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Spatial architecture and place attachment in playgrounds of mega primary schools in Akure, Nigeria (Africa)

Olawumi Damilola Adekunle *

Department of Architecture, Federal University of Technology, Akure, Ondo, Nigeria.

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Abstract

Primary school playgrounds are open spaces where fixed play equipments and marked areas for games and other play activities are positioned for facilitating socio-spatial activities of school children. Spatial architecture of school playgrounds is concerned with the quality of play spaces in these playgrounds. It consists of play equipments, circulation areas and physical features on such playground. On the other hand, place attachment of a school playground is the overall identity consisting of memories, feelings, beliefs and meanings of the play activities carried out and associated with the physical environment or the physical features of such playground. This thesis assesses the spatial architecture and place attachment of playgrounds of three Mega Primary Schools in Akure, Ondo State. Interviews were conducted with the pupils to glean their perceptions about the research themes. On-site and observations were also carried out to examine the physical features of the playgrounds. Results show that the pupils have a spot or area of identity where they usually play on their school playground compared with other areas. This was possible because of some physical features that the pupils identified to be more interesting and fascinating than other features. Most of the pupils were attached to areas/spots that were spacious and large enough to accommodate their desired play activities. This suggests that the place attachment of the pupils is contingent upon the spatial architecture of playgrounds. It is therefore necessary to consider spatial architecture and place attachment when planning school playgrounds as this has effects on the pupil's socio-spatial experience.

Keywords: Playground; Socio-spatial experience; Spatial architecture; Architecture; Play; Activities

1. Introduction

Primary school playgrounds are crucial settings for children to develop social behaviors by engaging in a diverse range of physical and social activities (Hyndman, Telford and Finch, 2012). They are governable spaces where fixed play equipment and demarked areas for games and other play activities are positioned for facilitating socio-spatial activities of school children. The universal opinion of playgrounds is that they are not adult spaces (Thompson, 2008). Yet, they are spaces conceived by adults to contain children at school with each playground having perspective designs of usage, selected according to the adults' view of the children's spatial desires and needs (Thompson, 2008).

The aim of having playgrounds in schools is to allow children to play. Therefore, school playgrounds must be designed to function as playscapes. According to The International Play Association (IPA), the importance of play is based upon scholarly research revealing the outcomes for humans and negative impact of play deprivation and drive to play being innate. Also, play is a process that has evolved due to the advantages for the development of bodies, relationships and minds (International Play Association, 2014).

* Corresponding author: Olawumi Damilola Adekunle

Playing is a process, not an activity that takes many forms, replicating the evolution of play through bodily actions, social interactions and the development of symbolic thinking.

Play is self-chosen because without active choice and engagement the activity is empty and reduced in meaning and significance. Play is pleasurable for each child as it gives enjoyment, satisfaction and 'fun' in the moment of playing. (International Play Association, 2014).

Therefore, spatial architecture of primary school playground is more specific about the demarked areas, spaces or portions dedicated to pupils to carry out their play activities. These include physical space and the emotional space that accounts for place attachment. Hyndman (2012) says from the design stage of the playground to the time children play are all controlled by adults. In the same way, playground maintenance is an adult domain and to reduce excess clutter and spatial wastage despite the potential benefits of play for children (Hyndman, Telford and Finch, 2012). This research aims at examining the spatial architecture and place attachment in mega schools in Akure, Nigeria, with a view to suggesting best practices. In this context, spatial architecture refers to space functions and forms while place attachment refers to the "genus loci" in environment-behavior studies (Hyndman, Telford and Finch, 2012).

Hughes (2008) acknowledged the importance of choice in the playground when he stated that "neither the range nor variety of available choices should be the subject of selection, or manipulation by anyone else" (p17). Also, Koestler (1964) noted that behavior which is not freely chosen, is not play (Hughes, 2008: p17). Freely chosen play is cited as an important criterion for children that the play environment should support. Burke and Grosvenor (2003) observed that children's time in the playground is sometimes perceived by adults as a source of anxiety since this space is often associated in their minds with misbehavior. This believe is so much reflected in the spatial architecture and adult supervision in such that expected freedom in play activities are absent instead of being "being self-supervised". This removes the essence of play as "activities of freedom" because of adult "over-supervision" (Fjortoft and Sageie, 2000).

Other playgrounds are even seen as the 'forgotten spaces of the school and school management do not really care about the importance of these spaces to the children. They feel it is a space where children occupy during their leisure hours and not really consider the impact of such space on the children.

Rasmussen (2004) revealed that children indicate adult assumptions about school playgrounds as misguided. Children see a school playground as a 'large place for children' ... adults have divided it up into different areas and zones. Also, not all places in a school playground seem to be legitimate places for children to inhabit; therefore, an environment made for children may allow children to establish interfaces between 'children's places' and 'places for children'(p.168). It is for these backgrounds that this research is designed.

2. Material and methods

2.1. School Playground

Primary school playgrounds are governable spaces where fixed play equipment and demarked areas for games and other play activities are positioned for facilitating socio-spatial activities of school children (Thompson, 2008). They are therefore an outdoor area created within the school premises where the school children can play. Playgrounds have its origin indisputably embedded and firmly attached to the basic nature of play hence, we cannot overrule the fact that play is of great importance as it is the major activity done in playground as stated in the definition above. The first purpose-built children's playground was built in 1859 in a park in Manchester, England but the idea was originated in Germany and was invented for teaching the children proper ways to play. School playgrounds are meant for educational purposes and child development through the activities carried out on playgrounds. A German psychologist Froebel introducing the first kindergarten in 1837 (Frost, 2012). Froebel's kindergartens were nature based and included the unstructured exploration, observation, and manipulation of the natural environment to benefit the holistic development of the child (Frost, 2012).

The school playground is an important facility for children to play every day on their own initiative. It has enormous positive impacts on children's development and learning. This initiative provides students with leisure facilities to make education livelier and student friendly. The school playground offers a sense of freedom for children. Children can play freely with peers, expand their imagination beyond the restraints of indoor activities, release energy, and explore their sense of touch, smell, taste and their sense of motion. Physical education and playtime at schools are a vital part of encouraging a healthy lifestyle and promoting cognitive and social development (Thompson, 2008). Appropriate school playground equipment is important so that children can increase their physical fitness, develop motor skills, encourage active play and stimulate their imaginations.

On the other hand, the spatial architecture of a school playground is a three-dimensional space that has been dedicated for playground or playground activities. This deals with spaces involved in a school playground that makes it peculiar or different from other school playgrounds while place attachment of a school playground is a space with an identity of a playground (Broekhuizen, 2014). In other words, place attachment is a playground overall identity consisting of memories, feelings, beliefs and meanings of the activities (play) carried out associated to the physical environment.

2.2. Spatial Architecture of School playgrounds

Spatial Architecture of school playgrounds are spaces having the length, width and depth dedicated for school children to carry out play activities. It contains what is found in the spaces which are peculiar to each school playgrounds. Playgrounds spatial features are places specifically developed to offer opportunities for children to play and be physically active, thus facilitating healthy development (Broekhuizen, 2014).

In order words, the spatial architecture of school playgrounds is simply the space, area or portion marked out with various play equipment for playgrounds activities. It can also be tagged the physical environment of the playgrounds. How it looks, what activities are carried out, who are those involved and what effects this space has on the users. It encompasses the emotional, psychological, social and physical space.

The importance of children's choice (play) within the spatial architecture of a school playground was studied by (Barbour, 2008). Barbour observed the play behavior of eight children with varying physical competence in relation to the types of play they participated in, who they played with, and any strategies used during play. Barbour found that the playground design/space either facilitated or constrained children's choice of activity, choice of play partners and how long play was maintained. The spatial architecture of the school playground thus had both positive and negative effects on children's choices on what they played and who they played with.

The size of the play area, the types of play that take place and who occupies the space will strongly affect the behavior and children may be socialized even though children's needs may not be met (Rivlin & Wolf, 1979). This is why the spatial architecture of a school playground is of great importance and needs to be taken into consideration when talking about playgrounds. If the size of a school playground is too small to accommodate the school children to play, it might injure the children or perhaps cause fight between the children and if the spatial architecture is too wide, it might cause a separation between the children as individuals have his/her own space to themselves. Hence, this will destroy the social development of such children. Therefore, the spatial architecture of school playgrounds should be such that it can accommodate the school children properly.

Playgrounds offer potential for individuals or groups of children. Playgrounds should enable young children to easily manipulate the objects, explore space and start interaction with other children. The playgrounds for school age children should further the social development of the children with their equipment for individual and group usage. Some equipment such as seesaws, merry-go-rounds and complex structures, which are intended for the use of several people, develop cooperativeness in children (Henricks, 2011). The individual usage equipment, (with the exception of swings which should be placed far away from the communication area) can be placed close to one another, or even physically connected. Such arrangement stimulates children to move from one to another element of equipment and encourages their mutual interaction.

The playgrounds which are intended for preschool-age children should be located where they can be monitored during their play, which is not an essential requirement for those playgrounds intended for the school age children (Thompson, 2008). However, regardless of the age of children a playground is intended for, the site where it is built must satisfy certain conditions. Above all, it should be away from the main traffic routes, because of the dangers children could be exposed to. A barrier around a playground is recommendable, to prevent the children's carelessness and unintentional running into the street. There should be proper arrangement of greenery, (protection from the sun, protection from the wind, dust and noise) should also be considered. Places for waste or refuse disposal should be placed as far away from the playgrounds as possible (Factor, 2008).

A playground should be organized in different spaces—active, physical activities should be separated from the passive and calm activities. Also, the equipment which are popular and most frequently used, ought to be dispersed in the space to avoid crowd resulting from flocking around them (Factor, 2008).

In general, Playground spatial features are related to playground usage and activity levels of the children in the playgrounds as explained above. Therefore, Playgrounds should offer a wide variety of play facilities and provide spaces

for diverse play activities to respond to the needs of large numbers of different school children and to provide activity-friendly areas enabling their healthy development.

2.3. Research Design

This section of the study is about the methods and means used to get various data. The data collected is in accordance with the aim and objectives stated in the study for efficiency in the work done.

The methodology that was adopted in this research work was Qualitative data which involves Interviews and recording events.

Qualitative data is understood as capturing the world as it is without the influence of the researcher (Flick, 2009). It includes getting data directly by observations of the world and understanding things from a subjective point of view. "Critical theory provides, as previously said, the normative framework of the research, and when such is the case, the normative framework also strongly influences the method and analyses of the research findings" (Flick, 2009). This includes

- Observing of the three mega school playgrounds especially when the school children are playing on their playground during their free time.
- Interviewing the pupils of primary five and six of the three mega schools in Akure and
- Recording the Interview with a sound device.

2.4. Research Field

The research field for this study is the Mega Schools located in Akure; Data was collected from a few pupils in the school. We investigated three Mega schools in Akure which are: St John Anglican Caring Heart Mega School, Idi-Iroko, All Saints Caring Heart Mega School, Oke-Ijebu and St James Caring Heart Mega School, Irowo. This was chosen because these three mega schools have well-equipped playgrounds with different pupils having different backgrounds which enabled us to get enough results for the research.

The pupils who were interviewed were pupils of primary five and primary six of the above-named school and the classes were selected so that they can express themselves better since they are expected to be mature than pupils in the other classes. These pupils are also believed to have been used to their school playgrounds; hence they were able to express themselves better and give answers correctly than pupils in other classes.

2 pupils from each class, 4 pupils from each school and 12 pupils in all for the three schools. They were observed during their recess time and observation of their play activities were documented. Their responses were recorded and later transcribed. Pictures from the field work were included in the thesis as well and various observation.

2.5. Research Instrument

The major instrument that was used to gather or get data or information in the study area (The three Mega schools in Akure which are: St John Anglican Caring Heart Mega School, Idi- Iroko, All Saints Caring Heart Mega School, Oke-Ijebu and St James Caring Heart Mega School, Irowo) was an interview guide of ten questions in all. These questions sought to gain knowledge about the children's playtime at home and in school, their views about the spatial architecture of their school playgrounds and place attachment. Also, observation schedule was used to know more about the school playgrounds. These two instruments used as major tools for the research instruments are further explained below.

2.5.1. Interviews Guide

Some of the pupils of primary five and primary six of the three mega schools in Akure, (St John Anglican Caring Heart Mega School, Idi-Iroko, All Saints Caring Heart Mega School, Oke-Ijebu and St James Caring Heart Mega School, Irowo) were interviewed by me to know their perceptions about their school playgrounds. This includes a one-on-one conversation between myself and the pupils, where questions to be asked were prepared by me before meeting them. The reliability of this method is that both verbal and verbal responses are noted and recorded by me. The pupils are the source of information, and their schools are the field work. The significance of this is to be able to meet these pupil and get raw information about them and their playground in relation to the topic of this thesis.

Also, it gives room to be able to study the action of the pupils to know how genuine the pupils are. This is, in my view, better than the questionnaires due to the reasons mentioned earlier.

2.5.2. Observation Schedule

The three mega school playgrounds in Akure, (St John Anglican Caring Heart Mega School, Idi-Iroko, All Saints Caring Heart Mega School, Oke-Ijebu and St James Caring Heart Mega School, Irowo) were observed to see the interaction between the pupils, the spatial architecture and place attachment of their playgrounds, to observe the pupils in relation to their playgrounds, the activities carried out on the playground during play time, to see if their playgrounds have adequate equipment to accommodate the children, to check if the children love the playground and how they relate with the playground environment, to see the type of equipments they have, to see the measurements of such playing equipments if they have taken more space on the playground than they should, to observe the green areas and the type of playgrounds they have. This also includes events documented during the play time of the three mega school playgrounds. Hence, first-hand information and real knowledge about the research will be gained. Sound recording was also taken to be able to get the information well documented from the children, which was later transcribed as said earlier.

2.6. Study Area

The three mega schools in Akure, Ondo state in which the field work was carried out includes: St John Anglican Caring Heart Mega School, Idi-Iroko, All Saints Caring Heart Mega School, Oke-Ijebu and St James Caring Heart Mega School, Irowo Hospital Road.

2.7. Population Study

Twelve (12) pupils from the three schools aged between 9-12 years were interviewed for this study. The pupils are from primary five and primary six of the three mega schools mentioned above. They were picked randomly because it is believed that they are mature and are the seniors in the schools, hence, should have better knowledge and should be able to give answers to the interview questions accordingly.

3. Results and discussion

An interview was conducted with the pupils of the following schools: St John Anglican Caring Heart Mega School, Idi-Iroko, All Saints Caring Heart Mega School, Oke-Ijebu and St James Caring Heart Mega School, Irowo. These pupils are pupils of primary five and primary six and these pupils are within the age range of 8-12 years.

Most of them claim to have playgrounds at home which is the front of their houses and majority of the pupils prefer their school playgrounds to their playgrounds at home. The reason why they prefer their school playgrounds to the playground at home is because their school playground is wider (Spatial Architecture) than the one they have at home and they are not restricted to play.

The pupils all claim to have one or two spots on their playground that they like and those areas/spots of their school playground are their favorite. Their favorite spots on the playground includes the field, the equipment area and playground areas near the front of their classroom. The reasons they gave for having one or two of those spots as favorite area on the playground is because of

- The Field- the space that is the spatial architecture of their school playground is big enough for them to carry out their play activities. They also claim that the field helps them relates with their friends well due to enough space. They also said they love the areas where there are enough greens on the field and dislikes areas where it is sandy.
- The Equipment Area: Equipment such as swing, slides, sea-saw etc. attracted the pupils to play and like such area. They claim that these equipment are easy to play with and colorful.
- The Playground area near their classrooms: Some of these pupils said they like to play in front of their classroom because it makes them get to their classes early once the time for their break period is over. They further said this area is their favorite because their friends love playing there and it has a lot of greens and breeze that helps them cool off due to the trees planted there.

The pupils said their favorite spots give them memories, some said memories of how they played well with their friends and they won. A male pupil said he loves his favourite spot because he was told one day on the spot that he came first in class. They said they feel good, happy, excited, relaxed about the spots and a female pupil said she goes to her favorite spot on the playground to play because she assimilates better in class after playing there.

They all claim to visit their school playground most times during their break period and any other time they are allowed to play on the playground. For those that chose field as their favorite spot on playground, most of them claim to play football with their friends while some run, others, jog or somersault. For those who chose the equipment area, they claim to play with their equipment either individually or collectively and those who chose the front of their classrooms claim to play hide and seek, "cinderella" and other local play. The reason why most of them chose the kind of play they play on their favourite spot is because that is what the space (spatial architecture) of their favourite spot could give them or afford.

Majority of the pupils said their school playground is adequate enough and thoroughly equipped to play while some suggested that they should add more playing equipment, another said they should make their playground more spacious while few were uncertain about it. Most of the pupils claim to like their school playground because of the equipment to play with while some said they like their school playground because it is spacious (spatial architecture), another said they like it because of the greens, trees and the breeze.

Most of the pupils in St John Anglican Caring Heart Mega Primary School complained about the gutter around their playground which has injured them severally. The pupils of All Saint Caring Heart Mega Primary school also complained that they dislike the area where sand is dominant on the field. Some pupils said they would love to have more equipment while some said it is enough for them. Another said they would love to have a bigger playground while others said it is enough for them.

Most of pupils said their playground is adequate for them and accommodates them well while others suggest that they bring in more equipment to play with. Some also suggested that the grasses (greens) are beautiful and they like it.

3.1. Data from Observation Schedule

The playgrounds are clean and free from dirt and obstacles that can injure the pupils. The pupils said, they are not allowed to take food or snack to the field. This helps the schools achieve clean areas. The school cleaners also help to keep it tidy.

This shows that the spatial architecture of school playground is not just about the space but also what the physical environment of such playground looks like. It entails keeping the playground clean and free from obstacles that can injure the kids.

If the school playground is full of dirt, obstacles that can injure the children, then the spatial architecture of such school playground will give the children a negative perception about playground. The children will not be able to play freely and therefore, the reason for such school playground is forfeited. In other words, when talking about the spatial architecture of a school playground, it is necessary to keep such playground clean and it is by this way children can have place of attachment on such school playground.

It is also not enough to have just a clean environment but also a safe environment for school playground. For instance, the pupils of St John Caring Heart Mega school, Idi-Iroko complained about a closed by gutter around their school playground which injures them a lot. It is important to always be conscious of the environment of school playground as school children are particular about their play and would not take note of the danger in their environment.

The spatial architecture of the school playground determines what kind of play the pupils will play. If the school playground is a field, open, wide, clean and clear, the pupils prefer to run or play ball but if the school playground is an area where equipment is, then people will play with the equipment. Often, school children prefer to play with their colleagues on a playground that is spacious, wide, clean and clear. It is observed that the spatial architecture of the school playground determines the place attachment of each school children. In other words, it is what the spatial architecture of a school playground gives that will determine or form the memories, feelings of a school child about his/her school playground.

The school playgrounds of the three mega schools in Akure, (St John caring Heart Mega School, Idi-Iroko, St James Caring Heart Mega School, Irowo, Hospital Road and All Saint Caring Heart Mega School Oke- Ijebu) are in three categories which are separated from one another. They include: The field, the green and the equipment playground.

- The Field: The field on the three mega school playground is wide, open, free, clean space of the playground where school children run, play ball and any other acrobatic display they like. The field has two posts and

mostly dominated with grasses that are well trimmed. It is the biggest space of the three mega school playgrounds.

- **The Green:** This is the area dominated by grass and trees, shrubs and flowers with well-defined walkways and pavings. It is the area on the school playground that has natural features, and the sight is beautiful to behold. School children especially the females are mostly found here where they can 'play hide and seek', 'cinderella', 'who is in the garden' etc.
- **The Equipment Playground:** This is where the equipment such as seesaw, slides, swings etc are found and it is those equipment that attract school children to the area. Mostly school children who are in lower classes and females are found playing here. Although, these equipment are not adequate for the school children to play with which often times cause fight amidst these children and some injure themselves.

Some of these school children also get injured by the equipment during play due the fact that some of these equipment are partly damaged by the weather, hence, forming some sharp edges that injures the school children.

3.2. Summary of findings

The interview guide and the observation schedule show that spatial architecture and place attachment of a school playground has a great effect on the users (pupils). These two factors determine the kind of play they will play, how they will play and to what extent is their play on the school playground, hence, it is important to give a school playground enough spatial requirement so as not to deprive these children the kind of play they want. If the school playground has enough equipment to play with and it is spacious enough to accommodate them all, the pupils will like to play on the playground. Also, one must be sensitive to the kind of equipment that are needed for a particular school playground, it should be such that those equipment are not too big that will take the whole space for circulation for the pupils or too small that it will have no significance to the playground.

Each child also has a particular spot where he/she play most on playground due to the emotional attachment or memories or feelings he/she has accumulated over a particular period. This makes each child unique in his/her own way, individual having a place attachment on the school playground weather it happened through positive or negative circumstance.

It entails the type of friends he/she will have and most likely these friends will have common ideas and play almost the same type of play with the child. Pupils feel good, safe and find school playground attractive when the playground is clean and free from obstacles that can injure them. They create a positive mindset towards such playground and will want to visit regularly. On the other hand, pupils are repulsive when school playground are dirty and not kept or has some features that can injure them.

4. Conclusion

Spatial architecture of a school playground refers to the space involved on a playground. It is of great importance especially to the pupils using it, as it determines the kind of play they will engage in. Spatial architecture includes the portion allocated for play equipment, circulation spaces and also the greens, the hardcore, paving, trees or other natural features. It must be such that one element does not interrupt the other or be over-emphasized as the other. All must be adequately available in right proportion and scale.

Place attachment of the school playground arises from the memories, feelings and ideas the pupils have developed over a particular period and therefore make them stick to that place than any other place or area of the school playground. Usually, these feelings are always positive feelings or memories that have kept the pupils attracted to such spots. This place attachment could also be influenced by the spatial architecture of the school playground, and this is why it is of great importance to have the spatial architecture of a school playground in the right way that is comfortable for the pupils to use.

Conclusively, playgrounds are majorly influenced by their spatial architecture and this spatial architecture influences the place attachment of each pupil depending on their views and perceptions. Hence, spatial architecture should be considered as one of the major factor when planning school playground

Compliance with ethical standards

Statement of ethical approval

This study was approved by the Institutional Review Board (IRB) of Federal University of Technology, Akure Approval ID: 8471 and conducted in accordance with the 1964 Declaration of Helsinki and its later amendments, with written informed consent obtained from all participants.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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