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Enhancing Retention and Reflection in the Teaching of Science among Basic Three Pupils through Demonstrative Singing

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ABSTRACT: This action research study was intended to make the teaching of science more practical by integrating demonstrative singing as a creative approach strategy to enhance reflection and retention in primary three pupils in a school in the Assin South District, Central Region, and Ghana. 20 pupils made up of 13 males and 7 females were selected through purposive sampling and census techniques to participate in the study. The study went through five phases, namely diagnosing, action planning, action taking, evaluating and specifying. Observation and pre-intervention interview helped to identify the problem. Miss Mary Acquah, a Mathematics tutor of Foso College of Education, Ghana, whose attention was drawn to this challenge by a student-teacher, observed that any time science was taught in class, no matter how creative, innovative and adaptive the teachers were to the pupils' level , the pupils showed little or no interest in the lesson. They neither were willing to answer questions nor participate in activities. To validate what was observed, Miss Mary Acquah consulted Miss Judith Asabil, a science tutor of the same college with the pre-intervention results who immediately suggested on an an informal whole class discussion with the pupils to know what the causes of pupils' lack of interest were. After getting the views from the pupils, which will be elaborated under discussion, it assisted the researchers in choosing an appropriate intervention strategy considering that as the pupils were still in the play stage, demonstrative singing will best serve the purpose of affecting them positively. The researchers then invited Miss Ruby Jecty from the Department of Languages of the same college was invited to assist in the selection of songs for the implementation of the intervention which took three weeks and three days in each week. The three tutors planned selected science lessons, the strategies for delivery designed by Miss Mary Acquah and the actual lessons delivered by Miss Judith Asabil. The demonstrative song which were taught pupils after every science lesson by Miss Ruby Jecty were chosen from 'Barney', a foreign children's series A post- intervention test was administered after the intervention stage to evaluate the consequences of the intervention. The findings showed that the pupils performed better when demonstrative singing were integrated into the teaching of science lessons. The researchers recommend the embedding of demonstrative singing as a creative approach strategy in the teaching of science lessons at the basic levels to enhance retention and reflection of memory. Prior to the use of demonstrative singing, the pupils held the view that science was an abstract subject which could never be understood.

KEYWORDS: demonstrative singing, creative approach, retention, reflection. ;

1. INTRODUCTION

The importance of Science in this modern era can neither be ignored nor made to lie in abstract ideas but be applied to personal and social issues of today. In actual sense the society depends more on Science because it is common everywhere on the fields of Mathematics, Economics, military business and transportations. It is very uncommon to find a field where scientific approach and its ideas are not involved. The big question is "How would life be without Science?" Over the years, Science in the basic school level has undoubtedly been handled in abstract ways. As a result of this, pupils find it very difficult to understand the subject and its concept as they climb the academic ladder, because of the weak foundation. Due to this, pupils lost total interest in the subjectand this has reflected on the decline of students opting to study the sciences in tertiary institutions. There is therefore the need to move Science from the abstract to the real world. Research has shown that riddles and songs taught children at the early stages of their education stay with them throughout their lives. A survey conducted on pensioners in Argentina revealed that 85% of them readily recited a riddle or sang a pre- school song but could hardly remember the explanations given to some concepts. Science is viewed as a knowledge generating activity.[1]

It is as an intellectual activity through which regularities and explanations are sought for observations using the environment and a relentless search for verifiable patterns, concepts description and phenomena in the universe. As a concerted human effort to understand better the history of the natural world and how the natural world works with the observable physical evidence as the basis of understanding, natural science studies the material world and social science studies the people and society. Through observation of natural phenomena and experimentations, science tries to stimulate natural processes under controlled conditions. Science is not only about the universe, but it includes a way of obtaining knowledge. It is contended that specific facts can no longer be treated as self-existing galvanization. Scientific facts are based on operations performed to bring on ideas to view. [2] Integrating these ideas expressed, the following characteristics of Science come into view.

- Science is a direct experience with the natural environment.
- Science is a way of finding out.
- Science is the body of facts.

In teaching Science therefore learners should be provided with the opportunity to analyze problems, set up experiments, classify, compare and communicate ideas, synthesis and test hypothesis and then evaluate the effectiveness of those tests and infer future results through the ways of finding (process of Science) and a body of fact (product of Science). For the sake of the basic school pupils, Science can be defined as exploring the environment, observing things and finding solution to problems

How science affects our lives: Several scientific inventions and discoveries affect our lives. Elasticity was discovered in 1700s and since then it has allowed people to use light, watch television and also communicate using telephones. Again, plastics came into the society in the early 1900s. Today, people use them widely in the world to store food hygienically, flossing their teeth and protecting themselves from bullets. Also, in the 1940s, scientists begun producing substances that would encourage crops to grow faster. As a result, the world has access to food greatly, faster growing of crops make agriculture profitable. Before the advancements of modern medicines, many people died of diseases that are preventable today. Example; vaccines act as a form of prophylaxis and anti-biotic prevents the onset of life threatening infections. Furthermore, fuel makes it easier for people to move from one place to another and it allows businesses to import and export goods. Additionally, scientific advances produce renewable forms of energy which allows people to live greener lifestyle. Negatively, there is a factory waste, depletion of the ozone layer, destruction of food crops, death of peoples and seasonal changes resulting in artificiality taken over naturality. In closure, scientific inventions allow people to act on their values to make the world a better place. Example; people who want to reduce their impact on the environment, support technology that repairs the ozone layer [3]

The importance of teaching science at the basic level: The rapid advancement in Science and technology has influenced the rate of economic development of nations, improved the quality of life in most parts of the world and provided solutions to some major problems and needs of society. The impact of Science and technology is felt on education, health, nutrition, transport and communications. Our survival depends on the mastery of knowledge and technology. [4] For Ghana to develop there is the need to eliminate superstition and encourage the rapid development of Science and technology among all individuals. Since the basic school is a terminal point of formal education of most pupils, it is at this point that scientific technology and attitude need to be strengthened. [5] Broadly speaking, the basic school curriculum is designed in a way as to provide congenial atmosphere in which children are sufficiently stimulated and encouraged to become well informed and capable of using their hands and engaging in clear need local thinking. [6] Teaching Science at the basic level has benefits in how children can establish concepts, present and test ideas independently and evaluate materials put in front of them as well as having something to take outside classroom for future. Laid out ideas and reasons behind accurate formal writing, using good judgment, formulating rules, testing ideas are an excellent introduction to scientific method. Teaching Science at the basic level helps young learners to be abreast of the scientific terms and build good foundations. When the concept is built right from the start, it helps learners to be critical thinkers. [7] In conclusion, teaching Science at the basic level helps learners to study Science at higher levels of the academic ladder without fear. Since some people are with the view that Science as a subject is difficult. Teaching Science at the basic level will help kill that perception.

Importance of singing: Thinking of music teaching has to begin with a consideration of its importance. Unless music has value for people, then the whole idea of music education is in deep trouble.If music makes little or no difference in the lives of people, there is little point in spending time and effort educating them in it. Music education begins with a clear understanding of why it is important for people and for the quality of their lives as well as for society.[8] For present and future music teachers, there is an additional reason why music education

begins with the importance of teaching and learning music. The reasons why music is important has a lot to say about what and how music should be taught. For example; if music is seen as a nice extra-curricular activity with little educational content, then music teachers will not be concerned about what the students learn. On the other hand, if music is seen as something vital in education of every student, then music teachers will take actions to ensure that every student learns basic music skills and knowledge. The reasons for the music in the schools not only provide the starting place, they also point the direction for music educators. [9] Also, imagine the world without music! People would not physically die if they did not have music, but part of the quality of their lives would be missing. [10] Psychologically, they would be worse off and their spirits would be diminished and dulled. Music makes a difference in people's lives. This also applies to societies and civilizations. Without music, the quality of life in Ghana would be less than it is now. It would lack some of its vitality and vigor associated with our culture, education and religion not to mention commerce. The nation would be poorer, not only economically but also in how its citizens act and feel. [11]

Again, music and the other arts represent an important difference between the existing and the living. Animals exist in the sense that they manage to survive, humans live, they attempt to make life interesting, rewarding and satisfying. Music enriches life and brings to it their special meanings by providing an avenue for expression. People admire, say flowers to enrich their lives. [12] The desire to reach beyond the immediate, practical need is not just a luxury; it is an essential quality of being human. Furthermore, people sense the value of music, even if they don't talk a lot about it. They spend time and money on music, attending concerts, buying recordings, learning to play instruments or singing in choir etc. Music has been present in every society since the down of civilization. It is found in every part of the globe. [13] Additionally, the importance of music is demonstrated in so many ways that it is not easy to overlook them. Just about every film and television show has a sound track, which usually contains theme music. Music is included in public events, such as the swearing in ceremonies of public officials. People are exposed to music everywhere. The fact is that people can hardly get away from music. [14] In closure, the fact that music is important in people's lives seems obvious, but it is essential. If music weren't important to people, then the teaching and learning of music would not be important and music education would have no reason for being.

How singing helps as a retentive memory: While there are many tried and tested ways to boost memory, singing as an activity plays a vital role in memory improvement. The Center for New Discoveries in Learning, reported that learning potentials in individuals can be increased by a minimum of five times by using sixty beats per minute. [16] This is the reason why the ancient Greeks sing their dramas rather than reciting them because they understood how music could help them remember more easily. Reiterating this point is a speech at the music learning life conference which concluded that the best way to improve children's memories is through singing. [17] Elucidating on the concept of "trace memory modeling" and the way that music can trigger memories and emotions it is said, "Singing is the thing that makes human beings memories work better when they are young. This is a crucial thing. We now know what the brain needs and we can train the brain to do this through singing" [18] Also, singing serves as a mnemonic aid for children. A mnemonic is a memory device that helps learners recall larger pieces of information especially in the form of lists like characteristics, steps, stages, phrases etc. The word mnemonics is derived from a Greek word "mnemonikos" which means of memory. The interest in mnemonics is largely attributed to a study by Gerald R. Miller, who founds that students who regularly used mnemonic devices increased their test scores up to 77%. [19] While many types of mnemonics exist, singing through (ode or rhyme), has been attributed as one of the most effective when used by children. This is because an ode or rhyme mnemonic puts information in the form of song-poem, which children finds easier to remember. An example is the famous rhyme which most of us use to remember the number of days in each month.

> 30 days has September, April, June and November
> All the rest have 31
> Except February my dear son or daughter
> It has 28 days
> But in a leap year it has 29.

Right from the day children learn the letters of the alphabet to the tune of "twinkle, twinkle, little star" they memorize the algebraic quadratic formulae by setting it to tune. Singing mnemonics are fun and can be used by anyone to remember any kind of information. Furthermore, singing helps in the enhancement of recall. Mnemonic devices have been defined as "strategies for organizing or encoding information with the sole purpose of making lessons more memorable [20] more also, singing as a memory tool has been used from time immemorial. Singing rather than just listening to music has helped in remembering information and boosting memory power. This is

because the most obvious connection between language and music especially singing lies in the fact that music can be used to help us remember words. Through experiences, words are better recalled when they are learned as songs rather than as speech. Most children remember the words from our favorite childhood songs yet we often tend to forget actual definitions and lists that we learn as kids.[21] Aside from aiding memorization, songs may potentially improve learning by helping students to feel relaxed and welcome in stressful settings, engaging students through multiple modes (verbal vs. non-verbal) and modalities (auditory vs. visual vs. kinesthetic).

Additionally, challenging students to integrate and own the material through the medium of strong lyrics, and increasing student's time on task outside class through enjoyable listening or song writing assignments simultaneously. In conclusion, students may produce content-rich songs of good quality if given sufficient assistance and encouragement by instructors and peers. Composing songs and stories on the various lesson topics, to help retentive memory.

Forgetfulness : Forgetfulness means unawareness caused by neglectful or heedless failure to remember. Memory slips are aggravating, frustration and worrisome. When they happen more than they should, they can trigger feels of looming dementia of Alzheimer's diseases. By Harvard Men's Health Publications.

Causes of forgetfulness: Inadequate sleep: Not getting enough sleep is perhaps the greatest unappreciated cause of memory loss or slips. Too little restful sleep can also lead to mood changes and anxiety intends contribute to problems with memory. Also, medications such as tranquilizers, anti-depressants, some blood pressure drugs and other medications can affect memory, usually causing sedation or confusion leading to forgetfulness that can make it difficult to pay close attention to new things. Again, underactive thyroid is another cause of memory slips aiming at forgetfulness. A faltering thyroid can affect memory as well as disturb sleep and cause depression both contribute to memory slips. A simple blood test can tell if your thyroid is working properly. Alcohol is also another major factor to be considered. Drinking too much alcohol can cause or interfere with short term memory, even after the effects of alcohol have worn-off. Although "too much varies from person to person, but try to stick to with the recommendation of not taking more than two drinks per day for men and not more than one drink a day for women. In addition, stress and anxiety also amount to forgetfulness. Anything that makes it harder to concentrate and look in new information and skills can lead to memory problems. Stress and anxiety fill the bill. Both can interfere with attention and block the formation of new memories or retrieval of old ones. In closure, depression is again another contributing factor to forgetfulness. Common signs of depression include a stiffing sadness, lack of drive and lessening of pleasure in things you ordinarily enjoy

Reasons why we forget

- Attention; you cannot remember things you haven't paid sustained attention to in working memory.
- Storage; here, you have paid attention but you haven't made it into long-term memory and it never stuck.
- Usage; you can't remember things that no longer resides in long-term memory, they have faded through disuse.
- Transfer; your processes by which things are transferred down from long-term memory is prone to failure, transfer is difficult because it is difficult to apply abstractions to new situations.

Strategies to Enhance Retentive Memory

Memory is a wonderful trait of human beings. Now more than ever in history, scientists are unlocking the secret to enhancing memory. Memory is extremely important to educators not only for them personally as they age and worry about failing memory, but most important for the role that memory plays in teaching or learning process. Memory, as a concept often is relegated to a minimal role. As noted by Caine and Caine (1997), ''many of us associate the word memory to the recall of specific dates or facts or lists of information and set of instructions, requiring memorization and effort''. Memory however, goes beyond this one-dimensional aspect of learning and rather focuses attending, learning, linking, remembering and using thousand pieces of knowledge and skills we encounter constantly.

For educators, memory is the only evidence that something has been learned.

Teachers can ask students to verbally repeat key elements of information either as a whole class response (a technique called Every Pupil Response). Also, using a cooperative learning technique called ''think-Pair-Share''. The later procedure involves having student first rehearse information by themselves, then verbally share key points or ideas with one another these help boost retentive memory in children. Again, teachers need to allocate time for rehearsals during classroom lessons. Teaching too much information too rapidly is likely to be ineffective. Raised an intriguing possibility linking episodic memory and effective instruction. He speculated that educators

could improve retention of concepts and information by explicitly creating memorable events involving visual or auditory images through the use of projects, plays, stimulations and other forms of active learning.

II. INTERVENTION PROCESS

Pre-intervention: The use of observation and questions help the researcher to diagnose the problem. It was observed that there was inadequate involvement of pupils in the deliveries by teachers in science lessons were taught in abstractness, no follow up by teachers, lack of memorization by pupils and inability of pupils to remember what they were taught in the previous lesson. No use of songs or stories to introduce lessons is also a problem observed by the researcher.

Intervention
Considering the age of the pupils, only three intervention activities were introduced.
Someone who can, Using games or stories, Music or songs

Intervention 1
Purpose
This intervention was aimed at promoting tolerance, togetherness, cooperation and friendship among the pupils. Through this intervention, the rules for the intervention sessions will be established.

- Call each other by name.
- Work together.
- Tolerate each other's view.
- Do not laugh or tease anybody.
- Each and every one must take part.

- Pupils were put in four (4) groups of five (5).
- Each group was given a specific task and time to finish it.
- Members of each group moved round the other groups to find pupils who could perform the task given to them and write down their names.
- Pupils retired to their groups. Called at random from each group to first mention their names to the whole class. Then mention their task and call the person he or she has identify by name to perform the task to the whole class.
- Pupils should mention three (3) names they remember off head.

SOMEONE FIND WHO CAN
GROUP 1:

- Say when the rainbow appears.
- Demonstrate how to brush your teeth.
- How many days a grain of maize takes to germinate.
- When we have to wash our hands with soap and water.

GROUP 2:

- Demonstrate how to use the phone.
- When does the sun rise?
- Demonstrate how to comb your hair.
- Demonstrate how to ring a bell to produce sound.

GROUP 3:

- Demonstrate how to bath.
- Tell the color of unripe banana.
- Bark like a dog.
- Demonstrate how to plant cassava.

GROUP 4:

- Hop like a frog.
- Mix sand and water and tell the color of the mixture.
- Demonstrate how to wash your face.
- Demonstrate how to play the flute to produce sounds.

OBSERVATION : The pupils were relaxed and each one was eager to perform his or her task. Pupils interacted with each other, showed some tolerance and could mention the names of their mates.
There was a keen competition and cooperation and mass participation by individuals of the groups.

Intervention 2
USING GAMES TO TEACH

Purpose: This in intervention is designed purposely to assist pupils to know the changes that have occurred in their bodies. Using games will take the pupils off the normal teacher-pupil interaction – like teaching in the classroom. Pupils are taken out of the classroom.

CROSSING THE STONES

- Put pupils into five (5) groups of four (4).
- Give each a task to perform.
  GROUP 1: Mention 4 things that you do when you want to grow.
  GROUP 2: Mention 4 changes in the body which shows you are growing.
  GROUP 3: Mention 4 things you can do by yourself at home.
  GROUP 4: Mention 4 things you can do to keep your body to grow faster and stronger.
  GROUP 5: Mention 4 things you do every day before you go to school.
- Teacher places 4 stones in front of each group.
- When groups are ready with their answers, they stand behind their stones and choose one member.
- Teacher spreads the stones at some intervals.
- Starting from group 4, as the member mentions the 4 items, he crosses the stones one after the other if the rest agree the answer is correct.
- When it is wrong, they remain on the stone.

OBSERVATION: The pupils were very happy and each and everyone in the group was contributing so that his or her group becomes first or winner by crossing over all the stones.

RETENTIVE SONG
Growing we do it everyday
We grow when we are sleeping
And even when are playing
As we grow a little older
We can do all things
Because we are growing, we can now write.

Each day we grow a little taller, little bigger
Not smaller. And we grow a little friendlier her too
And as we grow a little older
We can take our bath, brush our teeth, and eat our food
Because we are growing we can now read.

Each day we grow a little stronger, little braver
Not coward. And we grow a little tolerant here too
And as we grow a little older
We can wear our dress, lace our shoes, sweep the house and dress our bed
Because we are growing, we can do our exercise.
Tutors assigned a task for the groups to accomplish each day for one, before and after school.

Observation
On our next meeting, every group was able to sing the songs with ease. The individuals in each group too were able to sing the song by demonstrations. Science lessons became a fun class. The pupils were extra active in the various group. The class was competitive. Every member of the group was eager to work extra mile so that their group becomes the first or winner.
Within a month it was observed by the researcher that the pupils have integrated the songs into their normal playing teaching non-members of the groups to join them.

Intervention 2

Dear doggie, dear doggie
Where do you live
I live in a kernel
Watching and alerting
The dog, it makes a bark like this: woof woof, bow wow

Dear monkey, dear monkey
Where do you live
I live on a tree top
Swinging and climbing
The monkey it makes a chatter like this:huhuhaha

Dear pig, dear pig
Where do you live
I live in a sty
Eating and
The pig it makes a grunt like this: oink, oink

Dear lion, dear lion
Where do you live?
I live in a den in the thickest forest
Hunting and eating
The lion it makes a roar like this whuaaaa

Intervention 3

WASHING OUR HANDS WITH SOAP AND WATER
Using stories to introduce the lesson.
Purpose

This intervention will make good use of a catchy introduction to a story which catalogues how negligence can put as into health problems. I will use a resource person, a community voice to narrate the story. All traditional elements of a good story will be enacted.

- Pausing for reflection.
- Questioning to sustain interest.
- Moving up and down.
- Use of props.
- Gestures, facial expression and voice modulations.
- An arresting conclusion.
- The use of interlude.

These will arrest their sense organs to enhance their aural-oral skills, picturesque effect, olfactory.

THE STORY

Mensah and Dede are two best friends. One day, after church, Mensah and Dede went home together. To their surprise, Dede's mother had prepared jollof rice for them. These two friends jollof rice is their best food.

Mensah was in hurry took his food, wash his hands with water and ate his food. Dede washed his hands with soap and water very well took his food and ate. Few minutes after eating, Mensah had a severe stomach pains not be controlled by any means. Mensah was taken to his mother home dying, within some few minutes, the house was crowded with people. People were murmuring that the food he ate was poisoned by Dede's mother. Dede's mother, Kyeiwaah was accused a witch.

Mensah's father came back from the farm and upon hearing the son's story on his way home, quickly rushed Mensah to the hospital. The doctor told Mensah's parent that the stomach pains was caused by germs that they were lucky to bring Mensah to the hospital else we would have died. When the news was disclose to them, Mensah's mother bow her head in shame because she also, accused Dede's mother she is a witch that she want to kill her son.

Mensah was treated and his parents took him home, the doctor advised he should wash wish hands very well with soap and water be come into contact with like the way his best friend Dede did. Because germs are very tiny we cannot see them with our naked eyes. Germs can kill us, he concluded.
On their way home, Mensah met his good friend Dede at their gate and they held each other's hand and walked home happily.

QUESTION
- What title can you give to this story?
- What food did Dede's mother prepare for them?
- Why did Mensah wash his hands with only water?
- What caused Mensah's stomach pain?
- What was the accusation of Dede's mother?
- Mention one advice the doctor gave to Mensah at the hospital.

EXPECTED ANSWERS
- How germs enter our bodies.
- Jollof rice.
- He was very hungry and at the same time ignorant of germs.
- Germs.
- She is a witch.
- Germs can kill us.

RETENTIVE SONGS
Squishy, squishy, squashy
Give your hands a washy
You can't wear-out your skin
So squishy squashy
Wash your hands so clean.

Germs are sort of small
You can't see them at all
You can't feel them, you can't smell them
You can't touch them.
So wash your hands so clean.

Squishy, squishy, squashy
Give your hands a washy
Use enough soap and water
Rub through your fingers and palms so well

When you visit the toilet 2x boys/girls
You pick a lot of germs 2x girls/boys
Use soap and water
Rub your fingers and palms so well.

When you play with friends 2x
Germs get in contact 2x
When food is ready;
Wash your hands;
With enough soap and water.

OBSERVATION
The pupils were happy and excited during the lesson. They wish they learn Science the whole day. Each and every one was eager to sing. Through demonstrations by singing and the use of interesting stories for catchy introduction to lessons, the class was active, creative and lively.

Post-intervention: After the intervention was carried out, the researcher determined the effect of the intervention within a month. It was to enquire whether there had been a significant changes after the intervention that was

designed to address the problem had worked. With regards to this, the questions that were given to the pupils in the pre- intervention test, was once given to pupils at the post intervention to answer them and were given strict supervision, pupils worked independently. Afterward, the pupils work were collected and marked by the researcher.

Data Collection Procedure : The researcher used observation and test respectively to collect the data. Test was used primarily to collect data during the pre-intervention and post-intervention stages. All the research questions are analyzed strictly using statistics (percentages). The performance of pupils in the pre-intervention test and post-intervention test were pooled together and expressed in tables.

Presentation of Preliminary Data of Pupils.

Sex of pupils' respondents

Table 1

Sex	Frequency	Percentage (%)
Male	13	65
Female	7	35
Total	20	100

The table above shows the total number of pupils the researcher used in this study. The researcher used twenty (20) pupils which constitute 100%. She used thirteen (13) males which represent 65% and seven (7) females which represent 35% from Assin Anyinabrim Catholic, primary one (1).

Ages of pupils' respondents

Table 2

Age	Frequency	Percentage (%)
3-6	3	15
7-10	17	75
10+	0	0
Total	20	100

Table 2 above shows the age of pupils in Assin Anyinabrim Catholic, primary one (1) which the researcher used in her study. It shows that out of the total number of respondents, three (3) pupils fall within the ages of 3-6 years representing 15%, seventeen (17) fall within the ages of 7-10 years representing 75%. None of the pupils fall within the ages of 10+.

Presentation of main data

QUESTION 1: What are the causes of pupils' inability to remember the science lessons?

Table 3

Response	Frequency	Percentage (%)
Teaching in abstract by teachers	9	45
No follow up by teachers	4	20
Lack of memorization by pupils	2	10
Inability to remember	4	20
Inadequate attention paid by pupils during science lessons	1	5
Total	20	20

From table 3 above, out of twenty (20) respondents, nine (9) respondents which represent 45% responded ''teaching in abstract by teachers", four (4) which also represent 20% responded "no follow up by teachers", two (2) respondents which represent 10% responded "lack of memorization by pupils", four (4) respondents which represent 20% responded "inability to remember" and one (1) respondent, representing 5% responded "inadequate attention paid by pupils during science lessons.

QUESTION 2: How would pupils in Assin Anyinabrim Catholic, primary 1 be assisted to remember what they have been taught previously by integrating songs, games and stories into science lessons?

Table 4

Response	Frequency	Percentage (%)
The use of appropriate teaching – learning materials and methods	4	20
Learning by memorization	2	10
The use of songs, games and stories as a creative and demonstrative approach	11	55
Much attention paid by pupils	1	5
The ability of pupils to remember	2	10
Total	20	100

The table 4 above shows the strategies that can be put in place to assist pupils in Assin Anyinabrim Catholic, primary 1 pupils to remember the science lessons they have been taught previously. Four (4) respondents, representing 20% responded "the use of appropriate teaching-learning materials and methods", two (2) respondents, representing 10% responded "learning by memorization", eleven (11) respondents, and representing 55% responded "the use of songs, games and stories as a creative and demonstrative approach", one (1) respondent, representing 5% responded "much attention paid by pupils" and two (2) respondents, representing 10% responded "the ability of pupils to remember".

QUESTION 3: Can demonstrative singing serve as a retention and reflection of science?

Table 5

Response	Frequency	Percentage (%)
Yes	13	65
No	5	25
Sometimes	2	10
Total	20	100

Table 5 above shows whether demonstrative singing serve as a retention and reflection of science lessons in pupils. Out of the twenty (20) respondents, thirteen (13) respondents, representing 65% responded "Yes", five (5) respondents, representing 25% responded "No" and two (2) respondents, representing 10% responded "Sometimes".

QUESTION 4: Through the integration of demonstrative singing to promote retentive memory in science lessons, are the pupils in Assin Anyinabrim Catholic, primary 1 able to apply and transfer the knowledge in science lessons into their daily lives?

Table 6

Response	Frequency	Percentage (%)
Yes	18	90
No	1	5
Sometimes	1	5
Total	20	100

Table 6 above reveals how integration of demonstrative singing, to promote retentive memory in science lesson are the pupils able to transfer and apply the knowledge in science into their daily lives. Eighteen (18) respondents, representing 90% responded "Yes", one (1) respondent, representing 5% responded "No" and one (1) respondent, representing 5% responded "sometimes".

Pupils' scores in the pre-intervention test

Table 7

Marks obtained	Frequency	Percentage (%)
10	1	5
8	2	10
6	2	10
4	1	5
2	4	20
0	10	50
Total	20	100

The information in table 7 above indicated that only one (1) pupil representing 5% was able to score 10 out of 10 in the pre-intervention test, two (2) pupils representing 10% score 8, two (2) pupils representing 10% also scored 6, one (1) pupil, representing 5% scored 4, four (4) pupils, representing 20% scored 2 and 10 pupils, representing 50% scored zero (0) out of 10. Fifteen (15) pupils, representing 75% of the total of twenty (20) pupils used failed the test by scoring marks below the pass mark of 5 out 10.
The information in the table 7 shows that pupils had serious problem in the method used to teach science lessons by their teachers.

Table 8: Pupils' scores in the post-intervention test

Marks	Frequency	Percentage (%)
10	15	75
8	3	15
6	1	5
4	-	-
2	-	-
0	1	10
Total	20	100

Table 8 above shows that fifteen (15) out of twenty (20) pupils, representing 75% scored 10 out of 10 in the post-intervention test, three (3) pupils representing 15% scored 8, one (1) pupil representing 5% scored 6, no one scored 4, no pupil scored 2 and only one (1) pupil scored zero(0).
From table 8, it was realized that only one (1) pupil, representing 5% failed by scoring marks lower than the pass mark 5 out of 10. The table 8 reveals that pupils scored higher marks in the post-intervention test compared to that of the pre-intervention test.

Data Analysis

Table 9: Combination of pre and post-intervention test scores

Pre-test			Post-test	
Marks	Frequency	Percentage (%)	Frequency	Percentage (%)
10	1	5	15	75
8	2	10	3	15
6	2	10	1	5
4	1	5	-	-
2	4	20	-	-
0	10	50	1	5
Total	20	100	20	100

The information in the table 9 above is made up of the combination of the results of the pre-intervention and post-intervention test. It was clearly shown that only one (1) pupil out of twenty (20), representing 5% scored 10 out of 10. As such as ten (10) pupils out of twenty (20) pupils failed completely by scoring zero (0) out of 10 representing 50%.
During the pre-intervention test, fifteen (15) pupils out of twenty (20) representing 75% failed which shows vividly that the pupils in Assin Anyinabrim Catholic, primary 1 pupils, had serious problem with the method used by their teachers in carrying-out science lessons at the basic level which the pupils found it difficult to understand.
In the post-intervention test, it showed that fifteen (15) pupils out of twenty (20), representing 75% scored 10 out of 10. Only one (1) pupil out of twenty (20) pupils, representing 5% the pupils failed. The information above showed that nineteen (19) pupils, representing 95% passed. In the pre-intervention test, fifteen (15) pupils representing 75% failed which indicated that the pupils had serious problem with the method by which their teachers used in carrying-out science lessons at the basic level and only five (5) pupils, representing 25% passed. Moreover, in the post-intervention test, nineteen (19) pupils representing 95% passed in the test, meaning that the pupils understood the concept of science after the administration of the intervention.
The comparison of the pre intervention and post-intervention test, the result of the post-intervention test is far better than that of the pre-intervention test

Summary of Research Findings, Recommendation (s) and Conclusion

Introduction : This chapter is the last chapter of the study. It comprises of summary of research findings, recommendation (s) and conclusions of the study, other areas where future researchers may take on for their studies and suggestions to teachers in general, particularly, those teaching Science and its related lessons.

Summary: The study was conducted to assess the integrating demonstrative singing as a creative approach in the teaching of Science to enhance retention and reflection in the lower basic level. The study put two main hypotheses into consideration; there is significant difference between the performance of those who were taught Science lessons using integrating demonstrative singing as a creative approach in the teaching of Science to enhance retention and reflection and those who were taught in an abstract way which aids forgetfulness. How does the use of songs in a demonstrative way of teaching Science, enhance retention of pupils' memory? Considering the above hypothesis, various related literature was revealed to find solution to the problems identified by the study. Due to the above purpose for undertaking the study, the researcher decided to use an action research design for the study because of its advantages over other research designs. The study revealed that the intervention in which using integrating demonstrative singing as a creative approach in the teaching of Science that was used, brought enhancement in pupils' understanding of lessons and boost their interest as well as performance in Science tests and memory retention as well.

Recommendation (s) : In view of the remarkable improvement made by pupils in the post-intervention, as the use of integrating demonstrative singing as a creative approach in the teaching of Science to enhance retention and reflection of memory in Science lessons like how to wash our hands with soap and water after visiting the toilet, playing in the dust, church, school etc. how we grow, the researcher has come out with the following recommendations; In teaching of Science lessons there should be the integration of songs or music for pupils to memorize by themselves. Pupils should put into sizable groups with an assigned task to perform. Each pupil should be given the chance to practice activities on his or her own with the least assistance by group members or teacher during teaching and learning process of Science lessons. The teacher acts as a guide during the lesson presentation. Varieties of methods, techniques, activities involving singing should be employed during teaching and interaction among pupils. Retentive songs should be employed and each pupil should be given the room to be creative by composing their own songs. Pupils should encourage applying for development of scientific concepts and this will go a long way in improving the standard of Science education in the country, Ghana and nationwide.

Stakeholders in education, especially, those at the lower basic level should strive to provide the schools with books containing creative songs, catchy stories to introduce lessons, books containing self-explanatory activities, which pupils can practice and demonstrate at all levels on their own. There should be an intensive follow up by teachers as to how the instructions given out to learners are being well understood and how they apply and transfer the knowledge acquired into their daily lives. The continuous use of integrating demonstrative singing as a creative approach in the teaching of lessons in the basic level for retentive memory, pupils will develop much interest and perform better at the basic level and this current will run through their veins and charge them as they climb the academic ladder higher, they find Science more interesting and lively.
Finally, more research should be encouraged into this method so that more findings could be generalized.

III. CONCLUSION

The purpose of the study was to assist the pupils in the basic school levels to understand the concept of Science right from the scratch by the use of integrating demonstrative singing as a creative approach in the teaching of Science lessons to enhance retention and reflection in pupils at the lower basic level.
Findings of the study revealed that even though majority of the pupils did not understand the concept of Science and they easily forget from the beginning the use of songs or music, games through demonstrative approach helped solved the greater aspect of the problem.

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