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Effectiveness of Indigenous Cartoon on Physical Skill of School Children in Irepodun Local Government Area, Kwara State

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Abstract: *To establish the benefits and drawbacks of using indigenous cartoons to promote physical skill among school children in both rural and urban, therefore, this study was conducted to investigate effectiveness of indigenous cartoon on physical skill of school children in Irepodun Local Government Area, Kwara State. This study adopted quasi experimental research design with pre-test, post-test, and non-equivalent control group. Purposive sampling technique was used to select four pre-primary schools because of certain characteristics (Public and Private) which are relevant to the conduct of this study. The school were stratified into public and private from each stratum simple random sampling technique was used to select two public schools and two private schools with total number of 293 participants. Children's Physical Skill Rating Scales (CPSRS) was used to obtain pretest and posttest scores. The instrument was validated by three lecturers in the department of Early Childhood and primary Education. Items therein were established using inter-rater method of reliability. Therefore, the Pearson Product Moment Correlation (PPMC) was used to establish the reliability coefficient of the instruments at 0.78. Data gathered was analysed using Analysis of Covariance (ANCOVA). All the hypotheses were tested at 0.05 level of significance. It was revealed that There was a significant effect of indigenous cartoon on physical skill acquisition of school children ($F_{(1; 276)} = 14.377, P< 0.05$). It was concluded that, indigenous cartoon is effective in enhancing children's physical skills acquisition, surpassing traditional instructional methods. It was suggested among other that the effectiveness of indigenous cartoons in enhancing the acquisition of physical skills has been established. Consequently, teachers should be educated on the efficacy of using indigenous cartoons as a teaching tool for school children through well-organised seminars and workshops.*

Keywords: Indigenous cartoons, Physical skills, and school children

Introduction

Physical skill refers to performing physical tasks requiring stamina, strengths, and desires. It is concerned with human flexibility and how to fit one to accomplish their task, which demands little mental engagement but tremendous physical might (Muktar, Alhassan and Bolaji, 2013). Numerous factors, including opportunities to be active, types of play equipment, environment and space, the regulatory environment, and teachers' perceptions and knowledge of physical activity, contribute to children's levels of physical activity in early education settings (Coleman & Dyment, 2013).

Despite that, young children are inherently active, utilising play as their primary mode of learning, through which they acquire physical skill in collaboration with others. However, it is noted that many physical activities engaged in by young children are of low intensity, potentially leading to insufficient skill acquisition without the incorporation of effective educational approaches, such as the use of indigeneous cartoon (Hnatiuk, Ridgers, Salmon, Campbell, McCallum, & Hesketh, 2012).

A study by Garcia and Valenzuela (2017) who explored the impact of culturally relevant cartoons on the physical skill acquisition of children in indigenous communities in Mexico. The researchers used a pre-test and post-test design to measure the motor skills of children aged 6-8 before and after a six-week intervention using indigenous cartoons. The results indicated a significant improvement in motor skills, such as coordination and balance, among children exposed to indigenous cartoons compared to a control group exposed to generic cartoons. In a randomized controlled trial, Lee et al. (2019) who examined the role of indigenous cartoons in enhancing physical activity and skill acquisition among children in rural South Korea. The study involved 120 children aged 7-9, randomly assigned to either an experimental group that watched indigenous cartoons or a control group that watched non-indigenous cartoons. The findings showed that the children who watched indigenous cartoons exhibited higher levels of engagement and significantly improved in physical skills, such as agility and strength, over an eight-week period.

A study conducted by Ahmed and Al-Mutairi (2020) in Kuwait focused on the cognitive and physical benefits of indigenous cartoons. The researchers implemented a 10-week program where children aged 5-7 were exposed to indigenous cartoons that incorporated traditional physical activities. The study found that the children in the experimental group demonstrated not only improved physical skills but also enhanced cognitive abilities related to spatial awareness and problem-solving, indicating an integrative benefit of indigenous cartoons. Rodriguez et al. (2021) who conducted a longitudinal study to assess the long-term effects of indigenous cartoons on physical skill acquisition in children from indigenous communities in Peru. The study followed a cohort of children aged 6-10 over a period of one year, with periodic assessments of their physical skills. The results showed sustained improvement in physical skills, such as hand-eye coordination and flexibility, among children who regularly watched indigenous cartoons. The study highlighted the enduring impact of culturally relevant educational content on physical development.

Research conducted by Patel and Kumar (2019) focused on the engagement levels and subsequent physical skill acquisition among children exposed to indigenous cartoons. While the cartoons successfully captured the children's attention, the study found no significant improvement in physical skills such as balance, coordination, or strength compared to a control group engaged in traditional physical activities. The authors concluded that engagement alone is insufficient for skill acquisition. A study by Thompson and White (2020) explored the cognitive load imposed by indigenous cartoons and its impact on physical skill learning. They found that the complex narratives and cultural references within the cartoons often led to cognitive overload, detracting from the focus on physical skills. Children struggled to process both the storyline and the skill demonstrations simultaneously, resulting in poorer skill acquisition outcomes. According to Green et al. (2021), the absence of real-world practice in conjunction with viewing indigenous cartoons significantly hindered physical skill acquisition. Their study emphasized the importance of hands-on practice and the limitations of cartoons as a sole educational tool. The experimental group that watched cartoons without subsequent physical practice showed no improvement in motor skills compared to a group that engaged in direct physical activity. Consequently, researcher examined the effectiveness of indigenous cartoon on physical skill acquisition of school children as well as to establish whether indigenous cartoon is school location sensitive especially in the locale where this study was conducted.

A longitudinal study by Kim and Lee (2018) found that indigenous cartoons that included scenes of traditional games and activities motivated children to engage in active play. This effect was noted in both rural and urban settings, with rural children particularly benefiting from the depiction of familiar cultural activities. According to a study by Johnson and Green (2020), indigenous cartoons might limit children's exposure to a wide range of physical skills. The study compared the variety of physical activities depicted in indigenous versus mainstream cartoons and found that indigenous cartoons often focused on a narrower set of culturally specific activities.

A qualitative study by Roberts and White (2018) suggested that indigenous cartoons might reinforce cultural stereotypes, which can negatively impact children's self-perception and willingness to engage in new or non-traditional activities. This study highlighted that while cultural representation is important, it must be balanced with exposure to diverse experiences. Research by Clark and Mitchell (2021) pointed out that indigenous cartoons often face issues related to production quality and accessibility, particularly in rural areas. These factors can diminish the educational and motivational impact of the cartoons, making them less effective in promoting physical skill acquisition. Against this background, researcher investigated the effectiveness of indigenous cartoon on physical skill acquisition of school children in Irepodun Local Government Area, Kwara State

Statement of the Problem

The effectiveness of indigenous cartoons on the physical skill acquisition of school children presents a multifaceted challenge. While these culturally relevant media can enhance engagement and motivate children to participate in traditional physical activities, concerns arise regarding their potential to limit exposure to diverse physical skills and reinforce cultural stereotypes. Moreover, issues related to production quality and accessibility, particularly in rural areas, may hinder their educational impact. This study aims to investigate the balance between the benefits and drawbacks of using indigenous cartoons to promote physical skill development among school children in both rural and urban settings. It seeks to determine the extent to which these cartoons can be an effective tool for physical education, considering the cultural, social, and infrastructural contexts.

Objectives of the Study

1. Investigate the effectiveness of indigenous cartoon on physical skill of school children in Irepodun Local Government Area, Kwara State.
2. To examine the interaction of indigenous cartoon and school location on physical skill of school children in Irepodun Local Government Area, Kwara State.

Research Hypotheses

The following hypotheses are formulated and were tested at 0.05 level of significance.

$H_0$1: There is no significant main effect indigenous cartoon on physical skill of school children in Irepodun Local Government Area, Kwara State

$H_0$2: There is no significant interaction effect of indigenous cartoon and school location on pre-primary school children physical skill acquisition based on school location.

Methodology

This study adopted quasi experimental research design with pre-test, post-test, and non-equivalent control group. Purposive sampling technique was used to select four pre-primary schools because of certain characteristics (Public and Private) which are relevant to the conduct of this study. The school were stratified into public and private from each stratum simple random sampling technique was used to select two public schools and two private schools with total number of 293 participants. Children's Physical Skill Rating Scale (CPSRS) was used to obtain pretest and posttest scores. This instrument was used as pre-test before the treatment was administered and as post-test after the treatment. It was given to both experimental and control groups. The instrument was validated by three lecturers in the department of Early Childhood and primary Education. Items therein were established using inter-rater method of reliability. Therefore, the Pearson Product Moment Correlation (PPMC) was used to establish the reliability coefficient of the instruments at 0.78. The treatment lasted for seven weeks and was carried by the researcher and the research assistants. The procedure adopted was to observe and fill Children's Physical Skill Rating Scale while children are playing as pre-test before the treatment began. After this, those in the experimental group were taught the selected topics using indigenous cartoon and control group were taught using traditional method. After the teaching and learning exercises, the Children's Physical Skill Rating Scale was administered to the two groups again. Data gathered was analysed using Analysis of Covariance (ANCOVA). All the hypotheses were tested at 0.05 level of significance.

Results

$H_0$1: There is no significant main effect of indigenous cartoon on pre-primary school children's physical skill acquisition.

Table 1: Analysis of Co-variance (ANCOVA) on the significant effect of indigenous cartoon on pre-primary school children's physical skill acquisition.

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	384.285[a]	16	24.018	2.066	.010
Intercept	2342.910	1	2342.910	201.538	.000
Pre-observation Physical Skill	5.668	1	5.668	.488	.486
Local Animated Cartoon	167.133	1	167.133	14.377	.000
Indigenous cartoon * School-location	596.866	1	596.866	3.422	.065
Error	3208.548	276	11.625		
Total	39200.000	293			
Corrected Total	3592.833	292			

Table 1 revealed the significant effect of indigenous cartoon on pre-primary school children's physical skill acquisition. There was a significant effect of indigenous cartoon on pre-primary school children's physical skill acquisition ($F_{(1; 276)} = 14.377$, $P< 0.05$). The hypothesis was therefore rejected in the light of the result since the significant value (.000) is less than 0.05. This implied that indigenous cartoon had significant effect on pre-primary school children's physical skill acquisition in Kwara State

Table 2: Bonferroni's Post Hoc pairwise Comparison of the scores within the two Groups

Treatment	Mean Score	Experimental	Traditional Method
Indigenous Cartoon	11.971		*
Conventional Method	10.160	*	

Table 2 reveals the significant main effect exposed by Table 1 was because of the significant difference among: indigenous cartoon and conventional Group. Indigenous cartoon refers to experimental group and conventional method known as control group. This implied that those taught with indigenous cartoon (11.971) performed significantly better in physical skill acquisitional than those taught with conventional method (10.160).

$H_0$2: There is no significant interaction effect of indigenous cartoon and school location on pre-primary school children physical skill acquisition based on school location.

Table 1 presents significant interaction effect of indigenous cartoon and school location on pre-primary school children physical skill acquisition based on school location. After the effect of pre-test scores (covariate) has been partialled out, the result showed that there was no significant interaction effect of indigenous cartoon and school location on pre-primary school children physical skill acquisition, ($F_{(1, 276)} = 3.422$, $p>0.05$. The hypothesis was therefore not rejected in the light of the result since the significant value (.065) was greater than 0.05. This implied that indigenous cartoon and school location was not a determinant of pre-primary school children's physical skill acquisition**.**

Discussion of Findings

One of the findings emanated from this study revealed that there was significant effect of indigenous cartoon on pre-primary school children's physical skill acquisition ($F_{(1; 276)} = 14.377$, $P< 0.05$). This was in marriage with the submission of Garcia and Valenzuela (2017) who explored the impact of culturally relevant cartoons on the physical skill acquisition of children in indigenous communities in Mexico. The results indicated a significant improvement in motor skills, such as coordination and balance, among children exposed to indigenous cartoons compared to a control group exposed to generic cartoons. Also, Lee et al. (2019) who examined the role of indigenous cartoons in enhancing physical activity and skill acquisition among children in rural South Korea. The findings showed that the children who watched indigenous cartoons exhibited higher levels of engagement and significantly improved in physical skills, such as agility and strength, over an eight-week period. In the same views Ahmed and Al-Mutairi (2020) in Kuwait focused on the cognitive and physical benefits of indigenous cartoons. The study found that the children in the experimental group demonstrated not only improved physical skills but also enhanced cognitive abilities related to spatial awareness and problem-solving, indicating an integrative benefit of indigenous cartoons. Rodriguez et al. (2021) who conducted a longitudinal study to assess the long-term effects of indigenous cartoons on physical skill acquisition in children from indigenous communities in Peru. The results showed sustained improvement in physical skills, such as hand-eye coordination and flexibility, among children who regularly watched indigenous cartoons. This signifies the enduring impact of indigenous cartoon on educational content on physical skill development.

In contrary, to the foregoing, Patel and Kumar (2019) who focused on the engagement levels and subsequent physical skill acquisition among children exposed to indigenous cartoons. While the cartoons successfully captured the children's attention, the study found no significant improvement in physical skills such as balance, coordination, or strength compared to a control group engaged in traditional physical activities. The authors concluded that engagement alone is insufficient for skill acquisition. Thompson and White (2020) who explored the cognitive load imposed by indigenous cartoons and its impact on physical skill learning also maintained the same stand. They found that the complex narratives and cultural references within the cartoons often led to cognitive overload, detracting from the focus on physical skills. Children struggled to process both the storyline and the skill demonstrations simultaneously, resulting in poorer skill acquisition outcomes.

Lastly, it was stated that There was no significant interaction effect of indigenous cartoon and school location on pre-primary school children's skill acquisition ($F_{(1, 276)} = 3.422$, $p>0.05$). This was in relationship with the findings of Kim and Lee (2018) who found that indigenous cartoons that included scenes of traditional games and activities motivated children to engage in active play. That this effect was noted in both rural and urban settings, with rural children particularly benefiting from the depiction of familiar cultural activities. Different from this, Clark, and Mitchell (2021) who pointed out that indigenous cartoons often face issues related to production quality and accessibility, particularly in rural areas. These factors can diminish the educational and motivational impact of the cartoons, making them less effective in promoting physical skill acquisition.

Conclusion

The discussion highlighted that indigenous cartoon are effective in enhancing children's physical skills acquisition, surpassing traditional instructional methods. However, the study findings suggested that the impact of indigenous cartoon on pre-primary school children's skills acquisition is not significantly influence by school location in Irepodun Local Government Kwara State. This underscores that skill development is not constrained by school location, but rather depends on the teaching method, communication, and children's active participation in the learning process. It can also be deduced that indigenous cartoon holds immense importance for children as they serve as cultural mirrors, reflecting the values, traditions, and language of a specific environment. These cartoons contribute to a child's identity formation by providing relatable characters and storylines, fostering a sense of pride and connection to their cultural heritage.

Recommendations

Based on the results of the study, the following recommendations were made:

1. The effectiveness of indigenous cartoon in enhancing the acquisition of crucial skills, including cognitive, social, emotional, and physical abilities, has been established. Consequently, teachers should be educated on the efficacy of using indigenous cartoon as a teaching tool for pre-primary school children through well-organised seminars and workshops.
2. The acquisition of skills among children through indigenous cartoon is not influenced by whether they reside in rural or urban areas. Consequently, school proprietors' proprietresses should ensure the provision of conducive school environments that stimulate children to engage with educational indigenous cartoon, facilitating the acquisition and internalisation of physical skill abilities.

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