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Effect Of Verbal Praise On Secondary School Student's Academic Performance In Mathematics In Tai Local Government Area Of Rivers State

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ABSTRACT
This study investigated effect of verbal praise on secondary school student's performance in mathematics in Tai Local Government Area of Rivers State. A quasi- experimental design was adopted. Two groups were used for the experiment, verbal praise group and control group. Two research questions and two hypotheses were formulated to guide the study. The population of the study was (2,950) senior secondary school students. The sample size was 370 SS2 students, taken from four schools. Randomization technique was utilized to assign students to groups so as to remove the effect of pre-test and extraneous variables. "Mathematics Performance Test (MPT)" was used to collect data from the two groups. There was treatment in the experimental group, while the control group was not treated. Pre-test was given to the groups before commencement of teaching and post-test at the end of teaching. The data obtained was analyzed using mean and standard deviation for the research questions while ANCOVA was used for test of hypotheses at 0.05 level of significant. The findings of the result are: Verbal praise enhances student's academic performance. Praises from teachers and parents are key components in motivating children. Verbal praise serve as reinforcement for academic accomplishment. Base on the findings the following recommendations were made: The mathematics teachers should regularly motivate students with verbal praise while presenting lessons. Government should make available prizes and scholarship award, regularly for high performing students in order to encourage others to learn.
Keywords: effect, verbal praise, secondary school, student's performance, mathematics.

INTRODUCTION

A certain focus should be placed on the importance of mathematics in daily life, because it is the language and tool used in virtually every field of science. Mathematics is one of the most important subjects in educating a man, hence it is a core subject in primary and secondary schools in Nigeria (Usman, 2010).Mathematics is difficult and challenging to many elementary, secondary and even university students because it is an abstract discipline. Therefore, mathematics instructors should seek to create math space that will enable the students to mitigate this obstacle. Teachers are therefore, required by the United Nations Educating Science and Cultural Organization to coordinate the teaching and learning process for quality basic education in the school (UNESCO, 2017). This involves the teacher having the right skills and content mastery to the correct level of learners with various requirements in an inclusive setting if the learning process is to be properly coordinated (Ethington & Wilson, 2010).It is difficult for some students to follow the pace of mathematics classes especially in the area under investigation. Therefore, teachers

need to adapt their educational approaches to a more learner-oriented in order to promote the active participation of students. Harbor-Peter (2011) reported that poor performance of students in mathematics is as a result of poor and ineffective instructional skill and methodologies by the mathematics teachers. Alio (1997) also noted that poor performance in mathematics is as result of teachers not being able to utilize necessary techniques in teaching mathematical problems

Azuka (2011) reported that in June 1999, the National mathematical centre sampled some twenty states of the federation to find out the problems of teaching and learning of mathematics. Among the problems highlighted from the state were:

- Poor attitude of both teachers and students to mathematics.
- Poor teaching method.
- Teachers not being able to teach some aspect of the mathematics content.
- Mathematics phobia especially among female students.

Sleight and Mavis (2016) noted that students dislike certain topics because they feel the topics are difficult and cannot be understood easily, it has also been revealed that some teachers lack techniques and materials in teaching certain topics to the extent that if they have a choice, they will not teach such topic. Also, the teachers believe that these topics are difficult and not easy to teach, for this reason many children in secondary schools experience difficulties in the learning of some aspects of the mathematics curriculum.

However, the poor performance in mathematics according to Betriku (2012), is due to the methods of teaching, attitude of teachers that teach the subject and students lack of interest in the subject.

Sharma (1989), stated that teachers must understand that each student possess mathematics difficulty and this unique learning style affects processing application and understanding. For effectiveness, Sharma suggested that teachers should ask themselves the following questions, when their students experience difficulty:

- Is my teaching style excluding students with certain learning style?
- Are my methods and material appropriates and compactable with cognitive level and learning styles?
- Am I too harsh on the students?

Answer to these questions will determine if the students will perform well in the subject. Teachers should handle students with love and patience as his attitude erases off whatever fear and hatred the student maybe having.

Verbal praise reward is a powerful motivating tool because it allows the teacher to encourage different aspects of students output. A teacher can increase the motivating power of student goal-setting by offering praise when the student successfully attains a goal. The teacher should also be careful that the reward is not an end in itself, but should create learning desire in the students. For example an annual reward ceremony becomes reinforcement to student's academic performance, if it is to maintain or improve upon student's performance. Klevin (2017) explained that reinforcement has powerful influence on human behaviour. It is an event whose occurrence increases the frequencies of the behaviour it produces. Reinforcement has specific impact on our actions. Brophy (1981) opined that teacher's behaviour towards low achievers include less praise, less wait time for their answers, calling on them less often, criticizing them more frequently and interacting with them less often.

Verbal praise reward are act of expressing approval, admiration or commendation. Brophy (1981) sees verbal praise as statements communicating the value of student work or behaviour by expressing approval. Teacher's praise can motivate and offer encouragement by focusing on effort rather than on product (Daly, Martens, Barnett, Witt & Olson, 2007). Burnett and Mandel (2010) supported that the power of praise in changing student's behaviour is that, it both indicates teacher's approval and informs the student about how the praised academic performance conforms to teacher expectations. Effective praise provides information and lends support to feeling of self-worth, they tell one that he has done a good job, that he is competent and that his efforts are appreciated (Daniel, & Esser, 2014).

Al rable academic performance or effort at the classroom level. He also outlines them as;

- Praise (and other verbal reinforcement); for correct responses during class discussion, accurate homework improved test score etc;
- Token reward; such as point or chips, which are valueless in themselves, but which can be redeemed for things of value;
- Symbolic reward; such as having one's picture on bulletin board or name in a newsletter;
- Activity reward; such as free time, being a leader of an activity, going on field trip etc. He noted that the most common type of reinforcement is the praise type. He asserted that this type of reinforcement is commonly used by teachers. He assumed that praise has reinforcing effects on student's academic performance. It is an overall view that praise can enhance learning if it is cogent, specific, sincere and credible.

Using praise for performance rewards are often more effective than those for effort. Students become more focused on the final product and strive to succeed in every task they are assigned (Burnett & Mandel, 2010). Praise has always been an important motivating tool but classroom educators need to know the most effective ways to use it. It could be counter-productive if misused (Zentall& Morris, 2010).

McLntyra, Kyle and Moore (2016), noted that praise in the form of verbal rewards should be viewed as a continuing process of encouragement. When used effectively, it can improve motivation, self-reliance, self-esteem, and performance (Haimovitz & Henderlong, 2011). When teachers use praise effectively it expresses positive emotions about a student's effort or performance. It can exist in the form of encouragement used to build confidence and it also realizes that different students require different forms of praise. Effective praise also can create intrinsic motivation in which students are motivated to do things for their own reasons

Kohn (2011) contributed that when praise is used ineffectively it can lead to much greater problems. Praise that lacks focus can cause a student to answer questions tentatively in fear of displeasing the teacher. Also, students may be motivated to engage in simpler tasks that will result in quick and positive feedback than more challenging tasks (Cleaver, 2007).

Brophy (1981) revealed some ways effective praise is used:

- Is delivered contingently, specifies the particulars of the accomplishment and shows spontaneity and other signs of credibility, suggests clear attention to the student's accomplishment.
- Provides information to students about their competence or the value of their accomplishment. Student's own prior accomplishments as the context for describing present accomplishment, is given in recognition of noteworthy effort or success at difficult task.
- Attribute success to effort and ability implying that similar successes can be expected in the future, foster endogenous attributes (students believe that they expend effort on the task because they enjoy the task and/or want to develop task-relevant skills).
  Forster appreciation of and desirable attributes about task relevant behaviour after the process is completed.

He recognized that to praise a student is "to commend the worth of or to express approval or admiration". Most teachers undoubtedly use praise as a positive reinforcement tool in their classroom. By using praise in this manner, teachers are able to motivate students to behave and perform in specific ways (Dweck, 2018). Teachers play large parts in offering students the support they need for higher levels of achievement through the use of praise (Maclellan, 2005). The use of praise can either encourage or damage students' self-confidence, directly .influencing academic effort and performance.

Bielinski and Davidson (2011) defined academic performance as the display of knowledge attained or skills developed by students in the school subject. It is the level of performance in the subject as exhibited by a student. Academic performance is the exhibition of knowledge attains or skills developed by learners in the school subject usually designed by test scores or by marks assigned by teachers which can be low

or high. It means how well one does in school. Poor grades are considered as bad academic performance. Salami (2018) noted that academic performance is frequently defined in terms of examination performance. It refers to what skills the student has learned as it is usually measured through assessment like standardized test, performance assessments and portfolio assessment.

Academic performance is a yardstick used to determine how far a student has mastered a course of study within a given period of time. It is absolute tool that can be used to determine and predict the standard of any educational system in Nigeria in terms of it efficiency and effectiveness. It portrays the quality of education offered in Nigeria. This study therefore investigates effect of verbal praise on secondary school students' academic performance in mathematics in Tai local Government Area of Rivers State

Statement of the Problem

One of the major problems facing educators is poor performance of students. Teachers and parents feel frustrated, worried, confused and disappointed when students fail to do well academically. In Tai L.G.A which is the area under investigation. There are many qualified mathematics teachers. However, many students can also afford to buy the recommended mathematics text books, yet it is observed that many of the students are still performing poorly in mathematics which is a core subjects offered by all the students in secondary school level. There is a limited research on verbal praise especially in Tai L.G.A. Therefore, the problem of the study is to find out the effect of verbal praise on secondary school student's performance in mathematics in Tai L. G.A. of Rivers State

Research Questions

1. What is the difference in the mean performance of students in verbal praise group (experimental group) and control group based on gender?
2 What is the difference in the mean performance of students in verbal praise group (experimental group) and control group base on urban and rural locations?

Hypotheses

Ho_1: There is no significant difference in the mean performance of students in verbal praise group (experimental group) and control group based on gender in Tai LGA

Ho_2: There is no significant difference in the mean performance of students in verbal praise (experimental group) and control group based on urban and rural location in Tai LGA.

METHODOLOGY

In each school, two arms of a class were randomly selected as experimental and control groups; Verbal Praise (VPG) and control group (CG) respectively. The study employed the quasi- experimental design where randomization technique was utilized in assigning students into the two groups. The purpose of randomization was to remove the effect of pre-test and extraneous variables. The sample of this study consists of 370 SS2 students. Four schools were drawn through simple random sampling technique for the study. The instruments for data collection consisted of structured questions tagged. 'Mathematics Performance Test (MPT)" with 40 multiple choice questions for pre-test and post-test and four options (A, B, C, D) in which the students were requested to thick the correct option. In a period of 13 weeks that the study was concluded, in the VPG, the researcher verbally praised the students that made some efforts during mathematics class while in the control group, the researcher just did the traditional method of teaching without any form of treatment. Pre-test scores were collected in the groups before commencement of teaching and post-test scores after teaching and treatment of experimental group. The instruments for data collection were validated by two experts in the subject area, in measurement and evaluation, department of Educational Psychology, Guidance and Counselling. Reliability of the instrument was estimated using the Cronbach Alpha reliability method for internal consistency. The sample for determination of the Cronbach Alpha was 20 from schools that are not part of the study. The result shows that a reliability co-efficient of 0.80was gotten.

Experimental procedure: A pre-test was administered to the groups before the commencement of the teaching. The scores obtained from the result were referred to as pre-test scores. The mathematics subject teachers of arms (A, B) for verbal praise and control group respectively assisted the researcherto carry out

the experiment. In the experimental group for verbal praise (stream A) treatment such as, well done, very good, excellent, you can do better, don't relent on your efforts, don't lose hope, keep it up, beautiful; clap for him, wonderful, good, nice response, powerful attempt, good one etc. were words constantly used to encourage the group as a treatment, while in the control group (stream B), there was no treatment as well as any form of intervention. The two groups were taught separately in their respective classes. At the conclusion of the experiment, all students were given a post-test, which yielded the post-test scores. The data generated for the study was analyzed using mean and standard deviation for the research questions while ANCOVA was used to test the hypotheses at 0.05 level of significant.

RESULTS

Research Question One: *What is the difference in the mean performance of students in verbal praise group (experimental group) and control group based on gender?*

Table 1: Mean and Standard Deviation Performance of Students in Verbal Praise (Experimental Group) and Control Group based on Gender

Group	**Verbal praise**		**Control Group**		**Mean gain**
	No	**Mean**	**Std**	**Mean**	**Std**	
Male	170	55.94	9.35	30.43	6.73	25.51
Female	200	44.58	8.38	25.40	5.20	19.18
Total	**370**					

Table 1 reveals that mean and standard deviation of post-test scores of students in verbal praise (experimental group), for male was (55.94; 9.35) and female was (44.58; 8.38). While that of control group for male was (30.43; 6.73) and female was (25.40; 5.20). This therefore shows that the male students have a better result than the female students in both the verbal praise group and control group, with a better performance in the verbal praise group than the control group because of the effect of the treatment.

Research Question Two: *What is the difference in the mean performance of students in verbal praise group (experimental group) and control group base on urban and rural locations?*

Table 2: Mean and Standard Deviation of Students in Verbal Praise (Experimental Group) and Control Group based on School Location.

Group	**Verbal praise**			**Control Group**		**Mean**
	No	**Mean**	**Std**	**Mean**	**Std**	**Difference**
Urban	160	50.87	10.86	26.36	6.21	24.51
Rural	210	30.68	8.15	24.44	4.48	6.24
Total	**370**					

Table 2 reveals mean and standard deviation of post-test scores for students in urban and rural schools. The result of verbal praise group, for urban was (50.87; 10.86), while rural was (30.68; 8.15). Meanwhile that of control group, for urban was (26.36; 6.21) and rural was (24.44; 4.48). This therefore shows that students in urban performed better than the students in rural in both experimental (verbal praise group) and control group, with the students in the verbal praise group having better performance than the control group because of the intervention.

Hypothesis One: There is no significant difference in the mean performance of students in verbal praise group (experimental group) and control group based on gender in Tai LGA

Table 3: ANCOVA Results of Student Performance in Verbal Praise Group (Experimental) and Control Group based on Gender in Tai LGA.

Source	Type III Sum of Squares	Df	Mean Square	F-value	P-value (Sig)	Decision
Corrected Model	25862.574	1	12931.287	62.539	.000	
Intercept	134144.707	1	134144.707	648.756	.000	
Pre-test	29.929	1	29.929	3.145	.504	**H_{01}: Rejected**
Gender	25854.787	2	25854.787	125.040	.001	
Error	164797.346	366	206.772			
Total	2211514.000	370				

Table 3 reveals (F 125.040, P= 0.001< 0.05) which less than the chosen level of significant between 1 and 366 degree of freedom. Therefore, the null hypothesis is rejected. This thereforeindicates that, there is significant difference in the mean performance of male and female students in verbal praise group (experimental) and control group in Tai Local Government Area of Rivers state.

Hypothesis Two: There is no significant difference in the mean performance of students in verbal praise (experimental group) and control group based on urban and rural location in Tai LGA

Table 4: ANCOVA Results of Post-test Scores of Verbal Praise Group (Experimental) and Control Group based on School Location in Tai LGA

Source	Type III Sum of Squares	Df	Mean Square	F-value	P-value (Sig)	Decision
Corrected Model	2848.061	1	1424.031	14.036	.000	
Intercept	16710.491	1	16710.491	164.706	.000	
Pre-test	323.200	1	323.200	3.186	.867	H_{02}: Rejected
School Location	1314.871	2	1314.871	53.260	.030	
Error	29117.952	366	101.456			
Total	448146.000	370				

Table 4 reveals (F 53.260, P= 0.030< 0.05) which is less than the chosen level of significant between 1 and 366 degree of freedom. Therefore, the null hypothesis is rejected. This indicates that, there is significant difference in mean performance of students in the urban and rural for the verbal praise group (experimental) and control group in Tai Local Government Area of Rivers state.

DISCUSSION

The result reveals that mean and standard deviation of post-test scores of students in verbal praise (experimental group), for male was (55.94; 9.35) and female was (44.58; 8.38). While that of control group, for male was (30.43; 6.73) and female was (25.40; 5.20). This therefore shows that the male students have a better result than the female students in both the verbal praise group and control group, with a good performance in the experimental group than the control group because of the effect of treatment.

Again the ANCOVA result reveals (F 125.040, P= 0.001< 0.05) which is less than the chosen level of significant between 1 and 366 degree of freedom. Therefore, the null hypothesis is rejected. This therefore indicates that, there is significant difference in the mean performance of male and female students in

verbal praise group (experimental) and control group in Tai L.G.A. This is in agreement with study of Sharma (1989) who noted that the girls develop better verbal skills than boys, while boys are better in mathematical skills. This according to him is because social forces directing a child's experiences and activities lead to the differences in the neurological sophistication of boys than girls. Sweeney (2003) also supported that female students are lower in mathematics and spatial ability, as male are superior to female on mathematics/problem solving. The study is not in agreement with Okoye (2014) who stated that girls are good in mathematics than boys because of their household involvement and interaction with their mothers and measuring out of good items, quantities of water and other liquids, timing the period for which a particular food needs to boil on fire. In addition, cooking involves estimation of cooking materials. Ogbondah (2011) also noted that many comparisons showed average scores of boys and girls to be the same on general intelligent test performance.

The result reveals that mean and standard deviation for students in urban and rural schools. The result of verbal praise group was (50.87; 10.86) and (30.68; 8.15) respectively, while that of control group was (26.36; 6.21) and (24.44; 4.48) respectively. This therefore shows that students in urban school performed better than the students in rural schools in both experimental and control group, with the students in the verbal praise group having better performance than the control group because of the intervention.

Again the ANCOVA result reveals (F 53.260, P= 0.030< 0.05) which is less than the chosen level of significant between 1 and 366 degree of freedom. Therefore, the null hypothesis is rejected. This indicates that, there is significant difference in the mean performance of students in the urban and rural schools of verbal praise group (experimental) and control group in Tai Local Government Area of Rivers state.However, this finding of study is in harmony with the study of Bear (2017) who noted that, differences exist because of infrastructural facilities in the urban schools than the rural schools. He supported that the type of environment a student is exposed to, have a great influence in him either positively or negatively. Asikhia (2010) also supported that there is significant difference between the academic performance of students in urban and rural schools. He revealed that students in urban areas had better academic performance than their rural counterpart, because of unprepared learning environment which hinders the teaching-learning process and student's academic performance.

Similarly, this is probably because urban schools are naturally better with respect to the availability and distribution of social amenities such as pipe-borne water, healthcare facilities, library, mathematics laboratory, internet facilities, electricity, educational facilities and teachers, good road network and conducive environment, while the rural areas are naturally less favoured. All these contribute towards academic performances of mathematics students.

CONCLUSION

Verbal praise stimulate academic performance of mathematics students. Therefore, students should be reinforced during teaching so that effective learning can take place. Reinforced learning leads to higher performance in any subject or course. There should also be regular and frequent monitoring of student learning progress and provision of feedback so as to be able to adapt instructions as appropriate to meet learning needs. The teachers should be more of encouraging word on students than commanding tone to motivate and facilitate learning skill of student to enhance a better academic performance. Verbal praise enhances student's academic performance and serve as a key components in motivating students. Verbal praise serve as reinforcement for academic accomplishment.

RECOMMENDATIONS

1. The science teachers in the secondary schools should regularly motivate students with verbal praise or awarding a gift when presenting their lesson to enhance greater academic achievement.
2. Ministry of education or non-governmental organisation should make available prizes and scholarship award, regularly for high performing students in Tai Local Government Area in order to encourage others to learn.

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