DYNAMICS OF PLAY BASED LEARNING AS PREDICTOR OF PUPILS ACADEMIC PERFORMANCE IN PUBLIC PRIMARY SCHOOLS (A CASE OF ALIMOSHO L.G.A OF LAGOS STATE)

BY

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Abstract

The crux of this study is to investigate play based learning as predictor of Pupils Academic Performance in Public Primary Schools in Lagos State. Two objectives of the study were structured alongside two research hypotheses respectively. Population of 50,583 public primary school pupils in which sample of 250 pupils were selected for this study. Two instruments were used in this study. The first was a self structured Questionnaire titled, "Dynamics of Play Based Learning as Predictor of Pupils Academic Performance in Public Primary Schools (DPBLPPAPPPS)". The instruments were validated by test experts in the department of Primary Education Studies, University of Lagos, Akoka. Reliability was determined through the use of Cronbach-alpha a reliability type. An index value of 0.862 and 0.891 were obtained Data generated was analysed using Analysis of Variance, ANOVA statistics tested at 0.05 level of significance. The study revealed that Play Based (construction play, language play, play with Arts and Sensory motor play) Learning is a good predictor of Pupils Academic Performance especially in Public Primary Schools. The study concluded among others that children learn very fast when they are exposed to play activities because such exercise motivates them to achieve specific objectives. It then recommended that caregivers and teachers should be exposed to the positives associated with Play as it goes a long way to improve and develop Pupils' Cognitive, Affective and Psychomotor domains.

Keywords: Play Based Learning, Pupils, Academic Performance, Education, Dynamics

Introduction

Play is a time when children act on their interests, create explorations, and discover new ideas. In early childhood settings, play can be spontaneous, guided or teacher directed. These types of play occur along a continuum that moves from child initiated to teacher initiated. When children are engaged in play activity with their peers, observers notice a child's unwillingness to be distracted (Ray & Smith, 2010). Because of the impact of play in children's lives, it has become imperative and an effective way for teachers to address specific educational goals in line with children's play activity which serves as a vehicle through which children learn. Meanwhile the impact of play on children encapsulates the whole essence of play to children: Play as well as learning are natural components of children's everyday lives. When children are asked what they like to do best the answers are unanimous. On the other hand, education for children is on the whole organised to promote learning rather than play.

Gallagher (2017) emphasised that when the cognitive skills of children are still in their early phase of inception it is important to related value of play-based learning during this developmental period. This is learning through means of play which ranges from active play that requires physical, verbal or mental engagement to pleasurable play that emphasises on enjoyment as a key feature. The manner in which children interact with one another and perform

independently is learned from their surroundings, experiences and by parents and teachers. If an education system is conceptualised which utilises and manipulates play-based learning teach children, the many subjects they are required to learn. It will greatly impact the way things are done. No one child is alike, every child learns differently and that is true for adults. By introducing play-based learning, we can maximise the academic standards by having more than one way to teach the same concepts (Gallagher, 2017).

Play Based Learning, PBL, is an approach used to disseminate information to children through a variety of play way activities. Through play children find learning interesting as they are submerged in the play activity (Graue, 2011). Play based Learning is a form of exposure that provides for children to actively and imaginatively engage with people, objects and the environment. This learning process provides opportunities for children to develop a sense of the world around them through inquiry, exploration, interaction and problem solving. During this process of activity based their thoughts and emotions, explore their environment and connect what they already know with what they already know with new knowledge, skills and attitudes. Michael (2019) stated that Play-based learning allows pupils to engage in purposeful activities that will allow for the simulation of such experiences they are likely to encounter.

According to Michael (2019) Play Based Learning have the following four features:

1) It is usually voluntary
2) It is intrinsically motivating, that is it is pleasurable for its own sake and is not dependent on external rewards
3) It involves some level of activity, often physical, engagement and
4) It is distinct from other behaviours by having a make-believe quality.

From the above, each feature leaves room for fostering of strong meta-cognitive skills and the ability to build independence as well as co-dependency on their peers. Students benefit greatly from their play experiences through the innate learning method, educators can manipulate scenarios to teach children certain curriculum goals. Play-based learning can provide an appropriate environment for a child's growth, development, and learning. Play-based learning is based on the traditional kindergarten, which focused on the whole child and the dependence on play for teaching and guiding a child during development. Play-based learning activities allow children to explore, at the same time are intrinsically motivating, engaging and have an overall learning purpose (Chervenak, 2011). Phillips and Scrinzi (2013) stated, "when pupils engage in meaningful, play-based experiences such as investigations, dramatizations, constructions, and projects, they apply and practice new knowledge and skills in natural and relevant ways.

Play-based learning provides the integrated context essential to support the growth of the whole child. Children experience a variety of significant changes in all areas of development during their developmental phase (Phillips &Scrinzi, 2013). Phillips and Scrinzi (2013) further stated that pupils' brains are specially responsive to stimulation during this highly sensitive developmental period, making this time frame an opportune time for learning. Giving children the chance to play helps them internalize information, as well as build knowledge and make the new learning relatable to their lives. Play also helps them interact with their peers and learn how to solve problems and cope with things that occur in their environment. Hoorn et al. (2015) wrote, "*play is essential for optimal development and learning in young children. The match between the characteristics of play and the characteristics of the young child provides a synergy that drives development as no teacher-directed activity can*". The activity of play in the classroom is critical to the early learning needs of pupils and the teacher's role in this play-centered learning a key to the success of its implementation (Hoorn et al., 2015). Play-centered learning supports pupils in many areas of self-regulation and emotional development.

According to Miller and Almon (2009), the twelve key types of play-centered learning are:

- Large-motor play: Children love to climb, run, slide, swing, jump, and engage in every type of movement possible. Such play develops coordination, balance and a sense of one's body in the space around it.
- Small-motor play: Play with small toys and activities like stringing beads, playing with puzzles, and sorting objects into types develop dexterity.
- Mastery play: Children often repeat an action in play and persevere until they master it, such as making dozens of "birthday packages" to learn to tie bows, or playing on a balance beam to become a "circus performer."
- Rules-based play: Kindergarteners and grade-school children enjoy the challenge of making up their own rules and the social negotiation involved in adapting the rules for each play situation.
- Construction play: Building houses, ships, forts and other structures in a basic form of play that requires skill and imagination.
- Make-believe play: This broad category incorporates many other play types and is rich with language, problem-solving, and imagination. It frequently begins with "Let us pretend" and goes on to include anything children might have experienced or imagined.
- Symbolic play: Children take an object at hand and convert it into the toy or prop they need through a fluid process of fantasy or imagination.
- Language play: Children develop mastery by playing with words, rhymes, verses, and songs they make up or change. They tell stories and dramatize them. They are fascinated by foreign languages, especially when they are presented playfully in story, verse or song.
- Playing with the arts: Children integrate all forms of art into their play, using whatever materials are at hand to draw, model, create music, perform puppet shows, and so on. They explore the arts and use them to express their feelings and ideas.
- Sensory play: Most children enjoy playing with dirt, sand, mud, water, and other materials with different textures, sounds, and smells. Such play develops the senses.
- Rough-and-Tumble play: This fundamental form of play is found in animals as well as human children. Animals know how to play roughly without injury by rounding their body gestures and not aiming for dominance. Children can be helped to do the same if their play becomes too aggressive.
- Risk-taking play: Children extend their abilities through risky play and learn to master challenging environments. They generally know how far they can go without actually hurting themselves.

Notwithstanding at the primary school level, academic performance cannot be disassociated from Play. Academic Performance of Pupils is one variable that centres on their level of achievement and progression in classroom tasks. Capacities such as problem-solving, communication, collaboration, innovation, and creative thinking are developed through child-initiated and child-directed play (Miller &Almon, 2009). Akins (2017) submitted that academic performance is an assessment type that is undertaken with the progression of learners over time. A sequence of movement over time be it positive or negative. Pupils' academic performance is best determined with the trend of Pupils movement in classroom related tasks. Academic performance is the measurement of pupils' achievement across various academic subjects. In determination of a child's academic performance, cognitive, affective and psychomotor domains have been factored in because these are the core areas where assessment can be undertaken in learners. Caregivers and teachers typically measure achievement using classroom interaction, graduation rates and results from standardised tests. Academic performance of pupils is boosted when they find the tasks interesting, motivating and interactive. It is no news that pupils also perform better when teachers introduce play way as a medium of instruction. This play enables these young learners towards self-discovery and content internalisation. According to Miller and Almon (2009) & Phillips and Scrinzi (2013) they noted that when pupils are exposed to series of play activities before and sometimes during teaching, such play have the tendency of expanding the scope of learning and mastery level of learners. To them, play based learning enables a long-lasting content and ability to replicate such skills when the need arises. Play Based Learning discourages rote learning, memorization, short-term

learning among others but rather instils a relatively permanent learning in learners especially through play. However sometimes performance scale is said to be determined by gender.

As certain studies have identified gender as a pivotal variable to consider when noting performance because of the various psychological factors that are inherent in individual learners. Although Lekan (2017) and Michael (2019) had a contrary view as they claimed that Pupils performance is not tied to external conditions like Play as performance is determined by interest, motivation and teachers' mastery of the subject and content. To them they emphasised that Gender disparity as individuals does not have anything to do with performance, claiming that both male and female pupils both loves play as individuals but that would never be a criterion for improved performance on their gender. Advancing the course of performance, it is crucial to educate caregiver/teachers, not only about the importance of play-centered learning but also about the types of play that have the propensity to improve classroom tasks. This knowledge and understanding of play is very crucial to the implementation in classrooms. The development of a pupil's academic performance requires a merge of teaching styles from preschool to the primary school that move from highly structured and less structured instruction, experiences that are teacher and pupil-led and time for purposeful play. At the primary level, pupils are conditioned to think abstractly but need concrete experiences, follow directions and also explore on their own (Kostelnik, Soderman&Whiren, 2011).

Statement of Problem

As pressure to raise scores on both standardized and teacher made tests has trickled down to the lower grades, teachers in lower classes are even more over worked to bring about a sharp rise in learners outcome especially in their academic performance. The perception of most parents and other stakeholders towards public primary schools is that the Pupils are so dull, not attentive in classroom, lack coordination, rarely participate and assimilate in class tasks with obvious reason that they play too much. In our educational system, many stakeholders play down the significant role of play in child development especially as it concerns child's learning process. Negligence of this act most times leads to an increase in under achievement and poor academic performance of Pupils as teachers engage them with classroom tasks while their interest, motivation and abilities are downplayed. In a bid to improve performance, it is advisable to expose Pupils to play and direct learning activities to Play Based Method such that Pupils will associate the learning activity with Play way. It is believed that through Play Based Learning, Pupils cognitive, affective and psychomotor skills are better developed for efficiency and quality delivery. In the course of having an empirical over view of the import of Play Based Learning, the study seeks to investigate the dynamics of Play Based Learning a Predictor of Pupils' Academic Performance in Public Primary Schools.

Purpose of the study

The broad purpose of this study is to investigate the dynamics of Play Based Learning as predictor of Pupils Academic Performance in Public Primary Schools in Lagos State while the specific objectives include:

1. Justify how playbased learning can contribute to Pupils Academic Performance in Public Primary Schools.
2. Determine if there is any difference in gender's academic performance when exposed to Play Based Learning in Public Primary Schools.

Research Hypotheses

$H0_1$: Play based Learning is not a significant Predictor of Pupils Academic Performance in Public Primary Schools.

$H0_2$: Play Based Learning does not have any significant effect on Pupils Academic Performance in Public Primary Schools gender.

Gaps of this study

Although studies conducted by Miller and Almon (2009) carried out a study on "Crisis in the Kindergarten: Why Children need to Play in Schools" alongside Philips and Scrinzi (2013) on "Basics of Developmentally Appropriate Practice; An Introduction for Teachers of kindergarteners". They all claimed that pupils exposed to series of play activities before and after play activities, would promote performance while the research executed this study to justify that play remains one of the most reliable activity that can be used to promote relatively permanent change in pupils behaviour and performance.
Moreso on gender disparity on play, while other literatures may have aligned that gender of pupils contribute play significant role in contributing to performance, this researcher successfully established that pupil's academic performance is never a function of gender at any level and stage noting that only external or environmental factors contribute towards influencing the performance of male and female pupils in schools.

Methodology

Survey type of research design was used for this study. This design seeks to under study a large population with the intention of generalising from a pool of sample selected for the study. The population of the study was 50,583 and comprise of all pupils in Public primary Schools in the state while the target population was Basic 5 Pupils in Public Primary School in Alimosho education area of the state. The reason for the choice of Alimosho LGA lies on the premise that aside being the largest education zone in the state. It also records the highest pupils enrolment rate in the state hence so many learners attributes were identified. Since Taro Yammane formula of $N/1+N(e)^2$ was used to select appropriate sample size since the official population of pupils enrolment was disclosed to the researchers, were 50,583 pupils. However, with the introduction of simple random sampling technique to select 5 Public Primary Schools in Alimosho LGA, a sample size of 250 pupils was involved in this study. Two instruments were used in this study. The first was a self-structured Questionnaire titled, "Dynamics of Play Based Learning as a Predictor of Pupils Academic Performance in Public Primary Schools (Pupils Academic Performance) containing 15 items on 4–Likert scale format. This Questionnaire was divided into two sections of A & B; where A focused on respondents' bio-data and Section B focused on statement items generated for the study and needed to be responded to. A total of twenty items on 4-point scale type of Strongly Agreed (SA), Agree (A), Disagree (D), and Strongly Disagree (SD) respectively; the second instrument was School Based Test specifically in subjects like Mathematics, English Language and Social Studies were used as Performance index. The instruments were validated by test experts in the department of Primary Education Studies, University of Lagos. The instruments were validated as Construct and Content validities was acclaimed to be met while reliability was determined through the use of Cronbach-alpha and split-half reliability forms. An index r-value of 0.862 and 0.891 were obtained respectively meaning that the instruments are very reliable and suitable for the study. In other to allow for equality and normality, the scores generated for pupils' academic performance were transformed using Z-score and T-score. With the aid of Statistical Package for Social Sciences, SPSS version 26, data generated was analysed using Analysis of Variance statistics. However, the hypotheses were tested at 0.05 significant level.

Data Presentation an Interpretation

$H0_1$: Play based Learning is not a significant predictor of Pupils Academic Performance in Public Primary Schools

Table 1: Estimate of the relative contribution of the Predictor variables to Pupils Academic Performance

Dependent Variable: Pupils Academic Performance

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	8.624[a]	5	1.725	2.851	.017
Intercept	33.399	1	33.399	55.201	.000
Play Based Learning	3.123	1	3.123	5.162	.024
Sensory Motor	4.869	1	4.869	8.047	.005
Language Play	.433	1	.433	.716	.039
Construction Play	.278	1	.278	.459	.040
Play with Arts	.003	1	.003	.692	.009
Error	248.376	247	1.2341		
Total	1807.000	250			
Corrected Total	246.000	249			

R Squared= 0.472 (Adjusted R Squared = 0.289)

From the table 1 above it shows that Play Based Learning approach an independent variables have its intervening variables as Sensory motor, Language Play, Construction Play and Play with Arts as good predictors of Pupils Academic Performance the dependent variable in Public Primary Schools. Language Play: $F_{(1,250)}$= 0.716, p=0.039, partial eta=0.090; Construction Play $F_{(1,250)}$= 0.459, p=0.040, partial eta=0.122; Play with Arts $F_{(1,250)}$= 0.692, p=0.09, partial eta=0.160; Sensory Motor $F_{(1,250)}$= 8.047, p=0.005, partial eta=0.000. This implies that interaction between Language play, Construction play, Play with Arts and S Construction play, Play with Arts and Sensory motor play accounts for 9%, 12.2%, 16% and 0% which amounted to 37.2% for the variance in this work while 62.8% can be accounted for by variables outside the study.

$H0_2$: Play based Learning does not have any significant effect on Pupils Academic Performance in Public Primary Schools by gender

Table 2a: Analysis of Group statistics

	Gender	N	Mean	Std. Deviation
Performance	Male	100	2.150	0.316
	Female	150	3.921	0.804

From table 2 it reveals that 250 pupils were captured for this work, although male pupils recorded a lower mean and standard deviation values as 2.15 and standard deviation as 0.316 while female pupils recorded a higher mean and standard deviation value as 3.912 and 0.804 respectively.

Table 2b**: ANOVA statistics** showing effect in playbased learning on academic performance by gender

One-Way ANOVA

Performance

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	.241	1	.241		
Within Groups	305.923	248	1.234	.195	.659
Total	306.164	249			

From table 2b, the F-calculated value of 0.195 is obtained as sig. value of 0.659 is derived meaning not significant. Hence since the P-value of 0.05 < 0.659, the null hypothesis which states that Play based Learning does not have any significant effect on Pupils Academic Performance in Public Primary Schools by gender is retained.

Conclusion

From the outcome of the study the researcher can then conclude that:

i. Children learn very fast when they are exposed to play activities because such exercise motivates them to achieve specific objectives.
ii. There is no difference in gender's Academic Performance when exposed to Play Based Learning especially in Public Primary Schools.
iii. Play based Learning remains a significant predictor of Pupils Academic Performance in Schools

Recommendations

1. Complex exercises or classroom tasks should be presented to Pupils through the intervention of Play.
2. Pupils should not be discouraged from playing because it goes a long way to spur them to simplifying tasks.
3. There should not be gender discrimination to play as it has no impact on gender performance.
4. Teachers and Caregivers should be exposed to the positives associated with Play as goes a long way to improve and develop Pupils' Cognitive, Affective and Psychomotor domains.

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