

**EFFECTIVENESS OF TEACHING METHODS ON ENVIRONMENTAL
HYGIENE PRACTICE AMONG ALMAJIRAI IN TSANGAYA IN KANO
MUNICIPAL LOCAL GOVERNMENT AREA, KANO STATE, NIGERIA**

BY:

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ABSTRACT

This study was carried out to determine the effectiveness of demonstration, discussion and recitation teaching methods on environmental hygiene practice among almajirai in tsangaya in Kano Municipal LGA, Kano State, Nigeria. Pre-test post-test control quasi experimental design was adopted for the study. The population of almajirai in this study was 117,688, a sample of 200 participants was drawn from four tsangaya schools in Kano Municipal LGA using multi-stage sampling procedure. A self-developed questionnaire named Almajirai's Environmental Hygiene Practice Questionnaire (AEHPQ) was used as instrument for data collection and a reliability index of 0.85 was obtained using split-half method. Two hundred (200) questionnaires were administered at pre-test while 198 were administered at post-test after 6 weeks treatment protocol to almajirai using demonstration, discussion and recitation teaching methods to almajirai in experimental groups and placebo to those in the control group. Lessons on environmental hygiene was taught to almajirai in experimental groups using demonstration, discussion and recitation methods; and lesson on HIV/AIDS was taught to control group using lecture method. Mean and standard deviation scores were used to answer the research question and Analysis of Covariance (ANCOVA)

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was used to test the null hypothesis. Alpha level of 0.05 was used as criterion for retaining or rejecting null hypotheses. The findings of this study revealed that demonstration teaching method is the most effective method in eliciting positive environmental hygiene practice among almajirai in tsangaya in Kano Municipal, LGA of Kano state, Nigeria. Based on the findings of this study, it was concluded that six weeks treatment protocols using demonstration teaching method is very effective in improving environmental hygiene practice among almajirai than discussion and recitation teaching methods. It was therefore recommended among others that practical ways and strategies of observing personal, environmental and food hygiene should be demonstrated and emphasized to almajirai in tsangaya to make the lesson workable in order to illicit positive change in their hygienic behaviour.

Key words: Almajirai, demonstration, discussion, environmental, hygiene, Kano, practice, methods, municipal, recitation, teaching, tsangaya

Introduction

To impart knowledge that will bring positive change on environmental hygiene practice, the health educator should identify effective teaching methods and prepare communication materials that will suit the learner's need so that positive knowledge and behaviour will be imparted to promote good hygiene practices (Rezei, Seydi & Alizadeh, 2004). According to Ogundele (2002), teaching methods are ways or patterns by which teaching could be made meaningful to the learner. He further explained that it is a way by which children could acquire knowledge that could lead to positive change in attitude and behaviour. Hygiene education messages can be communicated in different ways such as demonstration method, lecture method, discussion, recitation, posters, drama, storytelling, mass media, and home visits. Gilley (2004) explained demonstration teaching method as a method which provides visual explanation of the subject matter. Discussion teaching method according to Ademuwagun, Ajala, Oke, Moronkola and Jegede (2002) makes opportunity for positive

involvement of students in teaching process. Meanwhile, recitation teaching method is a traditional method of that is useful in developing cognitive abilities (Arroway, 2009).

Sjoberg and Errickson (2010) stated that there is no single method that is always effective. However, teaching methods to be used in promoting hygiene practices should be those that will strengthen and empower individuals and community to work for change. In a study conducted by Owie and Osayande (2010) on students' perception of teaching methods appropriate for teaching environmental health education in secondary schools in Edo State, it was revealed by the findings of the study that students ranked methods of health education intervention in order of preference as follows: demonstration, field trip, lecture, incidental teaching, experimental, project and audio-visual methods. The results also revealed that the rating of the use of audio-visual and project method as the least preferred teaching method to the use of demonstration, field trip, and lecture method is noted with the increase

concern and interest. This finding is opposite to the belief that audio-visual method would have been the most preferred teaching method by the students, but demonstration and field trip methods help to teach environmental courses because students have to visit sites of the areas and demonstrate ability to understand what they have seen. And most of the contents are better taught through demonstration method, field trip and lecture method.

Iguda (2007) defined almajirai as young pupils who pursue Qur'anic education under tsangaya system. However, tsangaya is an institution or school where the holy Qur'an is taught on a boarding basis to both children and adults (Iguda, 2007). The almajirai in tsangaya lives in poor conditions and unhygienic environment with no government support. They also have little or no access to medical care as offered to students in formal schools (Abdulmalik, 2011). Furthermore, they are basically taught from the holy Quran and Hadith in the tsangaya using the same method (recitation and memorization).

Kano-Municipal Local Government is located in Kano-Central Senatorial Zone of Kano State. Statistical data showed that there is an estimate of 481 tsangaya and 117,688 almajirai in this local government. Majority of the almajirai in Kano Municipal are within the ages of 10-16 years living in different political wards and settlements (Kano State Government [KNSG], 2009).

The behaviour and practices of these almajirai are guided by the holy Quran and the dictate of the Hadith. Islamic education through Quran and Hadith encourages hygiene practices. The Quran and Hadith in many of their verses specifically stated that cleanliness and hygiene are parts of the basic requirements to worship God (Quran, 2:2; 6:31, Al-nawawi, 119:798). It is therefore, expected that these almajirai should be seen observing environmental hygiene and cleanliness all the time. Unfortunately, this seems not to be the case based on personal observation of the researcher. The contradiction between the teaching of the holy Quran and Hadith and the practice of almajirai with respect to keeping environmental hygiene constitute a problem to the

society. It is against this background that this study is conducted to determine the effectiveness of demonstration, discussion and recitation teaching methods on environmental hygiene practice of hygiene among almajirai in tsangaya in Kano Municipal, Kano State-Nigeria.

Research Question:

Which is the most effective teaching method among demonstration, discussion and recitation in eliciting positive change on environmental hygiene practice of almajirai in tsangaya in Kano Municipal Local Government Area?

Hypothesis

The following null hypothesis was tested:

Ho: Demonstration, discussion and recitation teaching methods do not have significant effect on environmental hygiene practice among almajirai in tsangaya in Kano Municipal.

Methodology

Research Design

Pre-test – post-test – control group quasi experimental design was adopted

for this study. According to Sambo (2005), in pre-test – post-test control group quasi experimental design, subjects are randomly assigned to experimental and control groups. He further stated that the control group in this type of design is use for comparison with intervention groups at both pre-test and post-test. The purpose of using this design in this study was to compare the three experimental groups with a control group in order to determine the effectiveness of each teaching method on environmental hygiene practice among almajirai in tsangaya in Kano Municipal local government of Kano State.

Population and Sample

The population of tsangaya in Kano Municipal Local Government were 481 while that of almajirai were 117,688 respectively (KNSG, 2009). A total of 200 almajirai were drawn as sample for this study using multi-stage sampling procedure. According to Ekeh (2003); Njodi and Bwala (2004) multi-stage sampling procedure is a method of selecting sample which is carried out in stages and usually

involves more than one sampling method. Njodi and Bwala further stated that in a large and diverse study population, sampling may be done in two or more stages.

Research Instrument

A 41-item self-developed validated questionnaire comprising two sections was used as instrument for data collection in this study. The questionnaire was named Almajirai's Environmental Hygiene Practice Questionnaire (AEHPQ). Section A of the instrument sought demographic information of the respondents while Section B sought information on environmental hygiene practice.

To determine the content and face validity of the instrument, five (5) copies of the questionnaire were given to five (5) professional experts in Health Education in the Department of Physical and Health Education, University of Maiduguri. Their corrections, observations and comments were incorporated in the final draft of the questionnaire. To ascertain the reliability of the instrument, a pilot study was

conducted by the researcher using twenty (20) almajirai from a tsangaya in Nassarawa local government of Kano State. Split-half reliability method was employed to test the reliability of the research instrument. The data collected were subjected to a statistical test using Spearman Brown Prophecy Formula and a reliability index of 0.85 was obtained.

Procedure for Data Collection

Prior to the administration of the questionnaire, the researcher went to the tsangayas drawn as sample for the study and sought for the consent of the Mallams to use the almajirai in their tsangaya as respondents. Four research assistants, one from each tsangaya trained by the researcher assisted the researcher in data collection.

Fifty almajirai each from the same tsangaya were assigned to four groups, three (3) experimental (demonstration, discussion and recitation) groups and one control group through balloting. After assigning almajirai into these groups, a questionnaire was administered to them to assess their environmental hygiene practice.

During the treatment protocol, lessons were conducted to almajirai by the researcher with the help of research assistants using different teaching methods (demonstration, discussion and recitation teaching methods) for the three experimental groups and health talk on HIV/AIDS in form of placebo to the control group over a period of six (6) weeks. Koundiya and Martin (2011) supported the idea that health education teaching methods can be effective for six weeks and above. For the control group, a health talk on HIV/AIDS in form of placebo was conducted for six weeks. Revision of all that have been taught in six weeks was conducted in week seven.

After six weeks treatment protocol using different teaching methods to teach the almajirai, the same questionnaire given at pre-test was also given to them to assess the effectiveness of the treatment protocol on their environmental hygiene practice at post-test.

Method of Data Analysis

Mean and standard deviation were used to answer the research question. Analysis of Covariance (ANCOVA)

was used to test the hypothesis. Where significant difference exist, LSD Post-hoc comparison was used to locate where the difference lie. A probability level of 0.05 was used as a criterion for either retaining or rejecting the null hypotheses.

Results

Research Question: Which is the most effective teaching method among demonstration, discussion and recitation methods on environmental hygiene practice among almajirai in tsangaya in Kano Municipal Local Government Area?

Table 1: Results Summary of Mean and Standard Deviation Scores on Effectiveness of Demonstration, Discussion and Recitation Teaching Methods on Environmental Hygiene Practice:

| Group | Pre-test | | Post-test | |
|-------------------------------|----------|------------|-----------|------------|
| | N | M± S.D | N | M± S.D |
| Demonstration Teaching Method | 50 | 13.96±2.02 | 50 | 18.64±0.69 |
| Discussion Teaching Method | 50 | 13.02±0.43 | 50 | 13.74±3.28 |
| Recitation Teaching Method | 50 | 13.20±1.71 | 47 | 13.15±2.05 |
| Control | 50 | 13.12±0.63 | 48 | 13.06±0.56 |

The results of pretest on environmental hygiene practice among almajirai taught using demonstration, discussion and recitation teaching methods; and those in the control group are 13.96±2.02, 13.02±0.43, 13.20±1.71 and 13.12±0.63 respectively. The post-test results showed that almajirai taught using demonstration teaching method has the highest mean score (18.64±0.69), followed by those taught using discussion teaching method with a score of 13.74±3.28, followed by recitation teaching method with a score of 13.15±2.05, then the control group with a score of 13.15±2.05. This implied that there was much positive change on environmental hygiene practice among almajirai taught using demonstration teaching method above discussion and recitation teaching methods. Hence, demonstration teaching method

is the most effective method in eliciting positive change on personal hygiene practice among almajirai in tsangaya in Kano Municipal.

Hypothesis: Demonstration, discussion and recitation teaching methods do not have significant effect on environmental hygiene practice among almajirai in tsangaya in Kano Municipal.

Table 2 is a summary result of ANCOVA comparing effectiveness of demonstration, discussion and recitation teaching methods; and the control group on environmental hygiene practice among almajirai in tsangaya in Kano Municipal.

Table 2: Summary Results of ANCOVA on the Most Effective Teaching Method among Demonstration, Discussion and Recitation on Environmental Hygiene Practice:

| Source | Type III Sum of Squares | df | Mean Square | F | P-value |
|-----------------|-------------------------|-----|-------------|---------|---------|
| Pre-test | .002 | 1 | .002 | .001 | .969 |
| Post | 1004.702 | 3 | 334.901 | 208.125 | .000 |
| Error | 305.736 | 190 | 1.609 | | |
| Total | 45276.000 | 195 | | | |
| Corrected Total | 1310.954 | 194 | | | |

Table 2 revealed no significant difference in effectiveness of environmental hygiene practice among experimental groups (almajirai taught using demonstration, discussion and recitation teaching methods) and the control group in the pre-test. This signifies that the groups were equivalent at the commencement of the experiment. However, the results indicate significant difference in the effectiveness of environmental hygiene practice among almajirai taught using demonstration, discussion and recitation teaching methods, and those in the control group in the post-test. This finding has provided basis for rejecting the null hypothesis.

The table showed that P value is .000 which is less than α value (0.05). This signifies that demonstration, discussion and recitation teaching methods were significantly effective in eliciting positive change on environmental hygiene practice among almajirai in tsangaya in Kano Municipal.

Considering the significant difference that exist in effectiveness of experimental groups and the control group on environmental hygiene practice on Table 2, LSD Post-hoc comparison was conducted to locate where significant difference lies. The results were presented on Table 3.

Table 3: LSD Post-hoc Analysis on Effectiveness of Demonstration, Discussion and Recitation Teaching Method on Environment Hygiene Practices

| (I) Group | (J) Group | Mean Difference (I-J) | S.E | Sig ^a |
|-------------------------------|-------------------------------|-----------------------|------|------------------|
| Demonstration Teaching Method | Discussion Teaching Method | 5.621* | .256 | .000 |
| | Recitation Teaching Method | 5.405* | .259 | .000 |
| | Control | 3.579* | .261 | .000 |
| Discussion Teaching Method | Demonstration Teaching Method | -5.621* | .256 | .000 |
| | Recitation Teaching Method | -.216 | .265 | .415 |
| | Control | -2.042* | .257 | .000 |
| Recitation Teaching Method | Demonstration Teaching Method | -5.405* | .259 | .000 |
| | Discussion Teaching Method | .216 | .265 | .415 |
| | Control | -1.825* | .272 | .000 |
| Control | Demonstration Teaching Method | -3.579* | .261 | .000 |
| | Discussion Teaching Method | 2.042* | .257 | .000 |
| | Recitation Teaching Method | 1.825* | .272 | .000 |

LSD Post – hoc comparison on Table 3 indicates that there was a significant difference in the effectiveness of: demonstration and discussion teaching methods; demonstration and recitation teaching methods; and control group and the three experimental groups (demonstration, discussion and recitation teaching methods) ($P < 0.05$). Moreover, demonstration teaching method was significantly effective above discussion and recitation teaching methods and the control group in eliciting positive change on environmental hygiene practice of almajirai.

Discussion

This study compared the effectiveness of demonstration, discussion and recitation teaching methods on environmental hygiene practice among almajirai in tsangaya in Kano Municipal, Local Government Area, Nigeria.

The finding of this study revealed that demonstration was significantly effective in eliciting positive change on environmental hygiene practice among almajirai in tsangaya in Kano Municipal. This finding is in conformity with the findings of (Miner, Das & Gale, 1984; Stewart-Wingfield & Black, 2005; Dorestani, 2005). These findings indicated a significant effect in practice of secondary school students as a result of environmental health education programme since more children in the experimental schools adopted regular environmental health behaviour such as routine cleanliness of toilet, bathroom and the surrounding to reduce the risk of spread of germs as compared to children in control schools. The effect was in accordance with other studies which has reported significant effect

on environmental and sanitation education behaviour (Sogand & Holst, 1988; Buishi, Axelsson & Oliver, 1994; Wendeni, Lambri & Heldeman, 2002). A study conducted by Owie and Osayande (2010) on students' perception of teaching methods appropriate for teaching environmental health education in secondary schools in Edo State was not consistent with this study, it was revealed by the findings of the study that lecture method was significantly effective in changing the environmental hygiene practice, while other methods such as demonstration, recitation and discussion were not significantly effective in eliciting this positive change.

Summary

This study compared the effectiveness of demonstration, discussion and recitation teaching methods on environmental hygiene practice among almajirai in tsangaya in Kano Municipal, Nigeria. The study was guided by one hypothesis. The study was delimited to almajirai within the ages of 11-16 years in four tsangaya in Kano Municipal LGA of Kano State.

Pre-test post-test control group quasi-experimental design was used in this study. The population comprised of almajirai in tsangaya in Kano Municipal Local Government Area of Kano State, Nigeria. A sample of 200 respondents was selected using multi-stage sampling procedure. The four tsangaya drawn as sample were randomly assigned to four groups (three experimental groups), namely; demonstration method, discussion method and recitation method; and one control group using simple ballot. Fifty (50) almajirai were also drawn as sample from each of the four groups using simple ballot.

Subjects were pretested using 41-item self-developed validated questionnaire and 0.85 was obtained as reliability index. Subjects in the three experimental groups received 30 minutes intervention protocols using demonstration, discussion and recitation teaching methods for six weeks while those in the control group received a health talk (placebo) on HIV/AIDS for six weeks. Mean and standard deviation scores were used to answer the research questions and Analysis of Covariance (ANCOVA) was used to test all the null

test hypotheses. Alpha level of 0.05 was used as a criterion for either rejecting or retaining the null hypotheses.

The results of the findings of this study revealed that demonstration teaching method was significantly effective in eliciting positive change on environmental hygiene practice of almajirai in tsangaya. It was also revealed that discussion and recitation teaching methods were not significantly in eliciting positive change on environmental hygiene practice of almajirai in tsangaya

Conclusion

Based on the findings of this study, it was concluded that six weeks treatment protocols in the study using demonstration teaching method was effective in eliciting positive change on environmental hygiene practice among almajirai in tsangaya. However, discussion and recitation teaching methods were not effective in eliciting positive change on environmental hygiene practice.

Recommendations

Based on the findings and conclusion of this study, the following recommendations were made:- Curriculum planners, including health education teachers should emphasize the use of demonstration teaching method when teaching almajirai concept of environmental hygiene, which was proved effective by the findings of this study in eliciting positive change in practice with regard to environmental hygiene.

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