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EFFECT OF EDUTAINMENT VIDEOS ON LITERACY SKILLS ACQUISITION AMONG PRESCHOOL CHILDREN. IMPLICATIONS FOR UPDATING CHILDREN'S AUDIO-VISUAL LIBRARY

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Abstract

The need for the use of edutainment videos in the teaching and learning of preschool children cannot be overstated. This study therefore examined the effect of edutainment videos on literacy skills acquisition among preschool children. Implication for updating children's audio-visual library. Two research questions and three hypotheses guided the study. The study adopted the non-equivalent pretest posttest quasi-experimental research design. The study population comprised all the nursery three preschool children in Nsukka LGA for the 2021/2022 academic year. A sample of 95 preschool children drawn through judgmental sampling technique were studied. The Literacy Skills Acquisition Test (LSAT) was the instrument used for data collection. Data obtained were analyzed using mean and standard deviation to answer the research questions while analysis of covariance (ANCOVA) was used in obtaining the results for testing the null hypotheses at 0.05 level of significance. The findings showed that edutainment videos had significant positive effect ($p < 0.05$) on literacy skills acquisition among preschool children in Nsukka LGA of Enugu State. It also revealed that gender has no significant influence ($p > 0.05$) on literacy skills acquisition among preschool children in the LGA. It further showed that there is no significant interaction effect ($p > 0.05$) of teaching approaches and gender on the mean literacy skills scores of preschool children. Based on these results, it was therefore recommended among others, that teachers should use edutainment videos in teaching preschool children in order to enhance their acquisition of literacy skills.

Keywords: Audio-visual Library, Children, Edutainment videos, Literacy skills Preschool.

Introduction

The foundation for the growth and empowerment of every nation is education, which is a process that involves teaching and learning. It develops individuals' character and is essential for transmitting and sustaining a person's culture, beliefs, and values throughout society. Education aids in the development of innovations and the satisfaction of every country's emerging needs. The human resources that a country develops through a well-defined educational system can be used to measure the progress of that country to some extent (Saliu, Gambari, Adeyeye, & Morufu, 2020). Thus, a country can rarely develop without a high-quality education system. So, education is very important if you want to make sure that future generations have the skills, they need to take care of themselves in all areas of personal and social growth.

Generally, for proper human development, childhood years and experiences are very critical and cannot be undermined in the lives of everybody. Thus, preschool is advanced as a means for systematically exposing children to learning experiences that meet their developmental needs and prepare them for meaningful life and future academic endeavour. Ibiam and Ugwu (2009) defined preschool as an early childhood education designed to help children develop habits, attitudes, and skills needed for primary education. The Federal Republic of Nigeria, in its National Policy on Education (FRN, 2013), also defined preschool as the type of education designed for children between the ages of 0–4 years in an early childhood care centre or nursery. This means that preschool is the type of education that is provided for children that forms the basis for their formal education.

In line with the above, Okoh (2012) asserted that preschool is the basis upon which the entire educational experience of an individual is built, and its quality determines the degree of success to be achieved. Perhaps this is why Bamidele and Faremi (2013) noted that the quality of education and opportunities offered to children at preschool are essential to their lives. It could therefore be deduced that the future academic success of every individual is largely determined by their preschool learning experiences.

Due to the importance of preschool, the Federal Republic of Nigeria, in its National Policy on Education (FRN, 2013), considers the level of education crucial and states its objectives to include: facilitating a smooth transition of a child from the home to the school; preparing the child for the primary level of education; providing adequate care and supervision for the children while their parents are at work; and inculcating social norms in children. Others are to inculcate in the

child the spirit of enquiry and creativity through exploration of nature, the environment, art, music, and playing with toys, and also to develop in children a sense of co-operation and team spirit. They also include: inculcating good habits, especially good health habits; and teaching the rudiments of numbers, letters, colours, shapes, and forms, among others, through play. Apparently, these objectives show that pre-school gives children the opportunity to acquire literacy skills upon which subsequent academic experiences are maximized.

Literacy skills refer to children's ability to encode or decode written symbols, which may be letters of the alphabet or numbers. They need to be able to read, count, and write letters and numbers, among other symbols (Odinko, 2005). According to Oden, Ekpo-Eloma, and Iyorza (2009), "the inculcation of literacy skills such as recitation of rhymes, counting, reading, drawing, and identification of letters, figures, or objects among preschool children is fundamental to their academic success and progress. Preschool children therefore denote children within the ages of 3-5 who are yet to be enrolled in primary school. This category of children, according to Afolabi, Afolabi, and Adedapo (2008) are found in creches, nursery, and kindergarten classes where they are expected to acquire literacy skills in their early life. Due to their tender ages, they are difficult to teach or handle unless through edutainment, such as the use of edutainment videos. This is because children may learn best in a pleasant or fun-filled learning environment.

Edutainment, as noted above, can be seen as an integration of educational content and elements of entertainment. As defined by Gros (2003), edutainment is the type of teaching and learning (education) that is placed within the framework of entertainment. Therefore, one could presume that the ideal teaching and learning approach for young people, like preschool children, is through the use of edutainment videos. Gamble (2007) defined edutainment videos as those audio-visual electronic devices that are used to educate children on numbers and numeracy, colors, drawing, the alphabet, literacy, and vocabulary. They are also viewed as audio or audio-visual electronic media that combine education and entertainment (Bowes, 2015). This assertion adds credence to Pour (2006), who noted that edutainment videos are characterized by an electronic medium where learning and entertainment occur simultaneously. Such videos include ABC Mouse, Barney and Friends, Teletubbies, Sesame Street, Dora the Explorer, Bob the Builder, Wonder Pets, Daniel the Tiger's Neighborhood, Noddy and Thomas the Tank Engine, and Poochy Choo Choo, among others (Gamble, 2007; Nwahiri, 2019). With these edutainment videos,

children can learn while having fun, which enhances their learning and has the capacity to boost their literacy skills.

For instance, the ABC Mouse video enables children to enjoy and learn the alphabet and other basic literacy skills. Likewise, a video and television show called Barney and Friends aims to educate children between the ages of 1 and 8 on literacy skills. It also has a purple dinosaur who sings educational songs. Through the use of appealing colours and opportunities for toddlers to mimic words spoken on television, Teletubbies aims to improve children's cognitive understanding and vocabulary. Children are also introduced to ideas like literacy, numeracy, and social and practical skills through Sesame Street (Gamble, 2007). These techniques, as noted by Inyang-Abia (2011), are persuasive and can enliven and impart literacy skills in children while entertaining them. In essence, the major purpose of using edutainment videos is therefore to increase children's learning enjoyment and efficiency in the acquisition of relevant learning skills. So, in the context of this study, edutainment videos can be thought of as audiovisual electronic media that teach preschoolers how to read and write while also making them feel good or happy about learning these skills.

Edutainment videos draw learners' attention using brightly colored animations, captivating sounds, and interactive pieces of software designed to engage and inspire them by fusing instructional content with fun elements that can enhance their literacy abilities and interest in learning (Tuzun, 2004). As observed by Amory (2007), videos help to promote learning as they enable learners to visualize the subject matter while feeling excited and acquiring the desired knowledge and skills. According to the author, children are motivated to learn through edutainment videos, which can help them improve their knowledge of literacy and numeracy. The videos can be utilized as a tool for enhancing instruction among children both within and outside of the classroom (Michael & Wyk, 2011). So, there are many claims that digital or electronic devices like audio and video content can help children learn better than the traditional way (Discombe, 2016; Mustafaoglu, Zireck, and Razak, 2018; Ngwoke, Ezema, and Nwachukwu, 2021).

Research has also shown that the use of sound, images, texts, and animation in some multimedia or educational cartoons typically captures children's interests and helps them learn better (Sinor, 2011). This could be accomplished through a variety of edutainment media, including videos, videos, and television shows. Doring (2002), on the other hand, said that edutainment videos can help kids relax, think creatively, and learn, but they must be carefully

chosen, watched, and supervised. These edutainment videos can easily be found in the children's audio-visual library that well equipped to cater for children learning needs. The Audiovisual Library provides a wide range of audiovisual resources, equipment and services to enhance the quality of teaching and learning activities of the students.

One factor that may, however, influence children's acquisition of literacy skills according to literature is their gender. According to Akani (2009), gender refers to a social and cultural construct that specifies the qualities, behaviour, and roles that different societies ascribe to females and males. These differences could manifest in their learning. Previous reports are, however, conflicting. For instance, Nancollis, Lawrie, and Dodd (2005) in their study reported that at the start of school, 70% of females were able to name letters, compared to 62% of boys, and 32% of girls were able to connect letters to sounds, as opposed to 26% of boys. This implies that gender potentially influences the acquisition of literacy skills. This is unlike the report that gender was not a significant determinant in preschool children's reading performance, according to the study by Vlachos and Papadimitriou (2015). This means that gender needs to be studied more in order to get a clear picture of how it affects things.

It is imperative to note that in spite of the potential positive contribution of edutainment videos to children's learning, they are rarely used in Nigerian classrooms and at home. There is also a paucity of empirical literature on the effect of edutainment videos on the acquisition of literacy skills by preschool children in Nigeria, especially in Nsukka LGA of Enugu State. The researchers were motivated to investigate this topic because there was a gap in the literature. The study objectives include determining the:

1. mean literacy skills scores of preschool children exposed to edutainment videos and those not exposed to such;
2. influence of gender on the mean literacy skills scores of preschool children;
3. interaction effect of teaching approaches and gender on the mean literacy skills scores of preschool children.

Research Questions

The following research questions were posed to guide the study.

1. What are the mean literacy skills scores of preschool children exposed to edutainment videos and those not exposed to such?
2. What is the influence of gender on the mean literacy skills scores of preschool children?

Hypotheses

The following hypotheses were formulated in the study and were tested at .05 level of significance.

H_{O1}: There is no significant difference between the mean literacy skills scores of preschool children exposed to edutainment videos and those not exposed to such.

H_{O2}: There is no significant influence of gender on the mean literacy skills scores of preschool children.

H_{O3}: There is no significant interaction effect of teaching approaches and gender on the mean literacy skills scores of preschool children.

Method

The non-equivalent control group pretest-posttest quasi-experimental research design was adopted for the study, which was conducted in the Nsukka Local Government Area (LGA) of Enugu State, Nigeria. The study population comprised all the nursery three in public primary schools in the LGA for the 2021–2022 academic year. The nursery three preschool children were chosen because they were at an age where the acquisition of literacy skills is profound as they prepare to transit to the primary level of education. The sample of the study was made up of 95 (43 males and 52 females) nursery three preschoolers, in four intact classes, who were not homogeneous in terms of literacy skills. They were drawn from four different schools for the study through a judgmental sampling technique. The use of intact classes was to avoid disruption of normal school activities in the schools involved in the study. The conditions for selecting a school were that the school had at least: 1) one functional television set and video player; 2) a source of power or electricity; 3) a qualified teacher with a minimum qualification of Nigerian Certificate in Education (NCE) in Early Childhood Education and three years of teaching experience; and 4) that the school authorities were willing to permit the involvement of the preschool children and the use of the school facilities for the study. Only one stream of the nursery three intact classes was selected in each of the four sampled schools, and the entire class was consequently used for the study. Two of the four intact classes selected in two different schools were randomly assigned to the experimental group, while the other two intact classes in two other schools were randomly assigned to the control group .

The Literacy Skills Acquisition Test (LSAT) developed by the researchers was used for data collection. The test had five short-answer items (I-V) as follows: I.) Recite the alphabets; II.)

Spell any three of three letter words; III.) Recite one short poem; IV.) Name three common fruits, and V.) Name three colours. Each of the test items attracted a total score of 10 marks for a correct answer and 5 marks for partially correct answers. The LSAT and the Edutainment videos (The ABC Mouse developed by EDTECH Nigeria, 2019; and Barney and Friends, 2018 "Let's Play School" by The Barney company) contained on a DVD were validated by five experts, one in educational technology, two in early childhood education, one in measurement and evaluation unit, and one in educational psychology, all from the University of Nigeria, Nsukka. The research instrument (LSAT) was later trial-tested twice on 22 nursery three preschoolers in one nursery intact class at Kids' Quest Academy in Enugu, which was not among those used for the actual study but met the criteria for the study. The obtained data were used to estimate the instrument's test-retest reliability using the Pearson's product moment correlation technique, yielding a reliability coefficient of 0.87. This reliability index showed that the instrument was reliable for the study.

Procedure

The researchers visited the sampled schools, introduced themselves to the school authorities, and sought permission to conduct the study using the schools. The school authorities provided the researchers with informed consent and approval before the experiment began, and this was done following proper consultation with the parents of the children, who also gave their consent for the participation of their children in the study through the school authorities. Upon granting permission, the researchers recruited regular classroom teachers in the four sampled nursery schools as research assistants. The research assistants for the experimental group were oriented on the use of two edutainment videos (The ABC Mouse and the Barney and Friends) by playing and watching the videos, while their counterparts in the control group were to follow their usual way of teaching using the lesson content in the two videos. The teachers in both the experimental and control groups were well-trained on how to collect data using the research instrument. The investigation lasted a total of six weeks. In the first week, LSAT was administered to the study sample as a pre-test to gauge their literacy skills before the start of the experiment. This enabled the teachers to examine the preschoolers' level of acquisition of literacy skills. After that, both the experimental and control groups participated in the experiment for a total of four (4) weeks, including revision. The ABC Mouse and the Barney and Friends videos given to the research assistants for the experimental group were used as the treatment package, while the

control group received instruction using the standard chalkboard teaching method. Each session of instruction was carried out during regular school hours, adhering to the four-week schedule of 30 minutes for each session. Both sets of instructions for the two groups had the same content, precise objectives, duration, and evaluation. The same LSAT was re-administered in the sixth week as a post-test in order to assess how the various interventions affected the preschoolers' acquisition of literacy skills. The items were reshuffled. The same teacher also examined the pupils both at pretest and post-test.

Data Analysis

The data collected from the pretest and posttest were subjected statistical analysis. To answer the research questions, the data were analyzed using mean and standard deviations, and the hypotheses were tested using analysis of covariance (ANCOVA) at a 0.05 level of significance.

Results

In accordance with the research questions that were posed and the null hypotheses postulated for this study, the results from the analysis of the data obtained from the study are reported in the tables below.

Research Question One: What are the mean literacy skills scores of preschool children exposed to edutainment videos and those not exposed to such?

Table 1: **Pretest and Post-test mean literacy skills scores of preschool children exposed to edutainment videos and those not exposed to such**

Instructional Approaches		**Pretest**		**Posttest**		
	N	$\bar{X}$	**SD**	$\bar{X}$	**SD**	**Mean Difference**
Exposed to edutainment videos	48	20.10	3.50	41.04	4.94	20.94
Not exposed to edutainment videos	47	20.11	3.83	22.02	3.24	1.91

The result in Table 1 shows that preschool children who were exposed to edutainment videos (experimental group) had mean literacy skills score of ($\bar{X}$ = 20.10, SD = 3.50) at pretest, and a mean of ($\bar{X}$ = 41.04, SD = 4.94) at posttest, while their counterparts who were not exposed to the videos (control group) had mean literacy skills score of ($\bar{X}$ = 20.11, SD = 3.83) at pretest and a mean of ($\bar{X}$ = 22.02, SD = 3.24) at posttest. The mean difference of 20.94 and 1.91 obtained for preschoolers that were exposed to edutainment videos (experimental group), and those not

exposed to such videos (control group) respectively, implies that edutainment videos effectively increased preschool children's acquisition of literacy skills.

Hypothesis One

H_{O1}: There is no significant difference between the mean literacy skills scores of preschool children exposed to edutainment videos and those not exposed to such.

Table 2: Analysis of Covariance (ANCOVA) of the effect of edutainment videos on acquisition of literacy skills among preschool children.

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Decision
Corrected Model	9135.060	4	2283.765	189.080	.000	.894	
Intercept	1034.963	1	1034.963	85.688	.000	.488	
Pretest	518.033	1	518.033	42.890	.000	.323	
Approaches	8502.014	1	8502.014	703.909	.000	.887	S
Gender	18.928	1	18.928	1.567	.214	.017	NS
Approaches * Gender	.021	1	.021	.002	.967	.000	NS
Error	1087.045	90	12.078				
Total	105275.000	95					
Corrected Total	10222.105	94					

Note: S = Significant, NS = Not Significant

Result in Table 2 shows that the effect of edutainment videos on acquisition of literacy skills among preschool children was significant ($F(1, 95) = 703.909$, $p < .05$, $\eta^2_p = .887$). This is because the associated probability value of .000 is less than 0.05 level of significance at which the hypothesis was tested. For this reason, the null hypothesis was therefore rejected because the result reveals that there is a significant difference between the mean literacy skills scores of preschool children exposed to edutainment videos and those not exposed to such. Furthermore, the effect size of ($\eta^2_p = .887$), indicates that 88.7 percent variance in preschool children's acquisition of literacy skills is accounted for by the use of edutainment videos. Hence, the conclusion drawn is that there is a significant positive effect of edutainment videos on the acquisition of literacy skills among preschool children in Nsukka LGA of Enugu State.

Research Question Two:

What is the influence of gender on the mean literacy skills scores of preschool children?

Table 3: **Pretest and Post-test** mean literacy skills scores of male and female preschool children

Gender		Pretest		Posttest		
	N	$\bar{X}$	SD	$\bar{X}$	SD	Mean Difference
Male	43	20.23	3.61	32.33	10.31	12.10
Female	52	20.00	3.71	31.06	10.59	11.06

The result in Table 3 shows that male preschool children had mean literacy skills score of ($\bar{X}$= 20.23, SD = 3.61) at pretest and a mean of ($\bar{X}$ = 32.33, SD = 10.31) at posttest, while their female counterparts had mean literacy skills score of ($\bar{X}$= 20.00, SD = 3.71) at pretest and a mean of ($\bar{X}$ = 31.06, SD = 10.59) at posttest. The mean difference of 12.10 and 11.06 for male and female preschool children respectively, shows that the male preschool children demonstrated a slightly higher mean literacy skills than their female counterparts.

Hypothesis Two

H_{O2}: There is no significant influence of gender on the mean literacy skills scores of preschool children.

Result in Table 2 also shows that the influence of gender on the mean literacy skills score of preschool children was not statistically significant ($F(1, 95) = 1.567$, $p > .05$, $\eta^2_p = .017$). This is due to the fact that the associated probability value of .214 is greater than 0.05 level of significance at which the null hypothesis was tested. Consequently, the null hypothesis was not rejected. Therefore, the conclusion drawn is that gender does not have a significant influence on the acquisition of literacy skills among preschool children.

Hypothesis Three

H_{O3}: There is no significant interaction effect of teaching approaches and gender on the mean literacy skills scores of preschool children.

Result in Table 2 also indicate that the interaction effect of teaching approaches and gender on the mean literacy skills scores of preschool children was not statistically significant ($F(1, 95) = .002$, $p > .05$, $\eta^2_p = .000$). This is given the fact that the associated probability value of .967 was greater than .05 level of significance at which the null hypothesis was tested. Thus, the null hypothesis was not rejected. Therefore, it is concluded that there is no significant interaction effect of teaching approaches and gender on the mean literacy skills scores of preschool children. This

is evident as the lines drawn against teaching approaches and gender (male and female) do not intercept at any point as depicted by the graph below.

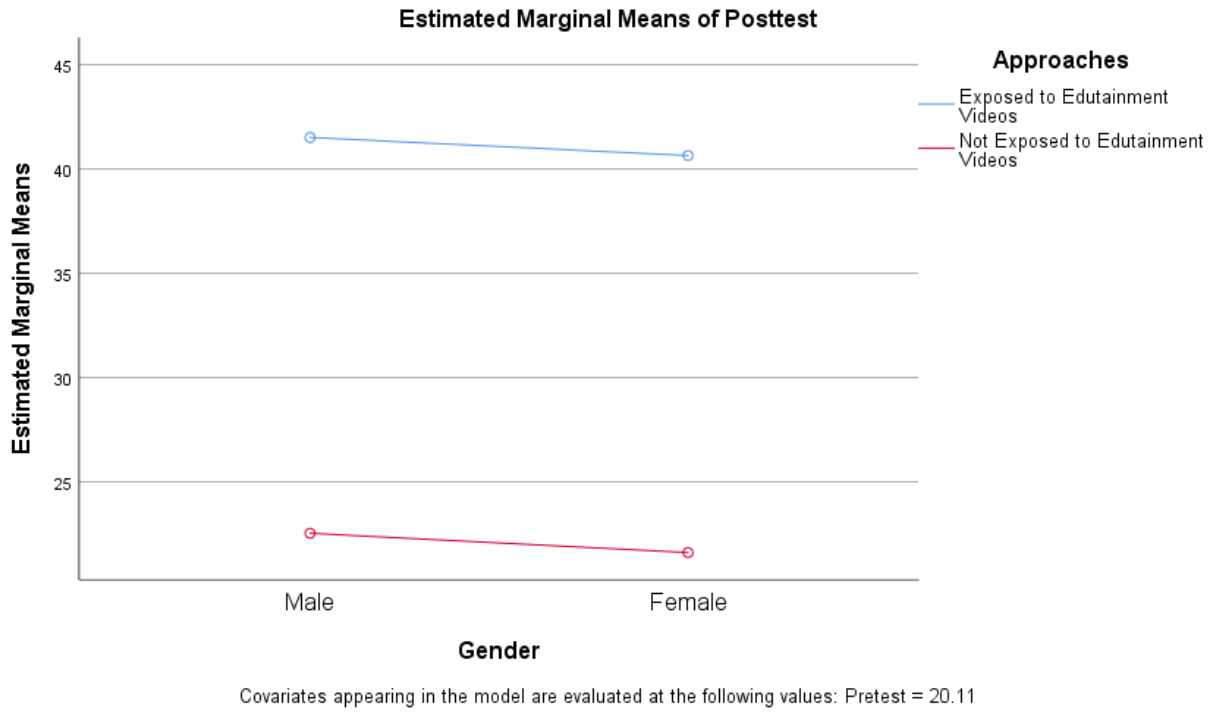

Fig. 1: Graph showing the interaction effect of teaching approaches and gender on the mean literacy skills scores of preschool children

Figure 1 shows parallel lines on the graph, which illustrates that there is no interaction effect of teaching approaches and gender on the mean literacy skills scores of preschool children. Also, the marginal means for preschool children that were exposed to edutainment videos was about 42 while that of those not exposed to such videos was about 23 irrespective of the preschoolers' gender. These are indications that there is no interaction effect of teaching approaches and gender on the mean literacy skills scores of preschool children.

Discussions

This study mainly examined the effect of edutainment videos on the acquisition of literacy skills among preschool children in Nsukka LGA of Enugu state. The findings of the study show that edutainment videos effectively increase preschool children's acquisition of literacy skills. It was further uncovered that there is a significant positive effect of edutainment videos on the acquisition of literacy skills among preschool children in Nsukka LGA of Enugu State. This means that edutainment videos have the potential to boost the acquisition of literacy skills among

preschool children. This could be because edutainment videos draw learners' attention through brightly colored animations, captivating sounds, and interactive pieces of software designed to engage and inspire them by fusing instructional content (Tuzun, 2004). In the same vein, Amory (2007) noted that videos enable learners to visualize the subject matter while feeling excited and acquiring the desired knowledge and skills. This is also corroborated by Sinor (2011), who revealed that the use of sound, images, texts, and animation in some multimedia or educational cartoons typically captures children's interests and helps them learn better. Furthermore, the finding lends support to some researchers (Discombe, 2016; Mustafaoglu, Zireck, and Razak, 2018; Ngwoke, Ezema, and Nwachukwu, 2021) who disclosed that digital or electronic devices like audio and video content can help children learn better than the traditional way. By implication, edutainment videos can help to promote children's acquisition of literacy skills more than the conventional way of teaching children.

The findings of the study also revealed that the male preschool children demonstrated slightly higher mean literacy skills than their female counterparts. However, the results further revealed that gender does not have a significant influence on the acquisition of literacy skills among preschool children. This shows that gender is not a significant factor in determining preschoolers' acquisition of literacy skills. This finding is inconsistent with Nancollis, Lawrie, and Dodd (2005), who in their study, reported that female preschool children did better in naming letters, connecting letters to sounds, and other literacy skills than their female counterparts. The findings, however, agree with Vlachos and Papadimitriou's (2015) report that gender was not a significant determinant in preschool children's reading performance. This means that both male and female preschool children have similar chances in their acquisition of literacy skills.

Conclusion, Recommendations and Implication for Updating Children's Library.

Based on the findings, the researchers conclude that edutainment videos have a significant positive effect on the acquisition of literacy skills among preschool children in Nsukka LGA of Enugu state. It was also concluded that gender is not a significant factor in preschoolers' acquisition of literacy skills. Based on the findings, the researchers recommended that edutainment videos should be employed by teachers in teaching preschool children literacy skills; and that school administrators should provide the necessary facilities that will enable the use of edutainment videos in teaching preschoolers.

It is also recommended that children's library should be equipped with audio-visual resources that will enhance teaching and learning, as well as improve children's literary skill acquisition.

Ethical consideration statement

The study's conduct was approved by the University of Nigeria's research ethics committee. Participants were also given informed consent forms to sign prior to data collection.

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