The Role Of Seating Layout Arrangements In The Kindergarten's Classroom To Student's Drawings

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Abstract

This research aims to identify the correlation between the role of seating layout arrangements and student's drawings in the kindergarten's classroom. This kindergarten is located at TK Model, Sleman Regency, D.I. Yogyakarta. This research relates to early childhood learning, so that they can find directions that should be applied in kindergarten's classroom. This research is also identifies the factors that influence the correlation between the role of seating layout arrangements and student's drawings, and identify the best area of seating layout arrangement that can optimizing the results of the student's drawings. This research is using quantitative and qualitative methods. The research uses data and information from the documentation of the activities and student's drawings as the object of research through questionnaire survey. The data collected shows that there are differences of each type of seating layout arrangements to student's drawings. The level of the seating layout arrangements and to student's drawings in this research is a weak correlation. This is because of various factors such as physical and non-physical factors, so that it is refer to design directives that should be applied to optimizing the drawing activities in the classroom. The findings indicate that the use of seating layout arrangement on the floor and carpet by dividing the use area during ongoing activities can be applied. It also shows that physical and non-physical aspects cannot be separated, so it needs a balance between the direction of physical and non-physical aspects based on the sequence of early childhood learning activities carried out by student in the kindergarten classroom.

Keywords*: seating layout arrangements, kindergarten, classroom, student's drawings*

Introduction

The protection needs of the society such as education in the special region of Yogyakarta is very necessary, it is influenced by the increase in population aged 0-9 years since 2014 with a total of 535.000 people until the year 2022 with a total of 563.000 (Kementerian Pemberdayaan Perempuan dan Perlindungan Anak, 2013).

Society needs education from an early age such as kindergarten education which can provide learning activities in appropriate ways (Dinas Pendidikan Kepulauan Riau, 2015).

The importance of early childhood education needs is marked by the increasing number of students of Indonesia in the 2012/2013 with a total of 3.612.441 students until the 2014/2015 with a total of 4.358.225 students (Kementerian Pendidikan dan Kebudayaan, 2017). Early childhood education is expected to be able to facilitate the quality of education through the standards arrangement and procedures for facilities and infrastructure that can improve children's learning effectiveness.

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Kindergarten as a place for organizing early childhood education has increased until the end of 2014 with a total of 79.631 institutions, but not all fulfill the standards of feasibility such as facilities and infrastructure that function optimally (Rubiyantoro, 2015).

The feasibility of facilities and infrastructure for kindergartens can be fulfilled with a variety of things, including paying attention to the interior elements, such as furniture and the layout so that children become enthusiastic about learning (Prasetya, 2012). According to Sunaryo (2004) in Purwaningrum (2006), the layout of interior furniture such as desks and chairs arranged in particular aims to fulfill the learning model.

Arrangement of various elements in the classroom environment at the level of early childhood education can fulfill the feasibility of facilities and infrastructure that appropriate of users need. According to Guardino and Fullerton (2010), regulation of the classroom environment can increase academic involvement by students and teachers. According to Abbas, Othman, and Rahman (2012), early planning in early childhood education is very important to improve the quality of education. The early planning consists of physical and non-physical aspects. The physical environmental aspects consist of the quality of furniture, the quality of environment, while non-physical aspects consist of an education curriculum and training for teachers.

Research Objectives and Scopes

This research was conducted in the classroom A, TK Model, Sleman Regency, D.I. Yogyakarta (Figure 1). The classrooms used have the same space characteristics when data collection is done. Students use the same type of seating layout arrangement in the entire class (Figure 2). The type of seating layout arrangement consists of a desk and chair area, as well as a floor and carpet area. Students in the classroom do drawing activities during painting lessons.

The scope of this study was to find out the correlation between the seating layout arrangement and the results of student's drawing, the best seating layout arrangement, and the factors that influence the correlation of student's drawing and seating layout arrangements. Drawing activities are an important part of this study because these activities are part of the development activities of early childhood 0-6 years.

This research is expected to be an evaluation for education providers regarding the extent of the role of the seating layout arrangement in kindergarten to the student's drawing, besides this research is also expected to be able to provide knowledge that the seating layout arrangement is something that needs to be observed so that student learning is not only seen from non-physical aspects such as learning curriculum, but the fulfillment of physical aspects also needs to be considered, such as the quality of the physical environment of the classroom that must be applied.

Figure 1. The Location of TK Model, Sleman Regency, D.I.Yogyakarta (Source: Researcher's Documentation, 2017)

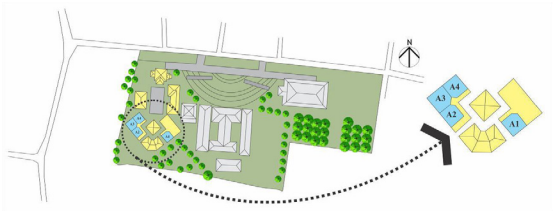


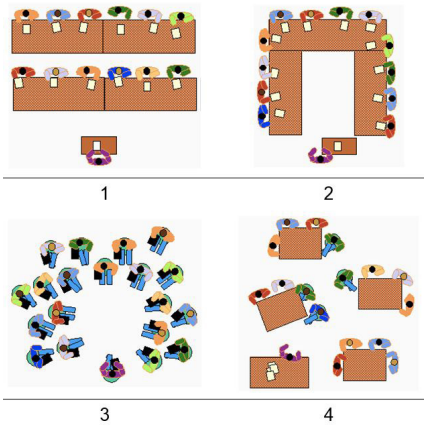
Figure 2. The Position of Seating Layout Arrangements (Source: Researcher's Documentation, 2017)

Literature Review
Review on Seating Layout Arrangements

Classroom arrangements can be arranged to improve learning activities of students, such as individual desk and chair area or in groups according to what learning activities are being carried out (Guardino and Fullerton, 2010). There is not only individual desk and chair area or in groups, the arrangement of random sitting areas and with whom the students sit can affect student's cognitive abilities when learning activities are carried out in the classroom (Grubaugh and Houston, 2013 in Hannah, 2013).

According to Atherton (2013) in Ahmad et al (2015), there are several types of seating layout arrangement in the classroom:
1. Traditional classroom layout
2. U-shaped layout for whole group discussion
3. Fish-bowl layout for bigger group discussion
4. Small working groups

Figure 3. Seating Layout to Facilitate Teaching and Learning (Source: Atherton, 2013 in Ahmad et al, 2015)



Review on Child Development

Education aims to optimize the children development through the teaching and learning process in children's learning systems. According to Morrison in Suhada (2016), there are several concepts of child learning: children learn to use all senses, and children have the right to receive the learning process in stages that are interesting, meaningful, and according to their abilities.

Child learning produces a variety of different child development based on increasing age. The development of children aged 0-6 years consists of motor development, language, playing and drawing (Suhada, 2016).

Review on Drawing Activity

According to Suhada (2016), drawing activities in the process of early childhood development include various abilities such as making graffiti through various forms and media. According to Oguz (2010), drawing activities are carried out by students through the support of parents and teachers appropriately so that children can maximize their abilities and creativity.

According to Oguz (2010), the factors that influence drawing quality in children are :

Internal Factors (Characteristics of Children)
1. Readiness, maturation, age
2. Intelligence, motivation / stimulation
3. Experience, physiological and psychological conditions, individual differences

External Factors (Nearby Environment)
1. Family
2. School
3. Teacher
4. Peer groups
5. Social, economic, cultural

Research Methodology

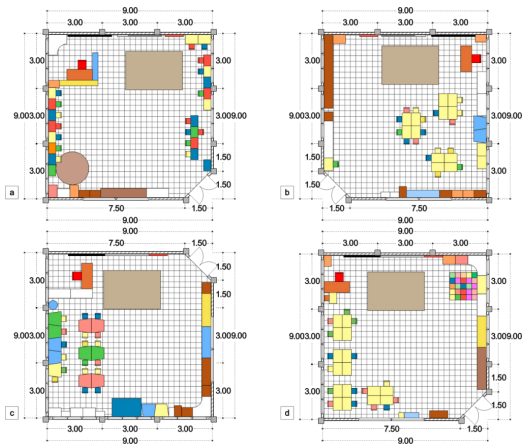
This study uses the rationalistic paradigm with a quasi-experimental approach. This research method is a mixed method: quantitative (statistical calculation) and qualitative (descriptive). The tool used in this study is a camera to obtain drawing activity data and student's drawing. Data and information are obtained from observations made by researchers, and then the results of these observations are collected into questionnaires.

The research location is classroom A in TK Model, Sleman Regency, Province D.I. Yogyakarta. Group A classrooms consist of four rooms: A1, A2, A3 and A4. Classrooms are used by 15-16 students. This size of classroom is ± 81 square meters.

Classroom facilities consist of desks and chairs arranged individually or in groups, floor and carpet areas that can be used to do drawing activities. Students in the classroom do drawing activities during painting lessons on Thursday

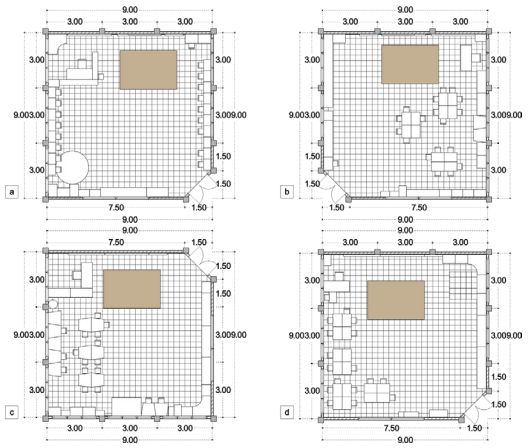
at 09:45 to 10:45 AM for A1 and A2, and at 10:45 to 11.45 AM for A3 and A4.

Figure 4. Location of Research - Existing (Source: Researcher's Documentation, 2017)



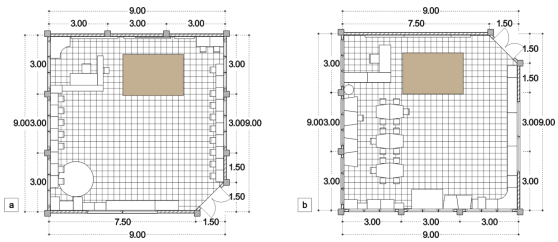
Information:
a : Classroom A1 c : Classroom A3
b : Classroom A2 d : Classroom A4

Figure 5. Location of Research - Fish-bowl Layout for Bigger Group Discussion 1 (Source: Researcher's Documentation, 2018)



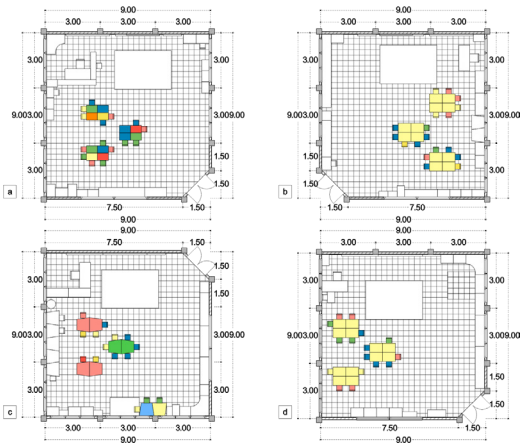
Information:
a : Classroom A1 c : Classroom A3
b : Classroom A2 d : Classroom A4

Figure 6. Location of Research - Fish-bowl Layout for Bigger Group Discussion 2 (Source: Researcher's Documentation, 2018)



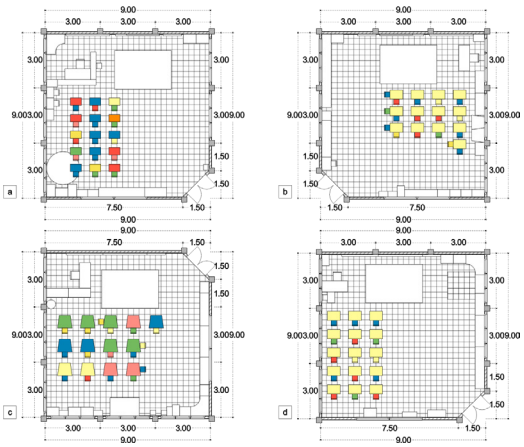
Information:
a : Classroom A1 b : Classroom A3

Figure 7. Location of Research - Small Working Groups (Source: Researcher's Documentation, 2018)



Information:
a : Classroom A1 c : Classroom A3
b : Classroom A2 d : Classroom A4

Figure 8. Location of Research - Traditional Class-room Layout (Source: Researcher's Documentation, 2018)



The subjects of this study were students with similar levels, character and age: group A students consisting of 4-5 years of age. In addition, the research subject used as a valid sample is students who use all types of seating layout arrangement while doing drawing activities, and have the results of drawing that are done while in the classroom. Re-search of research subjects who fulfill these criteria took 29 respondents from a total of 63 students.

Classroom measurement is done by using a measuring device to measure class size and the size of the sitting layout arrangement used by students (the floor area, carpet area, and desk and chair area). Obstruction of drawing activity and drawing results is done by documentation directly with the camera. Some of the stages and analyzes carried out in this study are as follows:

1. Applying the type I of seating layout arrangement (existing), II (fish-bowl layout for bigger group discussion 1), III (fish-bowl layout for bigger group discussion 2), IV (small working groups), and V (traditional classroom layout). Type I to II, III to IV, IV to V have a time range of one week, while type II to III has a time range of two weeks.

2. The documentation of drawing activities and the results of the drawing is included in the questionnaire assessment.

3. The results of the questionnaire were analyzed using statistical tests: Cochran Q Test and Chi Square Test to determine the correlation between the seating layout arrangement and the student's drawing. The results of this statistical analysis will also show the best seating layout arrangement to student's drawing.

4. Conduct a descriptive analysis that is associated with various literature studies to find out the factors that influence the strong or weak level of the correlation between the seating layout arrangement and student's drawing.

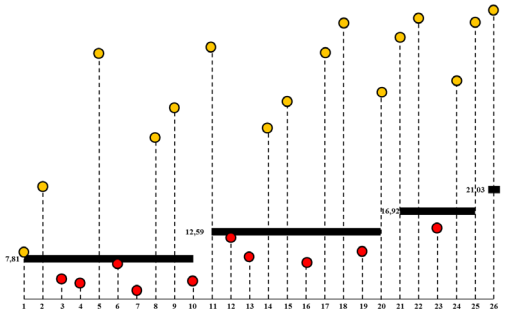
Result and Discussion

The use of the seating layout arrangement by students when doing drawing activities consists of four main parts: the floor area, carpet area, group desk and chair area, and individual desk and chair area. Type I (existing) uses all areas in the classroom: the floor area, carpet area, desk and chair area, and individual desk and chair areas because in this type all students are free to use the entire sitting area as they normally do during drawing activities. Type II (fish bowl layout for bigger group discussion 1) and type III (fish bowl layout for bigger group discussion 2) uses floor and carpet areas, but has a different range of times when applying the seating area and the number of users of the space. Type IV (small working groups) uses group desks and chairs. Type V (traditional classroom layout) uses individual desk and chair areas.

Correlation of Seating Layout Arrangements and Student's Drawing

The observations results on student's drawing show a variety of data for each class. In general, seating layout arrangement has a significant difference between the entire of seating layout arrangement to the student's drawing. This result is shown by statistical analysis (Cochran Q Test) which produces conclusions that are general. The calculated Q value (student's drawing) is greater than the x2 table, which is 10,95 > 7,81. While in more detail based on statistical analysis (chi square test), the results show that not all seating layout arrangement affect the student's drawing. There are 62% who have a correlation between seating layout arrangement and the student's drawing with the level of correlation is weak, while the other 38% have no correlation seating layout arrangement and the student's drawing. (Table 1)

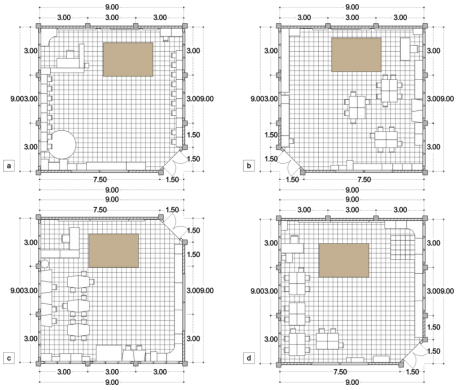
Graphic 1. Chi Square Test of Seating Layout Arrangements to Student's Drawings (Source: Researcher Analysis, 2018)



Information:
1 – 26 : Seating Layout Arrangements
■ : Xtabel Standard
● : There is a Correlation
● : No Correlation

Based on these results, the type of seating layout arrangement (II and III) has an influence on the student's drawing. Both of these types have similarities: the use of seating layout arrangement on the floor and carpet. (Figure 9)

Figure 9 Seating Layout Arrangements - Type II : Fish-bowl Layout for Bigger Group Discussion (Source: Researcher's Documentation, 2018)



Information:
a : Classroom A1 c : Classroom A3
b : Classroom A2 d : Classroom A4

Table 1 Chi Square Test of Seating Layout Arrangements to Student's Drawings (Source: Researcher Analysis, 2018)

No.	SLA	C	NC
1	I - II		
2	I - III		
3	I - IV		
4	I - V		
5	II - III		
6	II - IV		
7	II - V		
8	III - IV		
9	III - V		
10	IV - V		
11	I - II - III		
12	I - II - IV		
13	I - II - V		
14	I - III - IV		
15	I - III - V		
16	I - IV - V		
17	II - III - IV		
18	II - III - V		
19	II - IV - V		
20	III - IV - V		
21	I - II - III - IV		
22	I - II - III - V		
23	I - II - IV - V		
24	I - III - IV - V		
25	II - III - IV - V		
26	I - II - III - IV -V		

Information
SLA : Seating Layout Arrangements
C : There is a Correlation
NC : No Correlation
: High Value

The Factors that Influence the Correlation of Seating Layout Arrangements and Student's Drawing

Students use several different types of seating layout arrangement each week. The first seating layout arrangement is the carpet area. This area measures 3,1 x 2,1 meters which is used by one teacher and 15-16 students. The carpet area is used by students at the beginning and during the drawing activity. The carpet area is located close to the blackboard can maximize the delivery of drawing lessons by teacher, and teacher can monitor students during the drawing activities so that students can fulfill various indicators of achieving drawing activities. However, the small area of the carpet had an impact on the freedom of students to carry out various media and drawing equipment.

The second seating layout arrangement is the floor area. This area has a larger size. In this area, students become more careful when drawing because they have more flexibility in placing media and drawing tools, but direct direction from students becomes less.

The third seating layout arrangement is a group desk and chairs. The desk area consists of several sizes according to those in the classroom: a small desk measuring 0,4 x 0,6 meters and measuring 0,5 x 0,7 meters, and a desk with a trapezoidal shape measuring 0,6 meters (P1) – 0,8 meters (P2) x 0,7 meters, while the chairs used are 0,3 x 0,3 meters. According to Prasetya (2012), this measure is in accordance with the minimum standards set by Departemen Pendidikan dan Budaya Indonesia (1992). In this area students sit close to other students so that they can influence each other while doing drawing activities that affect the results and the quality of the pictures of each student.

The fourth seating layout arrangement is individual desks and chairs. In this area students who are drawing can be monitored directly by teacher so that the achievement indicators of drawing activities can be optimized for some students so that they can affect the quality of the drawing produced. In this area students can also sit comfortably because each student has enough desk area to place media and drawing equipment.

Based on the explanation above, there are factors that influence the correlation between the seating layout arrangement and the student's drawing. These factors consist of physical and non-physical aspects, this also has an impact on the level of correlation that is weak because not only the physical aspects that affect the results of student's drawing. The factors that influence the correlation between the seating layout arrangement and the student's drawing are the school, the teacher, other students, and the characteristics of each

child such as age, intelligence, motivation, and condition of the child.

Conclusion

From this discussion it can be concluded that not all types of seating layout arrangement relate to the student's drawing. The type of seating layout arrangement associated with the student's drawing is the type of seating layout arrangement on the floor and carpet, but the strength level of the correlation is weak. The weak correlation is influenced by several factors including physical and non-physical aspects.

Analysis using statistical tests on the correlation of the role of seating layout arrangement and the student's drawing in this study shows that there is an influence from the physical aspects of early childhood learning, especially drawing activities. The factors of physical aspects that affect the correlation consist of the conditions of the space used such as the type of seating layout arrangement used and the dimensions of the seating area. While other factors such as non-physical aspects consist of the learning system used and the characteristics of each student.

The most effective recommendation is to improve the optimization of physical aspects through the use of floor and carpet areas when drawing activities are carried out, and sort activities by sitting in a circle on the carpet area at the beginning and end of drawing activity, while drawing activities can use the floor area so students become more comfortable when drawing and being free to put various media and drawing equipment.

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