



Jurnal Pendidikan Usia Dini

<http://journal.unj.ac.id/unj/index.php/jpud>

Volume 16. Number 1. April 2022

e-ISSN (Online Media): 2503-0566

P-ISSN (Print Media): 1693-1602

Reading Children's Drawings Through Analysis of Three Metafunction

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DOI: <https://doi.org/10.21009/JPUD.161.13>

Accepted: March 4th2022. Published: April 30th, 2022

ABSTRACT: For researchers, early childhood educators, and art educators, the contribution of this article is to expand meaning in drawing activities. Perspective in reading pictures using visual culture theory, especially visual grammar. This study aims to share knowledge and experiences in reading early childhood pictures from different perspectives. This research method uses a qualitative descriptive approach through visual material data collection techniques and analysis of three metafunctions. The objects of research are three pictures of children aged 7-8 years, namely the works of winners of the I-III children's painting competition held by PP-IPTEK TMII in 2018. Aspects of the representation structure, interaction system, and composition of each image are analyzed. The research findings conclude that the ideational function of the three images shows a narrative structure of representation and raises the discourse of resistance to the actual situation. The interpersonal function of the three images places the image maker in the real world and as an object of display impersonally. The textual functions of the three images position social life on other planets as a reflection of hope for a real social life.

Keywords: children's drawings, visual culture, visual system, three metafunctions

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1 INTRODUCTION

Children and students of all ages are surrounded by digital technology that was not available five years ago, and they are participating in a massive, impromptu experiment (Hirsh-Pasek et al., 2015). Young children's and students' interactive digital experiences are revolutionized by mobile touchscreen devices (Hwang et al., 2015). The days of the mouse, keyboard, and desktop graphical interface are numbered due to the increasing use of touchscreens (Papadakis & Kalogianakis, 2020). Children use mobile devices to explore and learn in a natural way such as by touching, repeating, and trying again. The explanation is that touchscreen devices are made to be effectively used by even visibly young users (Kucirkova, 2017).

The role of gadgets peaked when the world experienced the Covid-19 pandemic in the past two years, becoming the main means of turning the wheel of life. The child's life is no exception. Through YouTube channels and film providers, early childhood is generally familiar with the films Tayo, Baby Shark, Coco melon, Masha and The Bear, Bernard Bear, Boss Baby, Vlad and Nicky, and PJ Masks. This does not include children's game applications with countless types. These various films and games carry their own ideological, psychosocial, and cultural characteristics. In addition, because it is broadcast through the world wide web network, all these shows are consumed by children all over the world forming a global culture. According to Freedman and Stuhr (2004), global culture functions to produce a hegemonic virtual reality, including social awareness and identity. Children's interactions that tend to be intensive with various cultural products are likely to affect development, using the term (Santrock, 2011), the biological, cognitive, and socio-emotional aspects of children.

The term drawing (drawing) has been used in a mixed manner with the term painting (painting), mainly associated with a child's activity. For example, the word painting competition is more commonly used than drawing competition. However, to express play activities, the word drawing tends to be more commonly used. For adults, these two terms have different meanings. Characteristics of the image, in general, are realistic and are formed from line elements. Paintings can be realistic, fictional, and abstract, and are formed from all visual elements. According to Lowenfeld (1949), the dominance of the line is in the drawings of children aged 2-4 years, called the scribbling stage, and 5-7 years is called the pre-schematic stage. Irregular lines made by children at the scribbling stage cannot yet relate to the shape of real objects, because awareness of the relationship between cognition, motor coordination, and objects has not grown. The lines that seem meaningless to children are a form of the visual-mental process, the process of developing the mental acuity needed to learn to read at a later age (Kellogg, 1973).

This is different from the characteristics of children's drawings in the next stage of development. By Santrock (2011) it is called middle and late childhood with an age range of 6-10 years, or by Lowenfeld (1949) it is called a schematic stage with an age range of 7-9 years. Starting at this stage, to borrow the sentence of Elliot W and D. Day, (2004), the child's picture unfolds naturally and shows that the same picture contains strong

evidence of the cultural influence he has experienced. In de Lautour (2020) today's children need to face specific challenges in 21st-century culture such as sustainability, globalization, and citizenship. This implies that learning from the past that focuses on transmitting facts becomes less relevant; it is more important to develop the ability to adapt past learning, skills, and abilities to live in today's changing world. In relation to drawing activities, in drawing children enter the space to express their intelligent opinions and experiences, actualizing their significant potential as a cultural tool that plays a role in social processes in producing cultural development (Knight, 2008). The picture of this stage of the child is the focus of discussion in this article.

Different points of view in reading children's pictures are in line with the changing paradigm of thinking, in tune with the development of today's culture. Children's art is a term that has been generally used by art researchers and educators. This means that children's drawings have almost always discoursed in art disciplines. Referring to Quaglia et al., (2015) core theories of children's art that had a strong influence during the 20th century include, Kellogg, (1973) and Lowenfeld (1949). This 20th-century art education is commonly called Discipline-Based Art Education (DBAE). In the 21st century, the way we see the world is changing. Information and events in other parts of the world through digital communication technology can be witnessed in real-time. Humans of various ages, social statuses, and locations can interact with each other, face-to-face without hierarchical boundaries. Inevitably ways of thinking, culture, customs, and habits also interact with each other. All these phenomena were not reached by children's art thinkers 50 years ago. Elliot and Day (2004) argue that the world of children has changed, Lowenfeld's (1949) typology of art is no longer in accordance with the development of today's children who undergo more complex experiences. Children's drawings illustrate the influence of visual culture, a type of visual culture that art historians and art educators pay little attention to.

Visual products in today's world culture play an important role in shaping one's cultural identity. The industrial world continues to improve the visual image product and has formed the idea of a society in a structured manner. Therefore, popular forms that are circulated by mass media and the internet become important learning experiences for children (Mamur, 2012). Capacity in drawing activities can accommodate this experience. This type of art education is called Visual Culture Based Art Education (VCAE). Unfortunately, in addition to the complaint that Elliot and Day (2004) still lack the attention of educators, research on visual culture discourse in children's drawings is also still relatively rare.

One of the important theories in the discipline of visual culture is the thinker (Kress et al., 1996). Moerdisuroso, (2017) calls this thinking a theory of visual grammar or visual order. According to this theory in every visual text, there is a metafunction, which consists of three dimensions of function. The formulation of the three problems above each represents each function. Based on this problem, this study aims to make the visual culture

of children's images readable as self-declaration texts, and communication texts that are influenced by the social environment.

2 THEORETICAL STUDY

2.1 *Children's Pictures*

Children's experiences, knowledge, and imagination serve as the foundation for their drawings (Nielsen, 2012). As a result, the drawings can be seen as expressions of thoughts, feelings, and meanings that the children have not yet thematized (Funch, 1996), though what the images convey is also influenced by the children's drawing abilities, their level of abstract thinking, and their familiarity with visual cultural codes in their environment. When children sketch at home or at daycare facilities as well as when they encounter and employ other visual cultural idioms, such as in colloquial language, body language, and media pictures, they learn to apply visual cultural codes in their expression (Nielsen, 2012).

The context and environment in which children draw are also important factors, as are the directions given for the activity and, crucially, the relationships that the kids have with the adults giving them the instructions. Children's drawings might show instances from their environment, features of their experiences that they value, and things that were noteworthy at the time the picture was made. In other words, sketching enables youngsters to articulate an emotional or significant experience that they have had but have not yet verbalized or classified. As signs or symbols that relate to and refer to something that they have stored away, children's drawings are frequently seen as reference data (Everts & Withers, 2006). Drawing as a method is frequently combined with additional elaboration by the kids, whether it be written or spoken, as it was in this project, for this reason. This gives the kids a chance to relate to what they had drawn and provide more answers (Driessnack & Furukawa, 2012). The method aids in children's memory of specific events or feelings and offers a different perspective on the interpretations and meanings they attach to the situations they depict than that gained from interviews or questionnaire responses (Butler et al., 1995).

Similar to this, the drawings may serve as a nonverbal entry point into the world of childhood experiences and emotions (Jolley, 2009), and subsequent family conversations may be expected to reveal information about the child's relational experiences within the context of the family (Gernhardt et al., 2013). In this way, even though the reasons for the children's worries differed, the use of drawings as a research approach proved to be incredibly helpful support for discussions with the kids on challenging and taboo themes.

Quaglia's et al., (2015) article describes the shift in children's image discourse. In the early 20th century researchers positioned children as incomplete adults. Children's images are measured from the criteria of adult images, with an orientation to real objects. This was in line with the aesthetic paradigm of the time which saw realistic accuracy as the highest achievement of a work of art. The researcher's understanding then shifted to the

awareness that children have their own artistic sense. In addition, the preferences of children who draw in a certain way are also appreciated. From the mid to late 20th century, the discourse on children's images shifted as a means of identifying mental growth. For example, Lowenfeld (1949) describes seven aspects of mental growth that can be detected through images of children: emotional, intellectual, physical, perceptual, social, aesthetic, and creative. Entering the early 21st century, children's images are discoursed as visual culture, positioned as visual propositions, containing self-statements with social dimensions.

2.2 *Visual Setup and Metafunction*

Children's pictures in the visual system can be called visual text. Kress and van Leeuwen (2006) define visual order as the analysis of a visual text from a particular social group, along with explicit and implicit knowledge of this text, and its use in practice by its user group. This understanding contains the meaning of social terms not in the form of the image, but in the aspect of its use. Therefore, the objects, events, and themes that are displayed are not limited to social beings. All possible visual forms, whether figurative, non-figurative, or even abstractions in the form of diagrams and maps are socially defined because the motivation, purpose of creation, and practice of using them are in the dimension of human interaction.

Kress and van Leeuwen in reading visual order are based on Halliday's principle of metafunction, that text is a resource in making meaning that has metafunctions, namely ideational, interpersonal, and textual functions. The ideational function is a text dimension that serves to represent elements in the real world as normally experienced by humans (experiential), and elements and their interrelationships in the world of logic (conceptual). The interpersonal function is an aspect of the text that reflects the interpersonal relationship between the author and the user of the text. The text also has the capacity to form an integrated relationship internally within the text itself, and externally with a particular context; This text dimension is called a textual function. The metafunction of a visual text is read through at least three aspects, namely: representational structure, interaction system, and composition. The ideational function is found in the aspect of the representation structure, the interpersonal function is reflected in the interaction system aspect, and the textual function is seen in the composition aspect. The details of the understanding of all aspects of metafunctions and the principles of their meaning have been described by Moerdisuroso (2017) so the three aspects of metafunctions in this paper are directly used as children's image analysis tools.

3 METHOD

3.1 *Research design*

The paradigm of this research is critical theory, with a qualitative descriptive approach, and the method of visual materials (Creswell, 2015). The object of research is three pictures of children aged 7-8 years. This research was conducted in Jakarta in July 2022

on pictures of children who won the painting competition which was held in 2018 in Jakarta. The drawing from the competition was chosen because of the consideration that the technical aspect of drawing is relatively above average so that attention can be more focused on aspects of the visual arrangement.

3.2 Data Collection and Analysis

The data for this research are the three winning images of the I-III painting competition with the theme "Space" in 2018 which was held by the Science and Technology Demonstration Center (PP-IPTEK) at Taman Mini Indonesia Indah, Jakarta. The data was obtained from the documentation of one of the judges of the painting competition. Information about the identity and status of the winner can be confirmed. The three images were analyzed based on metafunction aspects, including representational structure, interaction system, and composition. The analysis of each aspect produces social meaning. In this way, the visual culture of children's images can be read.

4 RESULT AND DISCUSSION

4.1 Result

The three images were analyzed based on metafunction aspects, including representational structure, interaction system, and composition can be seen in table 1.

Table 1. Children's Drawing Pictures



Figure 1. Age 7 years (female).
Winner I

Figure 2. Age 8 years
(Female). Winner II

Figure 3. Age 8 years (Male).
Winner III

The results of the study in the form of child image data and metafunction aspects of the three images can be seen in table 2.

Table 1. Findings of Metafunctional Aspects

Metafunctional Aspect	Visual Text 1	Visual Text 1	Visual Text 1
	1	2	3
A. Structure Representation	<p>The participant is depicted in the form of a child with long hair, purple shirt, dark blue trousers lying on the ground holding a bolster pillow, appearing dominant in the lower 1/3 of the image area. Body and face tilted towards the viewer, eyes closed, the image of a sleeping girl.</p> <p>The other participants are pictured in 2/3 of the drawing area above the female figure, filled with 6 human figures in space clothes, arranged in 3 vertical layers. Start the bottom layer in a row filled with 2-3-1 figures. All the figures are facing the viewer with happy expressions. Among the figures are depicted various colorful lollipops, ice cream, and chocolate. The background is filled with yellow-purple-graded curved planes. The separate area between the lying woman and the 'nature' above is connected by 3 circles.</p>	<p>The structure of this visual text representation consists of a participant-drawn in the form of a dominant-sized girl's face in the lower left corner of the image field. His eyes widen to the right of the image. His finger touched the edge of his right eye.</p> <p>Above the face there is an image of a kind of wooden boat floating with the stern facing the viewer. At the front, you can see a line of 3 human figures dressed in spacesuits sitting cross-legged on the grass. The three of them face the viewer. The figure on the left holds a watering can, the middle figure holds a plant, and the right figure holds a flowerpot.</p> <p>You can see the figures of elephants, deer, and lions behind the three figures. Shady green trees underlie all these figures.</p> <p>Three transparent bubbles are placed in a vertical row on the right side of the woman's face. Inside the 2 bubbles depicted a kind of doll playing a skateboard. The figure of a person in diving glasses playing with a fish appears in another bubble.</p>	<p>Participant-illustrated this visual text includes a boy figure standing in the middle of 2 female figures. All three are dressed in space. The color of the boys' clothes is gray-white, and the two girls are dark yellow brown. The woman on the left is holding a kind of doll. The faces of all the figures looked happy.</p> <p>The figure of an adult man is embracing an alien creature standing side by side. The two figures touch each other's index fingers.</p> <p>On it, there is a kind of airplane side view. Between the airplane and the figure area of 3 children are drawn rainbow-colored lines. In the upper left corner is the planet Earth and in the upper right corner is the sun. From the tail of the plane, you can see a picture of smoke curving away toward the earth.</p>
Narrative Form	<p>The female figures and the other illustrated participants did not appear to be directly related.</p>	<p>There is no direct relationship between the female child and other figures.</p>	<p>The ranks of the three children do not show a direct relationship. Likewise, there is no direct relationship between the three children and the 2 figures behind</p>

			them and with other illustrated participants.
B. System Interaction			
Relationship Form	The direction of the eyes (gaze) of the participants is shown that no one is looking at each other, and no one is looking at the viewer.	The eyes of the illustrated participants are not looking at each other, and no one is looking at the viewer.	The faces of all the figures are facing the viewer, but none have their eyes fixed on the viewer.
Social Distance	The main subject or actor in the picture, namely the figure of a girl, is depicted intact from head to toe.	The subject is depicted from head to shoulder	Boy subjects are depicted in their entirety from head to toe.
Viewpoint	The subject's body position is lying horizontally facing the viewer.	The subject's face is positioned diagonally to the viewer.	Position the subject horizontally facing the viewer.
C. Composition			
Information Value	Place the subject under the other illustrated participants	Place the subject under the other illustrated participants	Place the subject under the other illustrated participants
Salience	The subject's body size is larger than other figures so that it becomes the center of attention of all participants - illustrated	The size of the subject's head is very large compared to the head of other figures so that it becomes the center of attention of the entire participant	Place the subject of the boy in the front and with the most attractive gesture so that it becomes the center of attention of all participants - illustrated
Framing	The 'nature' of the other planets is depicted with solid boundaries.	Another planet's 'nature' is depicted with solid lines	There is no clear line that separates one part from another.

4.2 Discussion

4.2.1 Ideational Functions: Astronauts to Deal with Reality

The ideational function is read from the aspect of the representation structure or image form. Kress et al., (1996) divide the representation structure into two groups. The form of images that show natural objects as experienced by humans daily is called a narrative representation structure. Abstract images such as diagrams, schematics, maps, abstract shapes that do not exist in nature, and the like are called conceptual narrative structures. The three images studied all show the form of real objects, such as humans, animals, plants, and airplanes, which are presented in the imaginative realm of other planets, so they are classified as narrative representation structures.

The structure of image representation by Kress et al., (1996) is like the structure of verbal language. Active sentence structure consists of subject-predicate-object, and vice versa. The subject in the picture is referred to the most prominent depicted participant, thus serving as the beginning of the narrative. Based on this understanding, the findings

of the first visual text in table 1 column 2 can be narrated as the following active sentence: "A girl is dreaming about life on another planet that is fun, can enjoy various snacks". The narrative of the second visual text finding in table 1 column 3 is: "A girl is imagining life on another planet with fertile and peaceful environmental conditions; humans, plants and animals can coexist". The findings of the third visual text in table 1 column 4 are narrated as follows: "A boy with two girlfriends and one boy are playing on another planet in a peaceful and pleasant atmosphere, extraterrestrials welcome him warmly".

The influence of visual culture for example in Figure 1, in line with the theme of the competition, is shown, among others, in the form of children dressed as astronauts. The designer has never seen this type of clothing firsthand. His knowledge of the attributes of the astronaut suit was obtained indirectly, through printed books and digital information. In addition, visual culture is specifically seen in the form of various favorite snacks of children in general, such as lollypops, ice cream, and chocolate, cultural products of children's consumption that are experienced directly in daily life. Through the imagination of combining direct and indirect visual culture, Figure 1 discusses freedom in consuming snacks. By reading the same way, picture 2 talks about a sustainable environment, and picture 3 talks about peace.

According to Vygotski (2004), the creation of an imaginary situation is not a coincidental fact in a child's life but is rather the first manifestation of the child's emancipation from situational constraints (Hall, 2020). Based on this opinion, the 3 topics discussed in the picture: freedom of snacks, a sustainable environment, and peace, are most likely a form of resistance to the daily social situations experienced by the artist. Picture 1, for example, is usually prohibited by his family from consuming the kind of snacks depicted. Drawing 2 used to see a slum and arid environment. As for the 3rd picture, it is normal to witness the story of aliens who are always at war with humans.

In the narrative representation structure, there is a narrative form, namely participant-illustrated relationships and interactive participants that reflect the form of action (Kress et al., 1996). The three visual texts show the similarity of the participant's gaze (gaze), no one is looking at each other, and they are not looking at the viewer. This indicates that there is no direct relationship in the illustrated participants, so the narrative form is classified as a non-transactional reaction. This type of narrative form implies that the participant figures are depicted as standing on their own, not establishing social relations.

4.2.2 *Interpersonal Function: Between 'We' or 'Them'*

According to Kress et al., (1996) interpersonal function is read through aspects of the interaction system, which consists of three sub-aspects: form of relationship, social distance, and point of view (angle). The form of the relationship reflects the interactive relationship between the illustrated participant and the interactive participant in two possibilities: a demand relationship or a supply relationship. Both are characterized by the presence or absence of the participant's gaze-drawn to the viewer. The three visual texts have the same participant-picture that no one is looking at the viewer. This indicates

a form of supply relationship, namely the offer of participants-illustrated to the viewer so that the image is used as an object of display that has no emotional connection.

Social distance reads how far away the participant is depicted from the viewer's point of view as the camera's distance from the object. The closeness of the distance indicates the value of personal-social relationships in the spectrum of intimate distance (in the form of a very close-up face), and close personal (to public distance (depicted as a whole body of the subject along with several other figures). The distance from the head to the span of the fingertips is classified as private distance. The rest are classified as social distance. In visual text 1, the subject of a girl is depicted as a whole body in a sleeping state. The surrounding is a sleeping room. This arrangement indicates that the painter places himself at a social distance away from the viewer. Visual text 2 depicts the subject's head to shoulders. this reflects the depicter positioning himself in a close personal distance from the viewer. Meanwhile, in visual text 3, the subject's body is depicted in its entirety with two other figures. This arrangement reflects the subject placing himself at a public distance, equating himself with other children in general.

The point of view in the visual system is read through the placement of imaginary axes horizontally, vertically, and diagonally across the image plane. Each axis expresses a different social meaning. The horizontal or diagonal axis relates to alignments with 'us' or 'them', and the vertical axis relates to the hierarchy of power. Subjects in visual text 1 and 3 are depicted in a horizontal position parallel to the viewer. This reflects the imager positioning himself as part of the audience. The subject in visual text 2 is placed diagonally to the viewer, which means that the artist places himself on a different side from the viewer.

4.2.3 *Textual Function: Planet, 'Our' World of Hope*

Information value, salience, and framing are three sub-aspects of composition that reflect textual value. By placing the imaginary horizontal and vertical axes in the center of the image plane, the value of information is in the placement of objects in certain zones left-right, top-bottom, and center-edge. The three visual texts predominantly show a vertical composition, namely the subject at the bottom, and other planetary realms at the top. Like the meaning of top-down in general, above can be interpreted as a realm of hope, rational, conceptual, while bottom means reality, empirical, experiential. The painter positions himself in the lower zone, meaning he is in the realm of reality.

Prominence is an illustrated-participant element that is created to attract the viewer's attention, as a priority, and to be the starting point for reading the image. The findings of the study show that the three visual texts have a prominence in common, namely the body of the subject of the drawing is large. This means that the three illustrators present themselves in the picture, in different degrees. Visual text 2, 1, and 3 each mean very prominent, prominent, and quite prominent. The framing is the integration or separation of information in the image, which is marked by a vague or firm boundary between units of information. Framing also signifies co-ownership or not. Visual text 1 creates a sharp

dividing line between the natural regions of the planet. This reflects the painter firmly framing the dreamland information on another planet as not his.

Visual text 2 puts information about life on other planets right before the eyes of the artist. There are no boundaries for other planets. Between the depicter who is in the real world and the atmosphere of another planet, it is framed into a unified information unit. In addition, social life on other planets seems to be a part of his life. As for the framing in visual text 3, it is read from the depiction of other planets' realms, not the real world. The artist is on another planet. All the information in the picture is intertwined and equally important and shows the painter's hope that makes social life on other planets as life in the real world.

5 CONCLUSION

This study resulted in four conclusions. First, the structure of the representation of the three visual texts from the competition with the theme "space" reflects an ideational function in the form of depicting real everyday forms that are imaginatively displayed as social life on other planets. The influence of visual culture in the daily life of the artist is reflected in the shape of objects experienced directly and indirectly, as well as from discourse against real situations. Second, the three visual texts show different sub-aspects of interaction in showing interpersonal functions. The relationship of participants in the three visual texts has the same non-transactional reaction, namely placing the image as an object of the display without emotional ties. The social distance sub-aspects of the three visual texts appear in gradation: the visual text 2-1-3 shows close personal distance - long distance social distance - public distance from the viewer. The viewer's point of view on the viewer in visual texts 1 and 3 horizontally signifies himself as part of the viewer. The position of the imager in the visual text 3 diagonal to the viewer reflects himself in a different way from the viewer. Third, the composition between parts of the image is organized as a statement of textual function in the sub-aspects of information value, highlighting, and framing. The information value of the three visual texts has something in common in the form of placing the subject in the lower zone of the image, which means the artist is in the real world. Protrusions are displayed differently. Visual text 2, 1, and 3 each mean that the subject places himself in the image very prominently, prominently, and quite prominently. So is framing. In the visual text 1 the painter firmly frames the dreamland information on another planet as not his. The 2-drawer visual text frames social life on another planet as if it were part of their life. The visual text depicter 3 frames the expectations of social life on other planets as life in the real world. Finally, the complexity of metafunctions can be used in reading children's pictures in line with the development of the complexity of the influence of visual culture on the development of cognitive and socio-emotional aspects of children in the era of digital technology.

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