Pupils' Attitude to Basic Science: The Influence of Folklore Play-Way on Primary School Children in Ondo State

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ABSTRACT

The role of folklore play-way in this modern era of science education has been relegated, if not in extinction. With educational problems becoming more diverse and complex, the world now realizes that to deal with some of the challenges at hand which are created by modern-type western education, there is need to tap from and utilize folklore play-way of the indigenous people. Based on this premise, this study investigated the influence of folklore play-way Method (FPWM) and traditional lecture method (TLM) on attitudes of children towards Basic science. Two interlinked methods; the phenomenological and Quasi experimental pretest-posttest control group design was used by the researchers to carry out the study. Primary two pupils obtained from the intact classes of the two selected primary schools in Ondo west local government area of Ondo State participated in the study. A validated instrument named Pupils' Basic Science Attitude Scale (PBSAS) with a reliability coefficient of 0.85 was the main instrument used to collect data for the study. Descriptive statistics and Analysis of covariance was used to analyze the data collected. The results of this study indicated that there was a significant main effect of methods on attitudes of children using FPWM and TLM, ($F = 110.036$, $p < .05$). There was no significant main effect of gender on children's attitude ($F = 0.603$, $p > .05$). Furthermore, there was a significant interaction effect of gender and methods on pupils' attitude ($F = 59.5$, $p < .05$) towards Basic science. The study recommended that folklore song-dance play-way needs to be resuscitated at the primary school level and that curriculum planners should incorporate the usage of folklore song-dance play-way method as part of the approved methods of teaching Basic science in the primary schools.

Keywords: Basic-science, Folklore play-way, Pupils Attitude, Primary school, Pupils.

INTRODUCTION

The scope of early childhood education is gradually shifting beyond modern-type western education pedagogy: it entails a lot more than educating the children exclusively in the modern-type western education. The paradigm shift which reflects in the assertion that early childhood care and education support children's survival, growth, development and learning from birth to age of eight years necessitates collaboration between the modern-type western education and the folklore play-way aspects of cultural production and social sustenance. Hence, early childhood education is the bedrock of the educational continuum (Ojo & Famakinwa & Akinrotimi 2021) and it requires a solid foundation in science, if a nation is to be regarded as advanced nation. Iroegbu (2006) defined early childhood education as that education given to children between ages 0-8. Nevertheless, Maduewesi (1999) pointed out that whatever happens at this critical period carries maximum weight and that includes the type of learning experienced during the pre-school period. Ajayi (2009) stated that efforts must begin early in the life of Nigerian learners (at early childhood level) when fifty percent of the capability to learn would have been formed and not later. Children's attitudes could be fostered very early in life as corroborated by Ojo & Oloyede (2025) stated that development of positive attitudes of children to science must begin in earnest as in spite of the importance of science, the attitude of children to science has continued to decline.

Moreover, many studies have examined several factors that contributed to negative attitude of children towards

Basic science as inappropriate instructional strategies, instructional materials, shortage of Basic science teachers, lack of teaching and learning materials and equipment among other factors. However, none of this study was able to narrow down their investigation to the folklore play-way aspect of contemporary culture. Whereas the folklore play-way aspect of contemporary culture is closer to the children than the modern-type western education whose culture is alien to the child of Africa and Nigeria in particular. Hence, this study is undertaken to answer these salient issues. The role of science in this modern era of technology is wide and profound, while the importance of scientific knowledge in boosting national prestige, military might, national income and international rating of the country are the gains of scientifically advanced nations. Aydoğdu (2006) stated that because of its importance, all societies, and particularly developed countries, have continuously sought to improve the quality of science education. Hence, Famakinwa & Bello (2014) stated that it should form the basis for development and influencing factor of peoples' thinking and working processes. However, the role of folklore play-way in this modern era of science has been relegated to the background, if not in extinction. With educational, health and environmental problems becoming more diverse and complex every day, the world now realize and try to tap from and utilize folklore play-way in order to deal with some of the challenges at hand which are created by the international knowledge system called "Western" system. For instance, many communities teach their children, folklore play-way related to the development of positive attitude. Most of these knowledge and skills (folklore play-way) have been passed down from earlier generations. Therefore, prominence must be given to folklore play-way in science education in schools at the early stage. Famakinwa,

Ojo, Owojori, Oloyede & Onyeka (2018) stated that recognition of diverse traditions of creativity is an essential component of keeping knowledge systems alive. Since creativity has diverse expressions, science ought to incorporate folklore in science. Moreso, folklore play-way has gone into extinction in the modern Eurocentric philosophy of education called civilization among young children.

Famakinwa et al (2018) posited that indigenous knowledge facilitates the learning of science, provide active involvement of children, develop sense of personal responsibility in self-learning, increase permanence of learning, as well as gaining of investigative attitudes and methods. Despite the importance of science, there are a number of observable problems plaguing the teaching and learning of the subject, especially at the lower primary school level. To solve these problems, Basic science educators have designed some methods over the years to curb the problem of negative attitude towards the subject. However, none has ascribed the negative attitude of children towards science subjects to none usage of folklore play-way experience of the children's immediate environment.

Nevertheless, due to wrong use of methods by teachers, the children may feel in-differently and incapable of participating fully in class activities. This suggests that for children to experience success in school, they require appropriate intervention that will enhance their positive attitude towards Basic science during classroom activities. While, one of the objectives of Basic science education curriculum requires teachers to be aware of and apply different teaching methods in order to enhance children attitude. Therefore, to effectively achieve this objective, teachers must adopt folklore play-way method that would improve children's attitude to Basic science. Therefore, teachers need to adopt appropriate methods that would boost children's interest. The methods that teachers are to adopt are methods that possess attributes that encourage experience of the children in their environment irrespective of the gender or sex. Therefore, to effectively achieve this object, teachers should adopt and use folklore song-dance play-way method that would improve attitudes of children to Basic science. However, there is still a paucity of literature specifically on the folklore play-way method in the early childhood context.

Gender is an important one in science education, especially with increasing emphasis on ways of boosting work force for scientific development as well as increasing the population of females in science fields. In Nigeria, and perhaps the whole of Africa, gender bias is still very prevalent (Arigbabu & Mji, 2004). The issue of gender and gender stereotyping permeates every aspect of human endeavour. Many researches provide reports that there is no longer distinguishing difference in the affective skill of children in respect of gender. However, Croxford (2002) and Kolawole (2007) in their studies observed that male children performed better than female children in the affective skills. Therefore, there is a strong association between gender and attitudes to science education.

The use of effective instructional methods is germane in the teaching-learning of young children especially in science for the development of the right attitude and academic success. Researches have showed that many teachers have not been using effective methods, it is therefore, assumed that if folklore play-way method is engaged at the primary schools, the children might be able to develop positive attitudes that could be useful in their present and future endeavours in science or science related subjects as little or nothing has been done, especially in Nigeria to explore folklore song-dance play-way method in the teaching and learning of Basic science. There is urgent need to learn, preserve and adopt folklore song-dance play-way method for preservation, continuity and in enhancing pupils' Basic-science attitudes and the extent with this interfere with pupils' gender, all call for investigations, hence this study.

Purpose Of The Study

This study aims at investigating the influence of folklore song-dance play-way method on lower primary school pupil's attitudes towards Basic science. The specific objectives of the study are to:

1. determine the effectiveness of folklore song-dance play-way method on primary school children's attitude towards Basic science;

2. examine the effectiveness of gender on primary school children's attitude towards Basic science and © examine the interaction effect of gender and methods on primary school children's attitude towards Basic science in the study area.

Hypotheses

Based on the objectives of the study, the following hypotheses were generated for this study:

1. There is no significant effectiveness of folklore song-dance play-way method and traditional lecture method on primary school children's attitude towards Basic science.

2. There is no significant effectiveness of gender on primary school children's attitude towards Basic science.

3. There is no significant interaction effect of gender and methods on attitude towards Basic science in the study area.

METHODOLOGY

This study adopted two interlinked methods, the ethnography and non-equivalent pretest, posttest control group quasi-experimental research designs. Ethnography method is a paradigm that grapples with the people's interests in folklore song-dance play practices with seeing a behaviour (folklore song-dance) as the adherents see them, rather than imposing any sort of external value judgement. To do this, the firsthand information was generated from the indigenous people of Ondo on scientific folklore song-dance-play. Quasi-experimental design is a non-equivalent pretest, posttest, control group design that ensures measurements are taken before and after the introduction of the intervention. The pretest helped to ascertain the homogenous knowledge of learners before the intervention. All public secondary schools in Ondo West Local Government Area constituted the population of the study. Purposive sampling method was used to select primary two pupils because they are part of lower primary schools and was perceived to be able to digest very well the folklore-dance and songs adopted in this study. Eight (8) public primary schools were randomly selected in the study area; a test was conducted on primary two pupils and two (primary two pupils) schools with close average scores were selected and assigned into experimental and conventional group. The experimental group was taught using folklore songdance play-way method (FPWM*)* and the conventional group was taught using traditional lecture method (TLM). Two selected Basic-science topics were Water and Light and the pupils were taught for four weeks. A validated researcher-made instrument named Pupils' Basic Science Attitude Scale (PBSAS*)* was used for the study. Prior to the intervention*,* a pilot test was conducted and the data was subjected to statistical analysis using inter-rater scale

with a reliability coefficient of 0.85. The instrument was administered before the commencement of the intervention to determine the pre-test and at the end of the treatment as post-test.

RESULTS AND DISCUSSION

To test the hypotheses, the data were analysed using analysis of covariance and the results were presented according to hypotheses generated for the study.

Hypothesis One: There is no significant effectiveness of folklore song-dance play-way and traditional lecture methods on primary school children's attitude towards Basic science.

To determine whether there is a significant effectiveness of folklore song-dance play-way method on primary school children's attitude towards Basic science. The posttest scores of the children's attitudes in the two groups were subjected to descriptive analysis and analysis of covariance. The result of the analysis is shown in Table 1 below:

Table 1: ANCOVA test of between-subject effectiveness of the two methods on children's attitude to Basic science

Source of Variation	Sum of Squares	df	Mean Square	F	Sig. of F	Effect Size
Covariate (Pre-attitude)	9.910	1	9.910	0.230	0.634	0.005
Main Effect	4733.666	1	4733.666	110.036	0.000*	0.710
Model	4750.046	2	2375.023	55.200	0.000	0.710
Residual (Error)	1935.870	45	43.000	—	—	—

Total 135026.00048 *Significant at p< .05

Results showed in Table 1 indicates that there is significant effectiveness of folklore song-dance playway method on primary school children's attitude towards Basic science, ($F = 110.036$, $p < 0.05$). Therefore, hypothesis one is rejected and upheld that there is significant effectiveness of folklore song-dance play-way method on primary school children's attitude towards Basic science.

The result shown in Table 2 below indicates the descriptive statistics of mean of attitudes scores of the two groups

Table 2: Descriptive statistics of attitudes of children in Basic Science

Groups	Number of Cases	Mean	Std. Deviation
Group 1 (FPWM)	25	61.2	2.96
Group 2 (TLM)	23	41.3	8.88

The result showed in Table 2 above indicates that there was significant effectiveness in the posttest mean scores of children exposed to FPWM ($\bar{x} = 61.2$) and those exposed to TLM ($\bar{x} = 41.3$). Therefore, the pair of interventions (FPWM and TLM) contributed significantly to the attitudes of children to Basic science. The result further indicates that the children exposed to FPWM group obtained higher attitudes mean scores ($\bar{x} = 61.2$) than those exposed to TLM group ($\bar{x} = 41.3$). This finding is represented in decreasing order of positive attitudes as:

FPWM > TLM.

Hypothesis Two: There is no significant effectiveness of gender on primary school children's attitude toward Basic science.

To determine whether there is a significant effectiveness in the attitude of male and female children taught Basic science using folklore song-dance play-way and traditional lecture methods. The posttest scores of attitudes of children in the two groups were subjected to analysis of covariance. The results of the analysis is shown in Table 3.

Table 3: ANCOVA test of gender on primary school children's attitude toward Basic science.

Source of Variation	Sum of Squares	df	Mean Square	F	Sig. of F	Effect Size
Covariate (Pre-attitude)	20.900	1	20.900	0.143	0.707	0.003
Main Effect (Gender)	88.300	1	88.300	0.603	0.441*	0.013
Model	104.634	2	52.317	0.358	0.701	0.016
Residual (Error)	6581.282	45	146.251	—	—	—
Total	135026.000	48	—	—	—	—

*Not significant at p> .05

Results showed in Table 3 indicates that there is no significant effectiveness of gender on primary school children's attitude toward Basic science, (F = .603, p > 0.05). Therefore, hypothesis two is not rejected but upheld that there is no significant effectiveness of gender on primary school children's attitude toward Basic science. This result is not significant at 0.05 alpha level.

Hypothesis Three: There is no significant interaction effect of gender and methods on primary school children's attitude towards Basic science in the study area.

To determine whether there is a significant interaction effect of gender and methods on primary school children's attitude towards Basic Science. The posttest scores of attitudes of gender (male and female) in the two groups were subjected to analysis of covariance. The results of analyses are shown in Table 4 below:

Table 4: ANCOVA test of interaction effect of gender and methods on primary school children's attitude towards Basic science

Source of Variation	Sum of Squares	df	Mean Square	F	Sig. of F	Effect Size
Covariate (Pre-attitude)	24.500	1	24.500	0.604	0.441	0.014
Main Interaction Effect (Gender × Methods)	4834.950	2	2417.475	59.500	0.000*	0.735
Model	4939.584	4	1234.896	30.400	0.000	0.739
Residual (Error)	1746.333	43	40.600	—	—	—
Total	135026.000	48	—	—	—	—

*Significant at p< .05

Result showed in Table 4 above indicates that there is a significant main interaction effect in the performance of gender and methods on Basic science using folklore song-dance play-way and traditional lecture methods (F = 59.5, $p > 0.05$). Therefore, hypothesis three is rejected and upheld that there is a significant interaction effect of gender and methods on primary school children's attitude in Basic science.

DISCUSSION

From the result that shows a significant effectiveness of folklore song-dance play-way method on primary school children's attitude towards Basic science connotes that the folklore song-dance-play-way method enhances the development of Pupils' attitude to learning Basic science. This could be as a result of the real-life immediate experiences through the method that motivate and bolster the interest of the children during teaching-learning process as well as the children realizing that recognition is given to what they already know, sing and dance in their own community. Furthermore, the result also revealed that there is no significant effectiveness of gender on primary school children's attitude toward Basic science, meaning that the development of positive attitudes to Basic science through the use of folklore song-dance play-way method is not limited to a particular gender. Thirdly, the result that there is a significant interaction effect of gender and methods on primary school children's attitude in Basic science shows that there is a significant main interaction effect in the performance of gender and methods on Basic science using folklore song-dance play-way and traditional lecture methods. This connotes that the use folklore as a teaching method could be use on both males and female pupils in enhancing the attitudes of pupils towards learning Basic science. This study is in tandem with the work of Ikumapayi (2023) who posited that the purpose of utilizing cultural activities in the teaching process is to instinct a long-lasting experience into the learner and Salami & Oyaremi (2012) who revealed in their study that Yoruba indigenous child's play can be used to preserve our culture, support in the intellectual development of the pupils, enhance language acquisition and vocabulary development of pupils, enhance the refinement and development of pupil's confidence and competence which are indices of attitudinal skills towards learning some subjects especially Basic-science.

CONCLUSION

The study concludes that folklore song-dance play-way method can contribute immensely to the positive attitude of Nigerian pupils towards Basic science as long as value and a modicum of respect accorded to them. Therefore, there is need to embrace folklore song-dance play-way in the teaching and learning of young children in the pre and primary schools. Moreso, folklore song-dance play-way method has the potential in motivating, raising interest, and promoting a sense of self-consciousness in pupils and therefore enhances the learning process of Basic science education in Nigeria.

RECOMMENDATION

Based on the findings of this study, we therefore recommend that folklore song-dance play-way needs to be resuscitated at the primary school level. The Governments in co-operation with higher educational institutions of learning should extend the utilization and application of the folklore song-dance play-way for human resources development and curriculum planners should incorporate the usage of folklore song-dance play-way method as part of the approved methods of teaching Basic science in the primary schools. According to Falodun (2011) in Ikumapayi (2023) who recommended there is a need to revive the appreciation and practice of traditional cultures that are facing the prospect of total elimination and are still outside the formal school curriculum. The National Policy on Education (Federal Republic of Nigeria 2013) stressed and advocated curricular development, which is Nigerian in orientation, and can promote an appreciation of Nigerian culture.

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