
Play space and learning materials as correlates of psychomotor skill development of nursery school pupils

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Abstract— This study was carried out to find out how play space and learning materials correlate with psychomotor skill development of nursery school pupils. Correlational research design was adopted for the study. The study was conducted in Uyo Education Zone of Akwa Ibom State. The population of the study consisted of the all the nursery 2 pupils and their teachers in all the public pre-primary schools in Uyo Education Zone. Stratified and simple random sampling technique was used in selecting 400 nurseries 2 pupils and 80 teachers which was drawn from Uyo Education Zone as at the time of the study. This gave a total of 480 sample size used for the study. The instrument used in this study for data collection was a questionnaire titled "Play Space, Learning Materials and psychomotor skill development Questionnaire (PSLMPSDQ)". Face and content validation of the instrument was carried out by an expert in testing, measurement, and evaluation to ensure that the instrument has the accuracy, appropriateness, and completeness for the study under consideration. The reliability coefficient obtained was 0.80, and this was high enough to justify the use of the instrument. The researcher subjected the data generated for this study to appropriate statistical techniques such as percentage analysis. The test for significance was done at 0.05 alpha levels. The study concluded that there is a significant relationship between instructional resources variables and the psychomotor skills development of nursery school pupils. The study revealed that each of the variables, such as play space and learning materials, teachers' use of the play-way method of instruction, and the types of activities that nursery school pupils are exposed to significantly relate to the development of psychomotor skills of nursery school pupils in the Uyo Education Zone. One of the recommendations made was that an open space should be provided within the school environment to enable the teachers to set up several play areas where the pupils can interact among themselves as it will enhance the development of psychomotor skills.

Keywords: Play Space, Learning Materials and Psychomotor Skill Development

INTRODUCTION

Psychomotor skill development reinforces the possibility that motor development is intimately connected to a child's cognitive and affective behaviors and that a child's physical and intellectual qualities determine his or her personality. Children, according to Ekanem (2012), are naturally active and dislike being bored. It is therefore important that nursery school teachers and administrators take full advantage of children's natural desire to move and play in order to introduce the necessary skills in them. Play space is a varied and interesting physical environment that maximizes the potential for socializing, creativity, resourcefulness, and challenge, a place where children feel free to play in their own way and on their own terms (Science Daily 2020). Adequate space for movement and motor activities is needed within and outside of the classroom. Gumusday (2019) pointed out the importance of adequate space in the nursery school environment. According to the author, children need space for a variety of activities, which include play and active indoor activities through which motor skills are developed. Furthermore, when there is enough space, the children can jump, throw balls and run around freely.

Educators see play space and learning material as inseparable factors that contribute to the total development of the child. Instructional resources, as described by IGIGLOBAL (2020), refer to human and non-human materials and facilities that can be used to ease, encourage, improve, and promote

teaching and learning activities. Every learning moment within and outside of the classroom must be through play, activities, and with the use of learning materials because no amount of high-level instruction can adequately replace motor activities. In early childhood education, play space and learning materials are better for the child to choose what is interesting to him/her as nursery school pupils play and learn from the various facilities and equipment available to them during informal play time (Burriss & Burriss 2011). Play facilities are indispensable tools in the hands of the teacher for the development of learning experiences.

Statement of the Problem

Over the years, the development of psychomotor skills in affective and cognitive domains in school is basic to the child's attainment of a wholesome life. But unfortunately, children's innate drive for movement ability has not been fully exploited in our school because of inadequate learning resources such as play space and learning materials, which emphasized play ways for those in the nursery class and types of activities which could aid motor development. For children, no amount of high-level instruction can adequately replace their involvement in motor activities. Children hate dull moments because, during dull movements, their innate drive for movement is suppressed. However, it is for this reason that this work is conducted to find out the correlation between instructional resources and the development of psychomotor skills among nursery pupils and also contribute to the existing pool of knowledge.

Objective of the Study

1. To ascertain the relationship between play space and psychomotor skills development of nursery school pupils.
2. To examine the relationship between learning materials and psychomotor skills development of nursery school pupils

Research Question

1. What is the relationship between play space and psychomotor skills development of nursery pupils?
2. How do learning aids relate to psychomotor skills development of nursery school pupils?

Research Hypotheses

1. There is no significant relationship between play space and psychomotor skills development of nursery school pupils.
2. Learning resources do not significantly relate to psychomotor skills development of nursery school pupils.

Play Space and Psychomotor Skills Development

Play space in this study implies open space provided within the classroom that enables the teacher to set up several play areas such as a water corner, sand area, and a play area where the child can interact with peers and materials such as puzzles, building blocks, and other toys that enhance the development of fine motor skills. The play space as used in this study also includes an outdoor open space and a demarcated grassed area where activities that promote gross motor development are carried out. The Ministry of Education's requirements for opening a nursery school include sufficient space within the classroom and the provision of a demarcated, grassed area. The provision of play space in nursery schools is necessary and could promote the general development of the child.

Play has been recognized by educators and researchers such as Baker (2014), Wallerstedt and Pramling (2012), and Bubikova-Moan, Hjetland, & Wollscheid, (2019) as the primary means through which young children learn. Without the provision of play space in a school, children will definitely have limited opportunities for play. Among the benefits of play are the opportunity to refine motor skills,

positive interpersonal interaction, and developing children's attention span (Newton & Joyce, 2012). The National Policy on Education (FRN, 2014) emphasized the use of the play-way method as the method of instruction at the pre-primary level of education. The implication of this policy is that there must be adequate space within and outside of the classroom for children to play. Inyon (2012) opined that helping a child succeed in gross motor tasks requires play space and opportunities for a child to practice the desired skills. Providing a play space for nursery school children to move, run, jump, climb, paint, colour, objects and interact with their environment could therefore be considered as an appropriate practice. Ekanem (2012) has it that most 3 and 4-year-old children are mature enough and will be ready to actively use their large muscles in running, jumping, climbing, and participate in play activities with peers. The availability of play space thus provides an opportunity for them to develop their gross motor skills.

The author agreed with the fact that children are ready to begin learning fundamental motor skills by age three or four. Aras (2016) observed that space is an indispensable requirement in the nursery school environment in order to enhance a smooth transition of the child from home to school. Play space provides the child with the opportunity to carry out activities that enhance motor development. Space in the classroom allows the child to move freely and interact with peers as they explore their surroundings.

Learning Resources and Psychomotor Skills Development

Learning resources as used in this study refer to material resources that enhance learning and the development of psychomotor skills. These include all the learning materials within and outside of the classroom that could help the child in the development of fine and gross motor skills. Learning aids and learning materials may be used interchangeably in this study. Movement and play are the windows through which a child develops motor skills. Ekanem (2012) noted that children's play is the primary mode by which they learn about their bodies' capabilities. Consequently, material resources that provide an opportunity for the child to move and play should be provided for. Arnold, as cited by Ekanem (2012), emphasized that play materials, otherwise referred to as learning aids, are so important in the development of psychomotor skills and saw these learning materials as an extrinsic factor.

Materials such as puzzles, building blocks, logos, assorted toys and plastercene are relevant to the development of fine motor muscles, while outdoor materials such as slide trays, swings, balls, tricycles and others promote gross motor skill development. Ekanem (2012) noted that the place of these learning materials is a matter of necessity as children learn through all their senses. The author opined that the school, having accepted the responsibility to educate the child, should be in a better position to provide adequate, appropriate, and varied materials for pupils to interact with in the course of the teaching-learning process.

Baker (2014) noted that equipment of different kinds is critical in helping young children develop physically. Children need toys they can interact with physically. The author recommended that learning materials that provide opportunities for children to be physically engaged with their environment and help them use all of their fine muscles and skills should be provided as nursery children need things to climb on, push, pull, and use in other ways that challenge and stretch their large muscle skills. Obinaju (2012) noted that the learner (the child) participates in the learning activities more keenly than they could have done if there were no materials.

One child may prefer to construct with blocks, while another might want to climb and slide. They should be given the liberty to use the learning materials of their choice. Ekanem (2012), and Aras (2016) suggested the following learning materials for nursery school age children. These are: learning materials to support fine motor skills, Crayons, water paint, puzzles, manipulative toys, scissors, water and water-transfer containers, plaster cone, pencils, papers, sand, wooden blocks (ego, balls, scissors, dolls), All of these have been suggested to support the fine muscles of the hand as well as eye-hand coordination. Though most of these materials are easy to come by, they are not provided for and utilized in most nursery schools. For the learners to develop gross motor skills, slide trays, ladders or climbing frames, balancing bars, monkey bars, skipping ropes, tunnels, balls, swings, merry-go-round, and tricycles are the basic materials that should be provided.

Methodology

Correlational research design was adopted for the study. The study was conducted in Uyo Education Zone of Akwa Ibom State. The population of the study consisted of the all the nursery 2 pupils and their teachers in all the public pre-primary schools in Uyo Education Zone. Stratified and simple random sampling technique was used in selecting 400 nurseries 2 pupils and 80 teachers which was drawn from Uyo Education Zone as at the time of the study. This gave a total of 480 sample size used for the study. The instrument used in this study for data collection was a questionnaire titled "Play Space, Learning Materials and Psychomotor Skill Development Questionnaire (PSLMPSDQ)". Face and content validation of the instrument was carried out by an expert in testing, measurement, and evaluation to ensure that the instrument has the accuracy, appropriateness, and completeness for the study under consideration. The reliability coefficient obtained was 0.80, and this was high enough to justify the use of the instrument. The researcher subjected the data generated for this study to appropriate statistical techniques such as percentage analysis. The test for significance was done at 0.05 alpha levels.

Results and Discussions**Research Question One**

The research question sought to find out the relationship between play space and psychomotor skills development of nursery schools pupils. In order to answer the research question, descriptive analysis was performed on the data collected as shown in Table 1.

Table 1: Relationship between play space and psychomotor skills, N = 480

| Variable | N | X | SD | r |
|--------------------|-----|-------|------|------|
| Play Space | 480 | 13.78 | 1.78 | 0.84 |
| Psychomotor Skills | 480 | 28.70 | 1.64 | |

Source: Field survey

Table 1 presents the result of the descriptive statistics of the relationship between play space and psychomotor skills development of nursery schools pupils. The value of R of 0.84 indicated that there existed a positive (average) relationship between play space and psychomotor skills development of pupils in Nursery School.

Research Question Two

The research question sought to find out the relationship between learning aids and psychomotor skills development of nursery school pupils. In order to answer the research question, descriptive analysis was performed on the data collected as shown in Table 2.

Table 2: Relationship between learning resources and psychomotor skills N = 480

| Variable | N | X | SD | r |
|--------------------|-----|-------|------|------|
| Learning resources | 480 | 15.78 | 1.78 | 0.82 |
| Psychomotor Skills | 480 | 28.70 | 1.64 | |

Source: Field survey

Table 2 presents the result of the descriptive statistics of the relationship between learning aids and psychomotor skills development of nursery school pupils. The value of R of 0.82 indicated that there existed a positive average relationship between learning aids and psychomotor skills development of pupils in Nursery school.

Hypothesis One

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The null hypothesis states that there is no significant relationship between play space and psychomotor skills development of nursery school pupils. In order to test the hypothesis, two variables were identified as follows:

1. Play space as the independent variable
2. Psychomotor skills development of nursery school pupils as the dependent variable.

Pearson Product Moment Correlation analysis was then used to analyze the data in order to determine the relationship between the two variables (see Table 3)

Table 3: Pearson Product Moment Correlation Analysis of the relationship between play space and psychomotor skills development of nursery school pupils

| Variable | $\sum x$ | $\sum x^2$ | $\sum xy$ | Cal-r |
|------------------------|----------|------------|-----------|-------|
| | $\sum y$ | $\sum y^2$ | | |
| Play Space (X) | 8080 | 138556 | 198141 | 0.84 |
| Psychomotor Skills (Y) | 11635 | 284951 | | |

***Significant at 0.05 level; df =478; N =480; Critical r-value = 0.098**

Table 3 presents the obtained r-value as (0.84). This value was tested for significance by comparing it with the critical r-value (0.098) at 0.05 levels with 478 degrees of freedom. The obtained r-value (0.84) was greater than the critical r-value (0.098). Hence, the result was significant. This finding is in agreement with the opinion of Inyon (2012), who observed that play space provides opportunities for active and spontaneous movement as children consolidate and gain mastery over the range of fundamental movement skills. Play space within and outside of the classroom encourages children to carry out a variety of activities through which fine and gross motor skills are refined. The result therefore means that there is a significant relationship between play space and the psychomotor skills development of nursery school pupils.

Hypothesis Two

The null hypothesis states that there is no significant relationship between learning aids and psychomotor skills development of nursery school pupils. In order to test the hypothesis, two variables were identified as follows:

1. Learning aids as the independent variable
2. Psychomotor skills development of nursery school pupils as the dependent variable

Pearson Product Moment Correlation analysis was then used to analyze the data in order to determine the relationship between the two variables (see table 4)

Table 4: Pearson Product Moment Correlation Analysis of the relationship between learning resources and psychomotor skills development of nursery school pupils

| Variable | $\sum x$ | $\sum x^2$ | $\sum xy$ | Cal-r |
|------------------------|----------|------------|-----------|-------|
| | $\sum y$ | $\sum y^2$ | | |
| Learning resources (X) | 7105 | 107505 | 174356 | 0.82 |
| Psychomotor Skills (Y) | 11635 | 284951 | | |

***Significant at 0.05 level; df =478; N =480; Critical r-value = 0.098**

Table 4 presents the obtained r-value as (0.82). This value was tested for significance by comparing it

with the critical r-value (0.098) at 0.05 levels with 478 degrees of freedom. The obtained r-value (0.82) was greater than the critical r-value (0.098). Hence, the result was significant. The finding was in agreement with Ekanem (2012), who noted that learning aids, otherwise referred to as learning materials of various types, play a significant role in fostering children's psychomotor skills development. The result therefore means that there is a significant relationship between learning aids and the psychomotor skills development of nursery school pupils.

Conclusion

The study concluded that there is a significant relationship between instructional resources variables and the psychomotor skills development of nursery school pupils. The study revealed that each of the variables, such as play space and learning materials, teachers' use of the play-way method of instruction, and the types of activities that nursery school pupils are exposed to significantly relate to the development of psychomotor skills of nursery school pupils in the Uyo Education Zone.

Reference

1. An open space should be provided within the school environment to enable the teachers to set up several play areas where the pupils can interact among themselves as it will enhance the development of psychomotor skills.
2. Local Education Authorities should visit schools in their areas regularly to ensure that adequate play space and various areas of interest are provided in all nursery schools.
3. Provision should be made in terms of learning materials for children to be physically engaged with their environment and enable them to use their muscles and skills.