

Transcendence of Students' Cognitive Abilities in Drawing Through Environmental Theme at Multicultural Primary Schools

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ABSTRACT

Images are expressions expressed in the form of strokes that resemble visual objects. Images are produced through appreciation of specific signs that characterize the object. The choice of shape to be used as an image object is influenced by the knowledge of the object. Experience, observation, the ability to remember, the ability to translate concepts, and cultural backgrounds are the main elements of the image works represented through motor skills. The differences in age and development of cognitive abilities affect the appearance of an image. This research is a qualitative research method which conducted by describing the welding of data and research findings to understand the phenomenon of what is experienced by multicultural research subjects including cognitive abilities, behaviour, perceptions, and actions in a holistic manner, in a special natural context. It is utilizing a variety of scientific methods. The subjects are students from Primary School in Pekanbaru city who participated in the drawing competition with the theme of the environment. The data is obtained through observation, interview, and documentation study techniques. The data are analyzed using the qualitative approach proposed by *Miles* and *Huberman*. The research analysis consisted of three activities carried out simultaneously, called data reduction, data presentation, and data verification. Activity data analysis is an integral inter-related and interaction process at the time before, during, and after data collection. The results of the data analysis study show that the work picture of elementary school students multicultural with an environmental theme 1) the choices of the object image is created based on analysis, experience, and judgment cognitive elementary school students in the operational phase of concrete which consists of language skills (visual), the ability to remember and reasoning ability. 2) The expression such a picture with the theme of the environment is characterized by the cultural background of students who appear in a different selection of objects, choice of colours, and image of expression.

Keywords: *Cognitive abilities, Multicultural Students, Drawing.*

1. INTRODUCTION

The drawing tradition is a legacy from human ancestors who lived in rocks. according to arsyad laihtu (2020) explains that most of the existing rock paintings in the world are made in the form of strokes or lines. pictures are visual expressions that are easy to make. only having the ability to draw a line, someone can take a picture. if a child is given writing tools, the first thing they will do is make scribbles or lines. the form of the scribbles continues to develop and the volume will be controlled according to the development of intellectual and motor skills. an art expert in the 16th century Piere duquet stated that a child who does not draw is an anomaly, and especially between the ages of 6-10, it is

an extraordinary golden age of creative expression. Dennie Wolf and Howard Gardner describe the artistic development of children as a form of direct communication and trust-building with others to communicate something. This is what people see in everyday life when a child scribbles a wall with a visual form that adults cannot understand but it can tell well by children. This is what makes some people think that children's drawings are accidental and meaningless scribbles. Children's drawings are scribbles formed due to irregular strokes. At least that's what most people often say. According [11] the nature of children's image expression is reflected in the honesty of children to describe their ideas or observations based on the child's

point of view. Wright images are the result of ideas expressed through the media of lines and colors, images are a form of thought and awareness that are deeply rooted in oneself. Bastomi, Syakir, 2014 and Mujiyono, 2007 states that images are a manifestation of ideas expressed in line or color media, presenting a real or imaginative form or object. An image is a human expression of an object, both real and imaginative, which is manifested by using a line, which is a firm statement which states that it is not something that happened not because it was accidental. Images are the result of crystallizing thoughts that are born through motoric movements using scribbles. Lowenfeld and Brittain, 1964 argued that scribbles can be divided into three main categories, namely disordered scribbles, controlled scribbles, and named scribbles. Primary school students are generally aged 6-12 years.

Referring to the theory of the development of children's art by Lowenfeld and Brittain, it means that the development of art for elementary school-aged children is during a period of controlled and named scribbles. According to Victor Lowenfeld and Limbert Brittain, the development of art for elementary school children is in the pre-emptive era, charts, and pseudo naturalism. Kellogg, 1970 suggests that children who enjoy the drawing process and initial drawings begin as doodles without representation, from these scribbles develop certain shapes and objects which are then used to create representational images. Pictures are children's attempts to produce aesthetically pleasing images and are in this way overlooked by adults seeking visual realism.

This is what makes this research important to do, to find out how a picture is made by children. the development of children's drawings is strongly influenced by the breadth of experience and knowledge. extensive experience accompanied by increased knowledge is the best effort to realize an object realistically. this was stated by Jerome Bruner that development occurs through three stages, namely: enactive, iconic, and symbolic. the increased ability will run well if knowledge can be sustainable with the cognitive that is already owned. the knowledge aspect consists of several levels of ability, namely: *know, comprehension, application, analysis, synthesis, and evaluation*. cognitive theorists admit that learning involves associations that are built through linking or repetition. cognitive theorists view learning as involving the mastery or rearrangement of cognitive structures in which a person processes and stores information.

1.1. Formulation of problem

- a. Do the multicultural elementary school students' environmental-themed drawings have cognitive values?

- b. Whereas cognitive values can be seen in the work of pictures with the theme of the environment of Multicultural Elementary School students
- c. How do elementary school students classify cognitive values on environment-themed images?
- d. How are the differences in the cognitive values of multicultural elementary school students' picture works?

1.2. Research Purposes

This study aims to:

- a. Describe the cognitive values of the multicultural elementary school students' environmental-themed picture work.
- b. Describe the forms of cognitive values in multicultural elementary school student environment-themed images.
- c. Classifying cognitive values in the picture works with the theme of the environment of multicultural elementary school students

2. RESEARCH METHOD

2.1. Research Subject

The population study is 42 consisting of 18 men and 24 women. The population is elementary school students in Pekanbaru City who took part in a drawing competition with the theme of the environment at the Elementary School level which was sponsored by the PGSD FKIP Riau University study program. The research sample is determined by referring to the participation of students in drawing activities with environmental themes. This refers to the social situation theory put forward by Spradley in Sugiyono, 2015 that social status consists of three elements, called: place, actors and activities in synergy.

2.2. Research Approach

This study examines the cognitive values of students' drawings with the environmental theme. In order to understand the context of the pictorial work, the study chose a qualitative approach as a descriptive research approach. This research will give meaning to elementary school students' picture works using descriptive method. A qualitative approach is an approach from various cultural (multicultural) backgrounds naturally. J. Creswell 2010 says that qualitative research is based on the philosophy of post positivism to examine natural objects.

2.3. Research Instruments

The research instrument used two kinds of instruments, namely:

- a. Observation sheet of student activities in drawing with environmental themes. The observation sheet was developed with 4 indicators of cognitive abilities proposed by Benjamin Bloom, namely: remembering, understanding, applying and analyzing.
- b. Interview guidelines. The conversation was carried out by both parties, namely researchers as interviewers and research subjects as informants. Contains the main questions that will be developed situational during the interview process. The interview indicator refers to the taxonomy bloom on cognitive abilities (1956) in relation to the object of research being elementary school students, so this ability is the ability to remember, understand, apply and analyze. Researchers conducted open interviews (unstructured) with students.

2.4. Data Collection and Analysis Techniques

The Data collection techniques and data analysis were carried out simultaneously. Concept formulation, categorization, and descriptions of research data are developed based on "events" obtained during field observations. Data collection and data analysis activities continue using qualitative data analysis techniques proposed by Miles and Huberman, 1992 as follows.

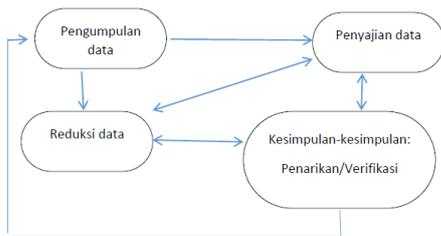


Figure 1. Research Data Analysis Cycle.

With the interactive nature of data collection with data analysis, data collection is an integral part of data analysis activities. Data reduction is an effort to summarize data, and then sort the data into certain conceptual units, certain categories.

3. RESEARCH RESULT

After making observations and interviews with children, the following data were obtained. The total sample size was estimated at 42 people according to the number of participants, it turns out that after observations were made in the work process and also

confirmed by the results of the interview, there were 7 participants who did not meet the criteria as research samples because they learned to draw through art studios that tended to conduct art training through the sampling method. This was confirmed by the results of interviews with students and parents. Thus the sample of this study was only 35 people from 30 public and private schools. In accordance with the research problem that has been stated, based on the steps proposed by Miles and Huberman it was found as this follows

- a. Students' cognitive values in learning to draw with environmental themes are manifested in their work. All students can state the reasons for the creation of their drawings.

Table 1. Describing Cognitive Values in Drawing Work

Pictures	Cognitive Values
	The picture is a rural environment in Batak lands. Students could explain the objects of mountains, houses, coconut trees and other trees well. Even the people who are made the objects are all members of the family.
	This picture could also be told by the students well, but when it being asked by the people in the village where the students went where they could not tell, he answered that he liked being in the village because it was quiet and the air was fresh.
	Image of the environment around the residence. This is a residential playing field (fasum), students can tell all the objects contained here and even the pink house is the house of their friend who is also in the drawing competition
	This picture is a picture of a house environment in a hilly complex in the city high. Cognitive scores are not good because they cannot tell. This image is a fantasy environment obtained from children's fairy tales

	<p>This picture is the public facility environment in the sub-district that people use on Sundays for poco poco exercise. Students' knowledge and experience is very limited to remember objects that represent the environmental image ideas they make</p>
	<p>Image of an environment when all life was filled with technology. Humans can communicate with nature, with buildings, with outer space. The icons are chosen quite well by changing all the shapes like the curved line of the wave symbol</p>

The pictures above are examples of some of the students' works that illustrate their cognitive abilities by making them manifest in environmental-themed drawings. Environmental images that are used as image objects are their memory of the real natural environment. However, some create fantasy environments that are affected by games that are mostly played on their respective gadgets. Here are also some other pictures that are also interesting, but because they are influenced by the pictures that are introduced and used as examples by the teacher from the results of drawing competitions in other places, both locally and nationally. Even though the ideas and ideas use their coloring style from imitating, they can still describe the objects they make.



Figure 2. Drawing works are affected by the examples given by the teacher.

The picture above was made by 3 students from different schools. Images with characters like it are almost 40% made with the same technique. But if you look at the coloring technique, the choice of color, the way to scratch the drawing tools even though they are all the same. When they describe the image and the elements contained in it, they know it, recognize the characteristics of the object, and recognize the identity and function of well-drawn objects. The following is a picture that also has the same character but has a different speech.



Figure 3. Drawing works created with different perspectives on the environment.

The picture above is a drawing of a student with an environmental theme with the perspective drawn is what is in the environment on a large scale. They did not place themselves in the environment. Students do not interact with the environment which is the object of the image. A picture of a school, the idea is that the student's house is near the school. The parachutist image is an image made to express the student living in the Air Force dormitory and often watching parachuting training. At least that is the information obtained from interviews with students.

4. DISCUSSION

Based on available data, it is known that students' cognitive abilities or values are closely related to their work. This disputes the belief that children's drawings are drawings because of their talents or skills. Children's drawings are the result of a combination of knowledge and skills that are expressed with personal expression. According to Bastomi , 2014 which states that images are a manifestation of ideas expressed in line or color media. *Table 1* shows the elementary school students' drawings with the theme of the environment. The pictures are good and have a unique character for children. Based on the work process they did for 3 hours. it was obvious that the pictures they made were well planned by the students using their managerial skills. Even though there are parents who shout to give instructions to their children when it is late in making pictures they seem to ignore the instructions from their parents. The work they made came from their understanding of the drawing competition theme given by the committee. From the results of interviews with students, the expressions displayed in the form of pictures are purely their ideas about the environment. This can be seen from the shape of the objects they display which are still simple plates, by using various scribbles, but still showing the distinctive identity of the object in question. Lowenfield, 1964 explained that

elementary school students' visual expressions in picture works are always expressed in three ways, namely disordered scribbles, controlled scribbles, and named scribbles. The work process carried out by students provides important data to us on how children can collaborate their knowledge with motor skills on an ongoing basis. In coloring pictures activities, 100% of children responded to inference questions from the interview activity according to their performance process. Very varied visual expressions are a manifestation of students' interactions with their environment, such as seeing exhibits or sample pictures provided by the teacher, which is one of the ideas that color their thinking. The cognitive theory presented by Jerome Bruner in Subandi, 2010, is visible in the drawings of elementary school children. The Active, Iconic, and Symbolic stages appear simultaneously in their work. Drawing is one of the activities that is fun and liked by elementary school students who tend to have imaginative and expressive characters in pouring their ideas and preferences into image media. For elementary school students, art activity is often an attempt to resolve self-conflict over choosing the right object to use at a certain time. (*Michel I Posner 2009*). The freedom to choose objects to manifest ideas by some experts is called a necessity because through art students can explore other discourse in other fields of study. The acceptance of a work of art is an interpretation and a process because every acceptance of a work activity takes place with an individual perspective for himself. Thus, children's drawing works are motor works carried out with cognitive abilities. Good and Brophy, 1990, state that knowledge is essentially a thought construction that is formed, because biologically there is an interaction between organisms and the environment, and cognitively there is an interaction between thoughts and objects. Based on the research findings above, it can be following the formulation of the research problem, so the classification of cognitive values in drawing activities

with the theme of the Environment can be seen in the following table.

a. The ability to remember can be seen from the behavior of students in drawing through the selection of objects by remembering objects that have been seen in other people's pictures. The image objects displayed are objects around the house or around the school 100% and the objects used are 67% everyday objects.

b. Understanding is reflected in behavior, every object drawn is attempted to appear complete / paired (limbs, trees, mountains, car tires 81%. Nature is distinguished by nature, home environment, school environment. Nature fantasy at 79%.

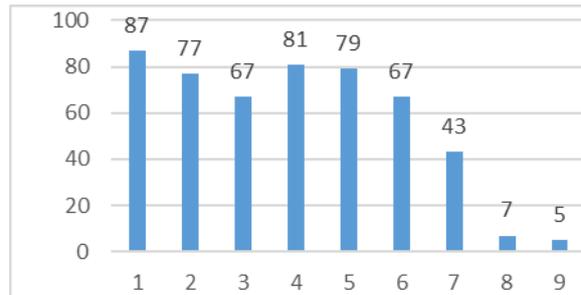
c. Implement, All activities displayed are an implementation of everyday experiences (swing, slide, ride a bicycle, etc. 95%. Differences in gender identity,

buildings, plant characters, equipment, and functions are used at 80%.

d. Analysis is the ability to analyze from the perspective of color, shape, 11% weather, and analysis of the proportion of 5% objects.

The results of classifying the students' cognitive scores are as follows.

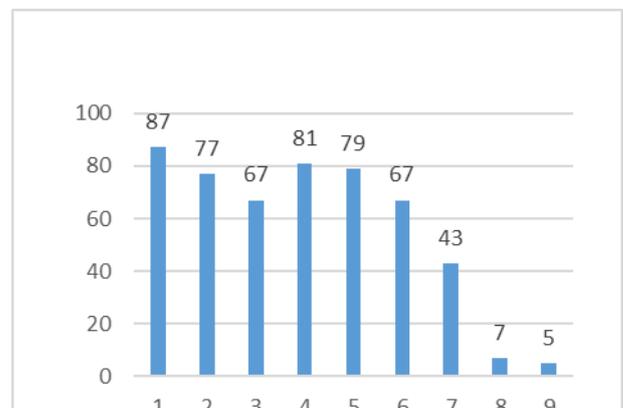
Classification result graph Cognitive value



Furthermore, from the results of data analysis, students' cognitive scores in drawing with environmental themes can also be grouped, namely:

- a. Memory: able to clearly describe object images and explain where these objects are found in everyday life 87%. Can state, or describe, or look for similarities, as well as provide examples on different objects and at 77% different situations. Can tell where the object in question can be found 67%.
- b. Understand: can explain the specification of the object image logically 81%. Can tell the dimensions of the object image clearly and logically 79%.
- c. Applying: can tell the events shown in the pictures as well as the characters 67%. Can explain the process, or explain parts and subsections of objects seen from 8 cardinal directions 43%.
- d. Analyzing: can tell the specification of object shape, color, character, and other 7%. Can explain the relationship and linkages between objects.

Graph of identification results Cognitive value



4. CONCLUSION

1. Each picture that students make is a portrait of cognitive abilities according to Bruner's cognitive theory. (enactive, iconic, and symbolic)
2. The objects that are used as the object image of the iconic character of something
3. The cognitive value of multicultural students is a manifestation of remembering, understanding, applying, and analyzing
4. Diverse cultural backgrounds do not affect their drawing activities nor their choice of objects

AUTHORS' CONTRIBUTIONS

The results of this study provide information and knowledge to all of us that children aged 6 to 12 years are children who think logically like humans. The difference is only in the quality of the ability. In terms of drawing, if parents and teachers can take a deeper look, each picture that students make is a reflection of the child's feelings and their assessment of an object.

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