11. Eniayeju AA. Effects of cooperative learning strategy on the achievement of primary six boys and girls in mathematics ABACUS. The Journal of Mathematical Association of Nigeria. 2010;35(1):1–9.
12. Anakpua BC. Capacity building of secondary school mathematics teachers: A panacea for effective teaching and learning of mathematics at the 21st century. COOUJOSEAD. 2016;1(1):31–38.
13. Betiku OF. Factors responsible for poor performance of students in school mathematics. The 43rd STAN Annual Conference Proceedings. 2002;342-348.
14. Chinwoke FU. Mathematics and Effective mathematics education; valuable for every child for effective living and national sustainable development. Journal of the Science Education and Allied Discipline (COOUJOSEAD). 2016;1(1):125-134.
15. Edouk JD. Effects of mathematical models, students characteristics and retention in senior secondary school mathematics in Akwa Ibom State. Journal of the National Business Waves. 2011;5(5):145–166.
16. Kurumeh M, Chianson IO. Improving students' achievement in solving algebraic word problems using aesthetic value approach. ABACUS. Journal of Mathematic Association of Nigeria. 2012;34(1).
17. Eduok JD, Udosen AE. Mathematics curriculum implementation in the millennium development goals. Journal of Curriculum Organisation of Nigeria. 2016;25(4):186-199.
18. Federal Republic of Nigeria (F.R.N). National Policy on Education. Abuja: Federal Ministry of Education; 2013.
19. Garfunkel S. For all practical purposes mathematical literacy in today's world. New York: W. H. Freeman and Company; 2013.
20. Odili GA. Teaching Mathematics in the Secondary Schools. Enugu: Anachuna Educational Books; 2006.
21. Freeman GD. Effects of creative drama on self-concept, social skills and problem behaviour. The Journal of Educational Research. 2006;96(3):131-138.

22. Jones K, Mooney C, Harris T. Trainee primary teachers' knowledge of geometry for teaching. *Proceedings of the British Society for Research into Learning Mathematics.* 2002;22(2):95-100.