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Assessing The Impact Of Drama Methods On Learners' Understanding Of Hiv/ Aids: A Case Study At Masala Secondary School In Ndola District, Zambia

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Abstract

This action research focused on the effectiveness of using drama learning methods in enhancing pupil's understanding of HIV/ AIDS. It was conducted on 140 Grade 11 pupils (70 in experimental and 70 in the control group) at Masala Secondary School in Ndola. The main purpose of this research was to assess the impact the Drama learning method has on pupils when learning the concepts of HIV/ AIDS. The study adopted a quasi-experimental pretest and posttest design. A quantitative approach was applied in data collection and analysis. Various methods used in data collection included an achievement test (pre-test and post-test) and Likert scale questionnaires. This research lasted for 8 weeks. Data were analysed using SPSS version 20 by first conducting normality tests followed by appropriate statistical tests and presented using tables and graphs. The analysis involved descriptive statistics (means, medians, Standard deviations) and inferential statistics (independent samples Mann-Whitney and t-Tests). Although the median score of the Control group (29) was higher than that of the Experimental group (17.50), a Mann-Whitney U test indicated that there was no significant difference between the pretest scores of the experimental and control groups (U = 2087.500, p = .130, r = .13). Therefore, the experimental and control groups were equal in performance before administration of the treatment. However, the posttest mean scores (%) of the experimental group (67.83) was higher than that of the control group (43.66). A Mann-Whitney U test indicated that there was a significant difference in the distribution of the posttest scores of the experimental and control groups (U = 824.00, p < .001, r = .57), hence the conclusion that the experimental and control groups were different in performance after the treatment was drawn. This result indicates that the use of drama method of teaching was more effective than the conventional teaching methods. Further, the study found that the learners had positive attitudes towards drama and biology (M = 3.44, SD =0.287) and that there was no significant difference between the attitude of males and females [t (68) = 0.605, p = 0.548] towards the use of drama teaching methods. The study, therefore, recommends the use of drama methods in the teaching of biology and other science subjects. Further, researchers need to engage in investigations of the effective use and impact of drama methods across other grade levels and subject areas.

Keywords: Drama, Learners, Understanding, attitudes, HIV/ AIDS

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1. Introduction

1.1 Background

Learning can be described as a process that involves the development of the ability to perform new behaviour. It is common to think of learning as something that takes place in school, but much of human learning also occurs outside the classroom as people continue to learn throughout their lives. One non-traditional method of instruction that has not received much attention in tackling cross-cutting issues including HIV/AIDS in Zambian senior secondary schools is the use of the drama method. The use of drama as a tool for teaching is not new. Historically, both drama and theatre have long been recognized as potent means of education and indoctrination even though the way they are used today are new, and may differ in a number of respects from the ways they have been used in the past (McCaslin, 1998).

Teacher-centered methods, which are frequently preferred in educational environments and based on one-way communication, include activities in which teachers directly convey knowledge to students, and students listen and take notes. However, modern education aims to develop individuals by acknowledging their own cognitive, affective and psychomotor behaviors. DeVries and Zan (2005) noted that teaching how to learn has been gaining importance while the popularity of simply transmitting knowledge to students and other traditional methods have been declining in importance. The quests for active learning related to the teacher-student relationship base on the experiential learning or hands-on learning approach set forth by the educational theorist Dewey (1963). Dewey argues that students should play an active role in the learning process by criticizing the students playing the role of the passive audience (Anthony, 2012). The need for student-centered education is evident for fulfilling the academic and social needs.

Learning through drama combines a few concepts that involve using drama as a teaching method such as dramatic expressions which are applied when teaching various subjects in different educational settings. Learning through drama is a method where students approach different assignments following a special procedure (Schon, 1991). They compose an act, or role-play scenario, based on their project, resulting in a story to be told. The story's course of events results in communication between characters. Emphasis is put on imagination; students explore and make decisions based on the characters they are representing, resulting in communication and debate. In a way, it can be said that role-playing gives students the opportunity to understand what it means to be human. According to Cooper and Mueck (1990) learning and understanding take place when the student explores various roles, investigates different aspects of human relations, and takes independent decisions while in the role-playing setting. Kelly (2004) emphasizes that drama should be used by all teachers in schools and it is important if not necessary, for it to be part of the school's formal curriculum.

However, literature has shown that despite the multi-teaching methods outlook that the education sector offers, the teaching of some Biological subjects at senior secondary school has remained exclusively in the hands of traditional methods. This scenario has undoubtedly led to the marginalization and poor representation of using drama methods to teach students in Biological subjects. Whilst the Zambian Government has made efforts to integrate HIV and AIDS in Teacher Training Programmes, there has been little empirical research to inform stakeholders on the teaching strategies of these programs, consequently necessitating a study in this subject area.

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1.2 PROBLEM STATEMENT

During 2017 Grade 12 Biology Examination, the analysis report indicated that 65% of the learners who chose questions from HIV/ AIDS did not answer correctly and this attributes to the failure of understanding the concepts related to HIV/ AIDS (ECZ, 2017).

Over the years, research indicates little attention on the use of drama by teachers in the classroom. A study conducted by UNESCO (2008) shows that the methods of teaching used by teachers when teaching biological topics are inappropriate, and therefore making it difficult for pupils to learn biological topics like genetics, ecology, HIV/AIDS, etc. Most teachers in the country prefer to use traditional methods such as the lecture method to drama when teaching biological topics and Masala Secondary School is not an exception. Tawil et al (1995) have argued that HIV and AIDS programs that allow youth participation and involvement are more effective and tend to address the concerns and needs of young people better. The problem which has provoked this ambitious research undertaking arises directly from the widely acknowledged and documented fact that the vast majority of school-going pupils carry various misconceptions about HIV and AIDS. At the moment, the effectiveness of drama in raising learner's awareness about HIV and AIDS when teaching biological subjects at Masala secondary school is not clearly known. If this scenario remains unchecked, the use of drama method in teaching biological subjects may continue to be marginalized, leading to the continued dependence on traditional methods of teaching, thereby denying the learners an opportunity to get involved in the learning thereby most likely to increase the level of misconceptions about the subject.

1.3 SIGNIFICANCE OF THE STUDY

The study will be significant in that it attempts to investigate the effectiveness of using drama methods in enhancing learner's understanding of HIV and AIDS: with a view to understanding as to whether traditional methods of teaching HIV and AIDS have inherent gaps. Therefore, the study will raise learner's awareness about HIV/ AIDS hence reducing on the leaner's misconception about HIV/ AIDS. The study will also enable learners to acquire the 21st century skills such as collaboration, communication, creative and critical thinking skills. It is anticipated that the study would not only contribute to empirical scholarly knowledge on the teaching of HIV/AIDS using drama methods but also contribute to the development of HIV and AIDS teaching strategies.

The study would be significant to school administrators, curriculum planners, teachers, students, parents and the Zambian society in the HIV/AIDS prevention programs nationwide and elsewhere. As a method, the study shows the teachers the advantage of drama as involving all of the students all the time thereby ensuring them participation, collaboration in small and large groups working in and out roles. The findings of the study would also be of significance to teachers in that drama as alternative teaching method will enable biology teachers and other subject teachers to de-emphasise the use of old conventional methods (lecture method) that might cause students boredom or non-participation during teaching and learning.

1.4 MAIN OBJECTIVE

The general objective of this study is to assess the impact of drama methods on learner's understanding of HIV and AIDS at Masala secondary school in Ndola district, of the Copperbelt province of Zambia.

1.5 RESEARCH QUESTIONS

1. What is the impact of drama methods on grade 11 learner's understanding of HIV/ AIDS?

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2. Is there a difference in the performance of male and female grade 11 learners taught by the drama teaching method?

3. What are the attitudes of grade 11 learners towards drama methods of teaching and learning HIV/ AIDS?

4. Is there a significant difference between male and female grade 11 learners' attitude towards the use of drama methods of teaching?

1.6 THEORETICAL FRAMEWORK

This study was guided by Dale (1969) theory of "Experiential Learning" or "Action Learning". During the 1960s, Edgar Dale theorized that learners retain more information by what they "do" as opposed to what is "heard", "read" or "observed". His research led to the development of the Cone of Experience. Today, this "learning by doing" has become known as "Experiential Learning" or "Action Learning". Dale (1969), expressed that involving students in the learning process promotes active learning experience such as hands-on or field experience and this strengthens knowledge retention. According to dale, action learning such as drama techniques results in up to 90% knowledge retention. In Dale's research, the least effective method at the top involves learning from information presented through verbal symbols mainly listening to spoken words. The most effective methods at the bottom, involves direct, purposeful learning experiences, such as hands-on or field experience. A direct purposeful experience represents reality or the closet things to real, everyday life. Vygotsky (1986) notes, that full cognitive development of learners requires social interaction. This means that learners retain more information if they learn topics by working in groups.

1.7 CONCEPTUAL FRAMEWORK

Based on the theoretical framework and the literature review, the following conceptual framework was formulated and the resultant variables were derived. The framework shows that learners retain more information by what they "do" as opposed to what is "heard", "read" or "observed". It is not possible to discuss learner retention without factoring in the presence of Passive and Active learning. In this respect, therefore, the study proposed a framework to include the variables in the following manner.

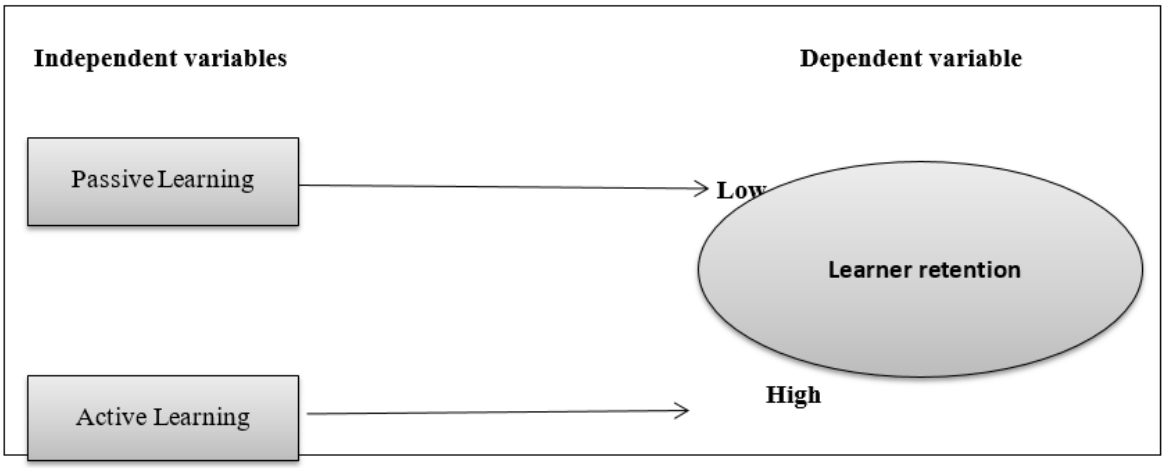

Figure 1. Conceptual Framework (Relationship between Independent and Dependent variables)

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2. LITERATURE REVIEW

2.1 CONCEPTS OF HIV/ AIDS

HIV is an abbreviation for human immunodeficiency virus that particularly affects a human being. This virus reproduces in the white cells of human beings and slowly destroys the immune system in the body. This weakened immune system leads to a body condition (syndrome) referred to as AIDS-Acquired Immune Deficiency Syndrome. The host is unable to resist any infection. The body of the human being is, therefore, unable to defend itself from ailments like tuberculosis and pneumonia. When the body develops AIDS, the body is unable to resist infection (immunity) and the victim is at risk of being attacked by opportunistic diseases of infections. This is the final stage of HIV infection (UNAIDS, 2009).

Methods of HIV transmission; Through having unprotected sex with infected partners. An infected partner will transmit the virus to the blood of the other partner during sexual intercourse. Through blood transfusion with an infected donor or organ transplant from an infected donor. Through sharing unsterilized instruments with infected partners or people. During pregnancy, childbirth and breastfeeding as the virus can be transmitted through the exchange of fluids during childbirth and in the process of breastfeeding. Sharing of toothbrushes, shaving blades with an infected person (UNAIDS, 2010).

Safe sexual practices; Abstinence from sex is the surest way of avoiding STIs Infections. Proper use of condoms- a condom is a rubber sheath that is inserted into the vagina. Be faithful to one partner. Avoid contact with body fluids through which HIV can be transmitted.

2.2 DRAMA LEARNING METHODS

In field literature, two fundamental approaches of the creative drama have been emphasized. The former is including the creative drama within the curriculum as an art, and considering it as an activity contributing to the child's personal development. The latter is using it as a method in the educational process in different disciplines such as history, linguistics, mathematics, science, etc (Arieli 2007). The examination of the literature on creative drama indicated that few studies have focused on the use of creative drama in science education (Çokadar and Yılmaz 2010; Kamen 1992). Çokadar and Yılmaz (2010) researched the effect of creative drama based instruction on seventh graders' science achievements in the ecology and matter cycles unit and their attitudes toward science. Result of this study revealed a statistically significant difference between mean scores of both groups with respect to achievement in the ecology concepts and medians of the attitudes toward science in favor of the experimental group after the treatment. Kamen (1992) designed a study to investigate the effect of creative drama in enhancing student understanding of science concepts. The study was carried out in two elementary classrooms in which drama based instruction is used as part of science instruction. Written tests for the students; interviews with students and teachers; and direct observations were the four measuring tools of the study. The results indicated that the students' achievement improved on the content tests. Both the students and the teachers reported benefits from drama, including a better understanding of the concepts and improved motivation and interest in learning science. The students enjoyed the use of drama based instruction and felt they learned more when this method was included. Kase-Polisini and Spector (1992) described a quantitative study in which high achieving science and mathematics students studied science concepts through creative drama. For eight consecutive summers, a group of students attended a two-week program that was designed by a theater education professor and a science educator professor. Participants were instructed to produce a play to dramatize the specific math and science concepts they were taught

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during the two-week experience. The researchers found drama based instruction to be an effective strategy for teaching science. Özdemir and Üstündag (2007) used creative drama based instruction for teaching the history of science to prospective science teachers regarding the life story of three famous scientists and their contributions to science. Their results showed that the participants' comprehension and curiosity were increased. There are many studies proving that the creative drama had affected on many different fields such as science, mathematics, life knowledge, linguistics, psychology, etc. (Kaf 1999; Oğur and Kılıç 2005) and on effective properties in the country and abroad. In fact, information peculiar to a subject area is not permanent, at least it rapidly changes. The fundamental, permanent, and unchangeable thing is the supportive learning products (Açıkgöz 2003).

Kılıç and Oğur (2005) previously investigated the effect of integrating the drama method into science education on the academic performance of students. Based on their study results, they determined that the drama method increased academic performance in science and technology classes. In addition to its positive contribution to academic performance, the use of the drama method during teaching processes also resulted in higher permanence of learning (Şimşek et al., 2010) and more favorable student attitudes towards the class (Yılmaz, 2006; Zayimoğlu, 2006). According to the results of Peter's (2003) study, the use of the drama method contributes to the development of creativity among students and allows them to become more creative and flexible individuals who perform better in social life. These research studies display that creative drama had developed supportive learning products.

3. RESEARCH METHODOLOGY

3.1 Research Design

The action research was in the form of a case study which adopted the quasi-experimental design to collect quantitative data from the learners. The collection of data was done between February and May 2019.

3.2 Target Population (Participants)

The target population for this study comprised all the Grade 11 (Eleven) Pupils at Masala Secondary School in the year 2019. The study adopted probability sampling techniques such as simple random sampling techniques to select the two out of the five grade 11 (Eleven) classes learning Biology at Masala Secondary School (Maree, 2007). The study sample comprised of 140 pupils from the two grade eleven (11) classes (70 Experimental group and 70 control group).

3.3 Research Instruments

The questionnaire such as the Likert scale questionnaire and achievement test was used to collect the quantitative data.

3.4 Data Collection Procedure

In order to achieve the study objectives, the instruments were administered in the following procedure;

3.4.1. Pre-Intervention

During pre-intervention, the pre-test on HIV/AIDS was given to the experimental and control groups to establish the status of the two groups. During this stage, the researcher's area of interest

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was to collect data which proved the existence of the research problem. The research matrix shows the steps during the pre-intervention stage of the data collection.

Table 1: Pre-intervention research matrix table.

RESEARCH STEPS	DATA COLLECTION TECHNIQUE	DATA COLLECTED
1. Review on drama learning.	Literature review.	Documents
2. Analysed learners work sample books and grade 11 test papers.	Documentary analysis.	Themes.
3. Administered of Pre-test to experimental and control class.	Test	Test scores and conceptual write up (quantitative).

3.4.2. Intervention

The experimental group practiced through drama techniques, while the control group learnt through a more traditional approach (Mhlanga & Ncube, 2003). The intervention carried out in a three-dimension kind of information flow:

i. Teacher-Leaner communication

The researcher first prepared an introductory lesson using drama learning method of teaching whose main objective was to make learners understand and appreciate the whole idea of the new approach. The learners were divided into groups of not more than eight pupils per group in order to implement drama learning method of teaching and to explore its effects on learner's understanding of HIV/AIDS. During intervention; Group work drama was recorded in the form of videos and pictures to show interactions amongst the learners.

Figure 2. Shows pupils working in groups to come up with a drama sketch.

ii. Learner - Learner communication

Learners shared ideas when answering questions, finding the solution to the task and discussed their ideas within the group so as to formulate the drama activity (foreplay, poem, etc.) and arrived at

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the best solution to a given task. Learners had time to rehearse for HIV/AIDS foreplay, poetry, etc. in preparation for presentation as shown on pictures during learner's play.

Figure 3. Shows the pupils rehearsing a drama-dance outside class.

The rehearsals were performed and practiced outside the classrooms. The learners were given three weeks for their preparations. The picture below shows the foreplay by learners educating their fellow learners about HIV/ AID S through a sketch or foreplay activity in a classroom.

iii. Learner - Teacher communication

Here learners gave their own findings which mark to review each group's score and making corrections on questions the groups failed to answer and the learners were allowed to argue their points out to the teacher and ask the teacher questions for further clarity.

The Control Group was not subjected to any treatment such as drama methods during intervention instead the group received the traditional methods such as lecture method. However, the control group received the treatment such as drama methods at the end of the research so that all the groups benefit, but the results were not considered to be part of the study.

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3.4.3 Post Intervention

After the intervention, the post-test on HIV/AIDS was given to the learners to determine whether the intervention had improved the learner's understanding and reduced the misconceptions about HIV/AIDS. Both the experimental and control groups were post-tested to compare their means. The evaluation was done on the effectiveness of the intervention used on the learning of this topic. That is the data collected during the intervention in the experimental group was analysed and compared to the data collected from the control group to find out if the drama method had made a significant difference on learners' understanding of HIV/AIDS. By comparing mean tests of the experimental and control group after the intervention, a sound conclusion was made on the impact of the drama method on learner's understanding of HIV/AIDS.

The post-intervention stage was the last stage that was done in the data collection process. The main purpose of this stage was to assess whether the objective of this research had been attained. Two research steps were undertaken in this stage, as shown in the table below.

Table 2: Post-intervention research matrix table

RESEARCH STEPS	DATA COLLECTION TECHNIQUE	DATA COLLECTED
Administered post-test.	Test questions	. Quantitative
Administered questionnaire	Likert questionnaire	Quantitative

3.8 Data Analysis

The analysis was done from the data collected through questionnaires and achievement test. Data were analysed using SPSS version 20 by first conducting normality tests followed by appropriate statistical tests involving descriptive statistics (means, medians, Standard deviations) and inferential statistics (independent samples Mann-Whitney and t-Tests).

Analysis of learners' attitude was done by first coding the questionnaire responses as shown in Table 3. This was then followed by computing the mean response for each candidate (learner) and then the overall mean.

Table 3. Coding and Interpretation of means

	Questionnaire Response	Mean Code	Interpretation of means
	Strongly Agree	4	Very positive
	Agree	3	Positive
	Disagree	2	Negative
	Strongly Disagree	1	Very negative
	Undecided	0	Neutral

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4. RESULTS

4.1 Impact of Drama Teaching Method on Learners' Understanding of HIV/AIDS.

Research question 1: What is the impact of Drama Teaching Method on grade 11 learners' understanding of HIV/AIDS?

Null hypothesis: The drama teaching method has no impact on learners' understanding of HIV/AIDS.

Tests of Normality for Pre-test Scores

The scores for the pre-test were not normally distributed, Kolmogorov-Smirnov tests showing $p < 0.001$ as in Table 4, therefore, non-parametric Mann-Whitney tests was adopted for further analysis of the scores.

Table 4. Tests of Normality for Pre-test Scores

	Kolmogorov-S mirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Pretest score %	.137	140	.000	.939	140	.000
a. Lilliefors Significance Correction						

Table 5 and figure 5 show that the median score of the Control group (29) was higher than that of the Experimental group (17.50) and so the mean (control=27.91, experimental=23.79).

Table 5. Group Statistics of the Pre-test Scores for the Experimental and Control Groups

	Group	N	Mean	Std. Deviation	Median
Pretest Score %	Experimental	70	23.79	16.825	17.50
	Control	70	27.91	16.128	29.00

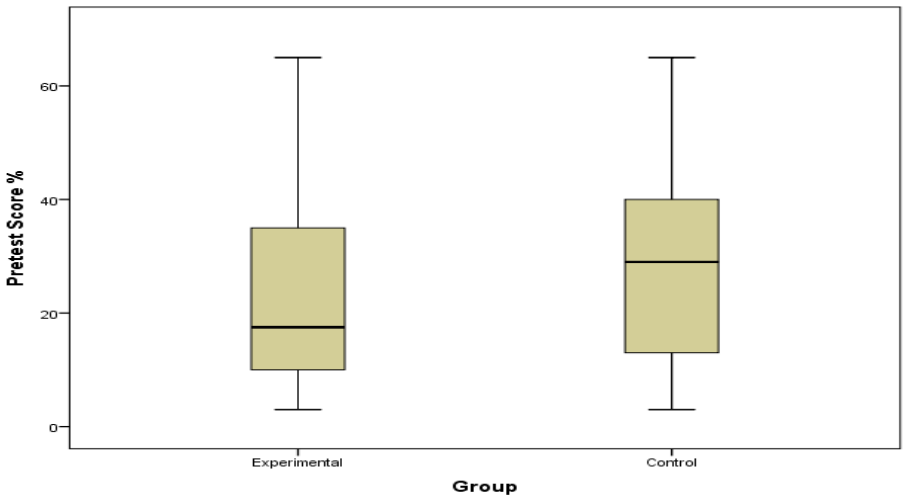

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Figure 5. Pre-test Scores of the Experimental and Control Groups

However, a Mann-Whitney U test shows that there was no significant difference between the pre-test scores of the experimental and control groups (U = 2087.500, p = .130, r = .13). Table 5 shows that the null hypothesis that the pre-test score is the same across categories of Group (Experimental and Control) was retained. This means that the groups were equal in terms of performance before the treatment.

Note: r = effect size = $\frac{z}{\sqrt{N}}$. Cohen's classification of effect sizes is 0.1 (small effect), 0.3 (moderate effect) and 0.5 and above (large effect).

Tests of Normality for Posttest Scores

The scores of the posttest were not normally distributed, the p-value for Kolmogorov-Smirnov test is shown in Table 6, for both control and experimental group. However, the scores for control group was almost normally distributed hence the control and experimental had different shapes of distribution.

Therefore, the Mann-Whitney U test was used for further analysis of the posttest scores to compare the mean ranks of the two groups.

Table 6. Tests of Normality for Post-test Scores

	Kolmogorov-Smirnov [a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Control	.093	70	.200 *	.972	70	.116
Experimental	.143	70	.001	.936	70	.001

*. This is a lower bound of the true significance.

Descriptive Statistics of Posttest Scores for Experimental and Control Groups

Table 7 and figure 6 show that the post-test mean score of the experimental group (67.83) was higher than that of the control group (43.66).

Table 7. Statistics of Posttest Scores for Experimental and Control Groups

Statistics

		Control	Experimental
N	Valid	70	70
	Missing	0	0
Mean		43.66	67.83
Median		40.00	72.00
Mode		40	80
Std. Deviation		18.422	16.435
Variance		339.359	270.115
Skewness		.311	-.870
Std. Error of Skewness		.287	.287
Kurtosis		-.366	.657
Std. Error of Kurtosis		.566	.566
Minimum		8	16
Maximum		84	100
Percentiles	25	28.00	59.00
	50	40.00	72.00
	75	56.00	80.00

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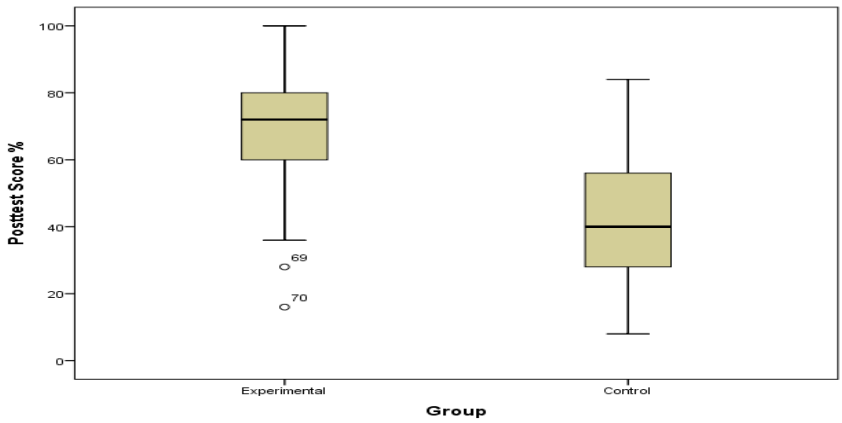

Figure 6. Post-test scores of the experimental and control groups

However, a Mann-Whitney U test shows that there was a significant difference in the distribution of the post-test scores of the experimental and control groups (U = 824.00, p < .001, r = .57). The null hypothesis that the distribution of Post-test Score % is the same across categories of Group was rejected, and a conclusion that the experimental and control groups were different after the treatment was drawn. This means that using drama method of teaching improved performance more than the conventional method of teaching.

4.2 Impact of Drama Teaching Method on Performance by Gender

Research Question 2: Is there a difference in the performance of male and female grade 11 learners taught by the Drama teaching method?

Null hypothesis: There is no difference in the performance of male and female grade 11 learners taught by the Drama teaching method.

Normality Test of Pretest Scores by Gender

Table 8 shows that the pretest scores were not normally distributed for both female and male learners, Kolmogorov-Smirnov tests showing p < 0.001. As such nonparametric tests were used for further analysis of the data.

Table 8. Tests of Normality for Pretest Scores by Gender

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pretest	.199	70	.000	.910	70	.000

a. Lilliefors Significance Correction

Descriptive Statistics of Males and Females in the pretest.

Since the shape of the distribution for male and female were almost of the same shape, the *new approach* for Mann Whitney –U test was used to compare the medians of the two groups.

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Table 9 and figure 7 show that the median scores of females (19) was higher than that of males (17.5) in the pre-test.

Table 9. Group Statistics of Males and Females in the Pretest

	Gender	N	Mean	Std. Deviation	Median
Pretest score %	Female	38	25.53	18.880	19.00
	Male	32	21.72	14.017	17.50

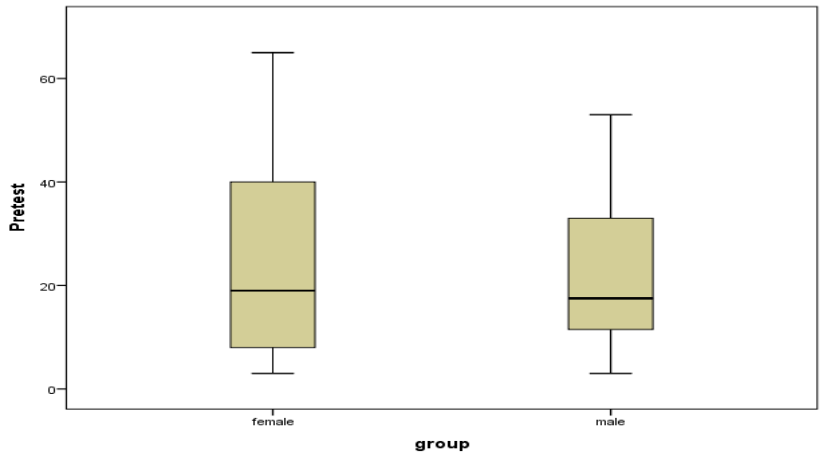

Figure 7. Pre-Test Scores of Female and Male Learners in the Experimental Group

However, there was no significant difference between the median scores of female and male learners (U = 581.00, p = .750, r = .01). The null hypothesis that the distribution of pre-test score % is the same across categories of gender is retained. This means that the groups (male and female) were equal in performance before the intervention.

Tests of Normality for Posttest Scores by Gender

The test for normality shows that the data were not normally distributed (Table 10), the p-value for the Kolmogorov-Smirnov test for male and female were (p = 0.002 and p= 0.025) respectively. Therefore, non-parametric tests were adopted for further analysis.

Table 10. Tests of Normality for posttest scores by gender

Tests of Normality

	Kolmogorov-Smirnov [a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Female	.153	38	.025	.948	38	.074
Male	.204	32	.002	.835	32	.000

a. Lilliefors Significance Correction

Descriptive Statistics of Males and Females in the Posttest

Since the shape of the distribution for male and female were different, the legacy of Mann-Whitney U test was adopted to compare the mean ranks of the two groups, male and female.

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Table 11 and figure 8 show the descriptive statistics in the posttest by gender. The mean score of females (68.11) was higher than that of males (67.50).

Table 11. Statistics of males and females in the posttest

Statistics

		Female	Male
N	Valid	38	32
	Missing	0	6
Mean		68.11	67.50
Median		70.00	72.00
Mode		80	72
Std. Deviation		16.983	16.024
Variance		288.421	256.774
Skewness		-.361	-1.656
Std. Error of Skewness		.383	.414
Kurtosis		-.683	2.956
Std. Error of Kurtosis		.750	.809
Minimum		36	16
Maximum		100	84
Percentiles	25	55.00	61.00
	50	70.00	72.00
	75	80.00	80.00

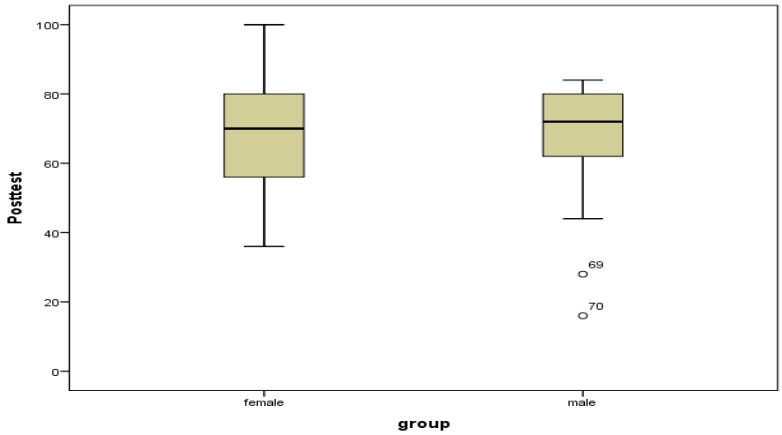

Figure 8. Post-test scores of female and male learners in the experimental group

However, the difference was not significant (U = 597.500, p = .901, r = .04). Therefore, the null hypothesis that the distribution of post-test score % is the same across categories of gender is retained. This means that the groups (male and female) were equal in terms of performance after the intervention.

4.3 Grade 11 Learners' Attitude Towards the Use of Drama Methods of Teaching

Research Question 3: What are the grade 11 learners' attitudes towards the use of Drama Method of teaching?

Null hypothesis: Grade 11 learners have a neutral attitude towards the use of Drama Method of teaching.

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Normality Distribution for Learners' Attitudes Towards the Drama Method of Learning

Learners' mean attitude scores were normally distributed, p= 0.098 for Kolmogorov- Smirnov and p = 0.091 for the Shapiro-Wilk test, as shown in Table 12. Therefore, appropriate parametric tests were used to further analyse the data.

Table 12. Tests of Normality of Mean Attitude Scores

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Mean Attitude	.097	70	.098	.970	70	.091

a. Lilliefors Significance Correction

The descriptive statistics (Table 13) shows that learners' have positive attitudes towards the use of Drama Method of teaching (M = 3.44, SD = 0.287).

Table 13. Descriptive Statistics of Learners' Mean Attitude Scores

Mean Attitude		
N	Valid	70
	Missing	0
Mean		3.44
Median		3.44
Std. Deviation		.287
Skewness		-.425
Std. Error of Skewness		.287

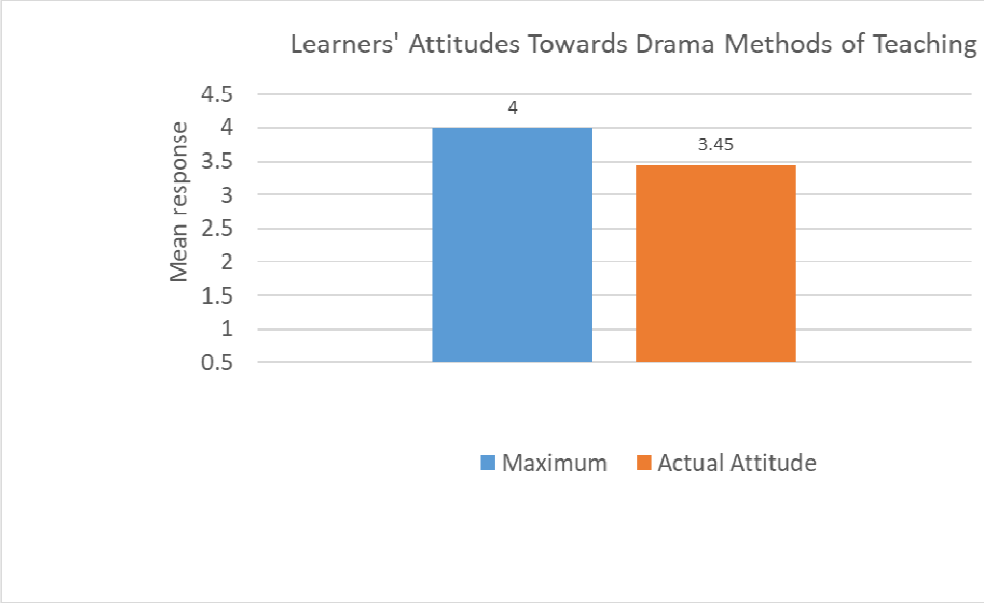

Figure 9. Learners' Attitude Scores

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Interpretation of mean attitudes: 0 – 0.5 = neutral, 0.6 – 1.5 = very negative, 1.6 – 2.5 = negative, 2.6 – 3.5 = positive and 3.6 – 4 = very positive.

4.4 Grade 11 Learners' Attitude Towards the Use of Drama Methods of Teaching by Gender

Research Question 4: Is there a significant difference between male and female grade 11 learners' attitude towards the use of drama methods of teaching?

Null hypothesis: There is no significant difference between male and female grade 11 learners' attitude towards the use of drama methods of teaching.

Descriptive Statistics of Male and Female Learners' Attitude Scores

Table 14 and Figure 10 show that the mean attitude of males (M = 3.42, SD = 0.245) was slightly lower than that of females (M = 3.46, SD = 0.320).

Table 14. Statistics of Male and Female Learners' Attitude Scores

	Gender	N	Mean	Standard Deviation
Mean Attitude	Female	38	3.46	0.320
	Male	32	3.42	0.245
	Total	70		

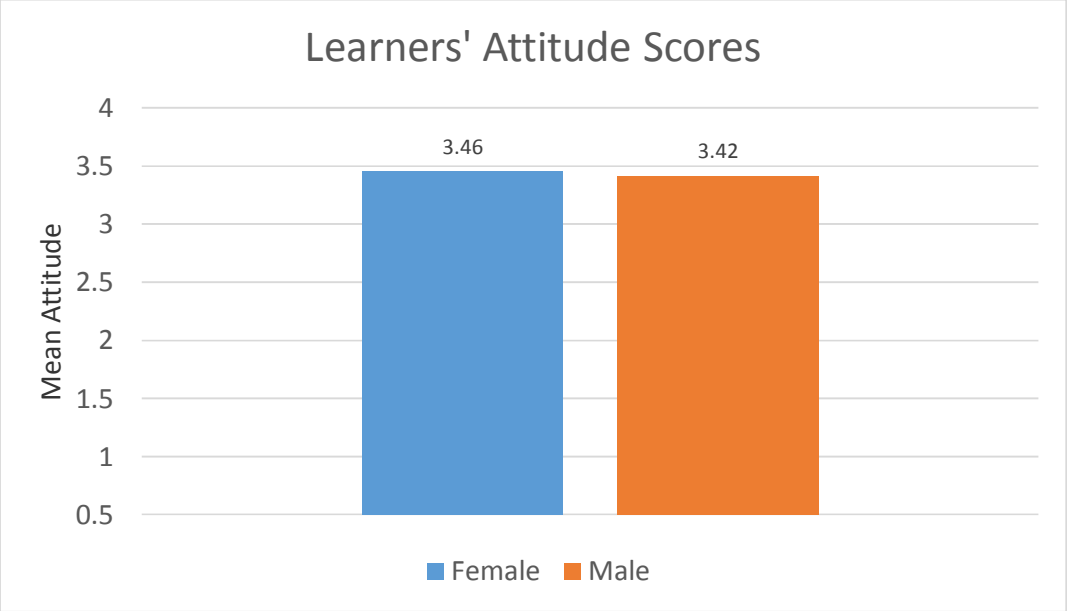

Figure 10. Learners' Attitude Scores by Gender

However, an independent samples t-test shows that there was no significant difference between the attitude of males and females [t (68) = 0.605, p = 0.548] towards the use of drama teaching methods, as shown in Table 15. This means that both male and female learners have positive attitudes towards the use of drama methods of teaching.

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Table 15. Comparison of Mean Attitude Scores by Gender

Independent Samples t-Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Mean Attitude	Equal variances assumed	2.275	.136	.605	68	.548	.042	.069	-.096	.180
	Equal variances not assumed			.618	67.470	.538	.042	.068	-.093	.177

Note: Equal variances were assumed since the Levene's test for equality of variances was not significant [F=2.275, p=0.136].

5. DISCUSSION OF FINDINGS

5.1 Impact of drama method of teaching on learners' understanding of HIV/AIDS

The study found that the drama method of teaching increased learners' performance more than conventional teaching method. This result is consistent with findings by other researchers such as Ugbe et..al (2008), Ugwu (2009) and Ogbu (2012) who concluded that students taught using innovative teaching methods record higher achievement than those taught using conventional methods. A number of reasons can be advanced for higher performance in the experimental group. For example, using drama made learners more involved in the learning process than the conventional learning methods. As such learners learned more due to their active involvement in the process as they tend to learn more when they are actively involved in the learning process than when they are less active. According to Dale (1969), by dramatising, learners are able to remember about 90% of what they learn. On the contrary, if they are passive, they can only remember 10% of what they learn. The implication for educators is that we need to use teaching methods that engage the learners more than those methods that view learners as passive recipients of knowledge. This would go a long way in improving learner performance in sciences, which has been poor in the previous years.

Another reason that could explain the significant gains by the experimental group was that learners were able to learn by cooperating with colleagues. According to Johnson and Johnson (1990) assert that for learners to be able to learn cooperatively, there is need to ensure that positive interdependence, promotive interaction, individual accountability, interpersonal skills, and group processing exist among the learners. Therefore, engagement in drama enhanced learners dependence on each other, interaction, accountability and interpersonal skills. Further, drama improved learners' communication as they engaged in some form of communication of their ideas. Further, drama enabled learners to acquire appropriate problem-solving techniques, and therefore, they were able to solve their problems better than the students in the control group. In many instances, learners were able to use their innovation and creative skills in order to enhance their learning. The acquisition of

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these skills could have resulted in more understanding and hence higher performance than their counterparts in the control group. According to Eslamian et al., (2012) cooperative nature of drama provided opportunities for higher order thinking, reinforced listening to others, and gave an opportunity for immediate feedback and adjustment of learners' thoughts.

With regard to performance by gender, the study's revelation that there was no significant difference in the performance of male and female learners means that integration of drama methods of teaching benefits both male and female learners. It follows, therefore, that if teachers adopt this teaching strategy, they will be able to address the needs of both males and females. This study reveals that the drama method offers a different perspective on science education and can be effectively used in the science classroom. Being a student-centered approach, the drama method impacts individuals' awareness of their knowledge, skills, and experiences and enables them to apply these skills in their learning by making students more active and able to solve problems by using new knowledge. The method also offers students a learning environment distinct from the conventional classroom format. Drama methods also allow for a supportive learning environment that cultivates individuals' characteristics and experiences. The method involves all group members rather than just individuals, thus enabling all students to actively participate in the learning process through self and group studies. This helps students become aware of problems, generate solutions to these problems and realise that they can find alternative solutions to problems. This method further enables students to acquire and improve information, and develop skills in applying new knowledge. Thus, using creative drama as an alternative teaching method contributes a useful new perspective to science education.

Drama method allows students to bring their own affective qualities, lifestyles, and experiences to the learning process. These activities motivated students by facilitating empathy, interest and increased attention in class. The creative drama method thus fostered an educational environment that was attractive, encouraging and interactive. In this learning process, the knowledge that wasn't acquired at a purely cognitive level went through mental processes and was evaluated by means of affective concepts. The students thus learned by experience, which enabled them to acquire knowledge more efficiently and permanently. These findings all indicate that the creative drama method can improve the students' academic achievement.

5.2 Impact of Drama on Learners' Attitudes Towards Drama and Biology

The study's findings that learners have positive attitudes to drama method of teaching and the subject biology have implications for educators and other stakeholders. Learners' interest in both the method of delivery and the subject indicate a possible link between the method of instruction and the content being delivered. It may mean that if learners like the teaching approach, they may also like the content being delivered. There also seems to be a correlation between the learners' attitude and their performance. Additionally, the study found that learners' attitudes did not differ by gender. This means that both male and female learners benefited from drama. It can thus be deduced that drama can be used to improve the learning of both boys and girls and hence address the problem of poor performance. This is important in the quest to provide equal access to quality science education to both genders.

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6. CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

The findings of the study have demonstrated that the Drama Method was pedagogically more rewarding, revealing and effective in teaching HIV/AIDS than the Conventional Method of Teaching. Therefore, the study shows that the use of the drama technique has positively impacted on learners' understanding of HIV/AIDS as determined by their achievement scores. It can be deduced that issues, concepts, and concerns of HIV/AIDS were better understood by the use of drama than the conventional method. The drama method has proved to be useful and effective in imparting knowledge, skills, values, and attitudes regarding HIV/AIDS than the lecture method. Among the reasons advanced for this impact are; learners are engaged in the learning process and hence learn and remember more, learners are motivated to learn, increased problem solving and innovation skills as a result of engaging in drama, presence of peer teaching/learning as well as monitoring own learning, opportunity to evaluate own learning, improved communication and social skill among others. It should be noted that the conventional learning methods do not provide opportunities for the above benefits on the part of learners.

6.2 Recommendations

Based on the findings of the study, the following recommendations were made for various stakeholders;

The Curriculum Development Centre (CDC) should include drama methods as one of the recommended techniques of teaching in schools and other learning institutions. However, teachers would need to be trained on the effective use of drama as a technique for teaching specific subject areas.

Teachers and other educators should integrate the drama method in place of other non-effective methods such as the lecture method in teaching students.

Teacher education institutions should get their trainers acquainted with the process drama technique, making use of it for teaching their student-teachers through group activities especially in the Biology classes.

The Ministries of General and Higher Education should train or re-train school teachers in the adoption and use of the drama method.

Researchers should engage in further studies to demonstrate the effective use and impact of drama methods in specific subject areas and at different grade levels.

The Biology teachers should always have positive outlook about Biology or any other science subject no matter how abstract or difficult the topic is. Learners usually have high regard for their teachers, therefore what they say and do is taken seriously by pupils. The teacher can either break or destroy the learners with the words.

Heads of various departments especially Science department must closely monitor teachers to ensure that they use effective teaching methods. Teachers should engage in motivating the learners in order to improve their performances.

Over-enrolment in schools makes it difficult to manage the classes especially for learner-centred lessons. It is strongly recommended that government finds lasting solutions to this ever growing problem.

During group discussion, the teacher should ensure that introverts are put to be leaders representatives of the group. Teachers doing research on drama learning should make sure that the lessons are well planned and supervised to ensure equal participation of the members in the groups

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because the learning can be dominated by pupils who are talkative and the shy ones might be at risk. Therefore, drama learning calls for a lot of creativity in the way lesson are to be structured.

Teachers should not be at the same school for the long time because they get too familiar with the environment and stop redelivering good services. After a period of time they should be moved to a new environment so that they have new challenges, therefore, the head of departments should ensure that their members of department are flexible to adapt to changes.

Lastly, the upcoming researcher should consider the number of pupils in each group, mixing of pupils (boys and girls) and identifying the slow and fast learners so that they can be mixed in groups.

Note

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