



Colour Interests on the Cognitive Course Aspects and Protected Children Emotion

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ABSTRACT

Colour plays a very important role for children, especially in carrying out activities in the teaching and learning process. The importance of colour to children has been demonstrated through past studies. Colour is very important to be applied in learning activities to help cognitive and emotional development of children and affect the age and gender of children. However, the importance of using colour in any learning activity is not clearly stated. This study is a case study to explain the importance of using colour to cognitive and emotional development of children based on themes based on analytical documents. This study uses friend verification to get the theme's reliability based on the theme of the study. Additionally, this study will explain the effect of colour usage in learning activities on the age and gender of children. The implication of this study can explain the importance of using colour in children's learning activities. The conclusions of this study are to assist the selection of appropriate colours to be applied in the teaching and learning process.

Key words : Colour interest, children emotion, emotional development and cognitive domain

1. INTRODUCTION

The application of colour usage in learning activities is one of the in-teresting and important activities for children. Karniol (2011) noticed that the use of colour in colouring activities is an activity that is often used in schools especially in pre-school education. The use of colours in the teaching and learning process is more effective and efficient through the activities carried out by current teachers in the classroom. Based on the importance of colours and colouring activities in children's daily lives, it has been proven by the sales volume of colour pencils from 80 countries around the world, of which USD500 million of profits have been achieved as a result of the sale of coloured pencils (Jana, 2007).

Colour plays an important role in everyday life especially for children. Through colour, children's learning will be more

effective and meaningful. According to Gage and Berliner (1998), cognitive development of pre-school children is in pre-operative and intuitive phase. At this stage children will be able to classify and categorize objects according to colour and material. The Gage and Berliner statements (1998) support that the role of colour in the teaching and learning process is of interest to cognitive development where based on the use of colour children is easier to learn in classifying and categorizing objects (Ahi, 2017; Kimura, Wada, Yang, Otsuka, Dan, Masuda, Kanazawa and Yamaguchi, 2010).

In addition, the use of colours in colouring activities can reflect the emotions and feelings of children. Historical research has proven that colour and emotion have a very strong relationship where Keskar (2010) has proven that each colour has its own meaning and can describe one's emotions. However, colours can also depict the emotions of children. Based on the studies conducted by Burkit and Sheppard (2013) show that the colour selection in their paintings symbolizes children's emotions at a time. In addition, Burkitt and Barrett (2004) in their study show that children can describe a character either as good or otherwise through the use of colour in their paintings.

Realizing the importance of colour to children based on the results of previous studies, the author will explain in more detail the importance of colour to cognitive and emotional development. This is because based on literature studies, previous studies have emphasized the importance of colour to cognitive development (Ahi, 2017; Villarroel, 2016, Kimura, Wada, Yang, Otsuka, Dan, Masuda, Kanazawa and Yamaguchi, 2010) and emotionally (Burkitt & Newell, 2005; Burkitt & Sheppard, 2013). Therefore, this paper will discuss the importance of colour to children in cognitive and emotional aspects and the effects of colour on the age and gender of children..

2. METHODOLOGY

This study is a case study focusing on analytical documents using related journals. This study covers 5 related journals and mapped expert assessments for trust confirming. Then, this data is analysed according to the theme to answer the research objectives.

2.1 The Importance of Colour on Children's Cognitive And Emotional Development

Colour plays a very important role in children's cognitive development. (Lawler and Lawler, 1965). This is because colours can make it easier for children to learn and explore the process of teaching and learning more interesting and effective. Based on the results of the study conducted by Kimura, Wada, Yang, Otsuka, Dan, Masuda, Kanazawa and Yamaguchi (2010) children can explain objects based on colour. Children can distinguish from yellow to red and from blue to green. It is also accompanied by Hayakawa, Kawai and Masataka (2011) statements where children can better identify colour-based objects. In addition, Proverbio, Burco, del Zotto and Zoni (2004) emphasize that during the identification process of the object, the child's brain responds more rapidly to colour than the shape. Therefore, it is clear that colour plays an important role in children's cognitive development.

In Turkey science is one of the subjects emphasized in pre-school learning. Recognizing the plants and their parts is one of the most important topics in Science subjects. According to Ahi (2017) the use of colour can stimulate preschool children to paint plants. This is because the use of colour can help children to recognize the plants more deeply and can help children to recognize the colours they use. The results of the study conducted by Ahi (2017) found that the elements found in children's paintings are not only plants but also other elements in their paintings are like soil elements, atmospheric elements such as the sun, clouds, rain, rainbow and also smoke. In addition, there are elements of life such as humans, animals, domestic, fish and birds. The children also draw other additional elements such as home, car, balloon, street and also the shape of the heart.

Colour is one of the identities that can identify the feelings of children. Historical research has proven that the colour role in painting is very important in describing the child's feelings. According to Burkitt and Sheppard (2013) based on colour usage it can illustrate the good or bad features of an object in the drawing as well as a child expressing a happy and sad feeling through painting based on the chosen colour selection. In addition to the colours can describe the feeling of excitement and sadness for children, the use of colours in children's paintings can also illustrate positive and negative feelings. Positive feeling is reflected in the use of diverse and bright colours. However, to illustrate negative feelings, children are more likely to choose dark colours. (Burkitt and Newell, 2005; Burkitt and Barret, 2004).

Lawler and Lawler (1965) stated that bright and bright colours such as orange, yellow, green and blue represent a happy feeling. While brown, black and red colours are used as a colour that depicts sad feelings. Statement of Lawler and Lawler (1965) is also supported by Boyatzis and Varghese (1994) statements where children are more likely to choose bright colours to illustrate their happy feelings while dark colours illustrate feelings of sadness. The findings of Burkitt and Sheppard (2013) found that children four to seven years old can express a happy and sad feeling through painting and

colour selection. Children are more likely to choose yellow to express their happy feelings. The choice of brown and black colours is the colour choice of children to illustrate the feeling of sadness. The results of the Burkitt and Sheppard studies (2013) are supported by Buckalew and Bell (1985) which also state that the colours depicting the happy mood for children between the ages of four and six are yellow.

However, the colour selection depicting happy and sad feelings is also influenced by local cultural and social factors. Burkitt *et al.* (2007) conducted a study of children in the United Kingdom found that children were more likely to choose pink to illustrate their happy feelings, while black to describe the sad feelings. In addition, the colour selection that describes the child's mood is also influenced by the school environment even in the same country. The children are more likely to choose yellow to illustrate the sad feelings. These differences show that children's feelings are not only influenced by cultural and social factors but the school environment also affects the feelings of children.

Also, age also affects colour selection to illustrate the feeling of being happy and sad. The results of Burkitt *et al.* (2003) found that older children tend to choose a variety of colours to describe the feeling of being happy and sad. Yet younger children only use a little colour in their paintings to describe the feeling of being happy and sad. Additionally, older children can draw pictures to describe the feeling of being happy and sad with the colour selection that describes the feeling. This clearly shows that age factor also affects children depicting their feelings through colour selection (Burkitt and Barret, 2010).

However, mixed feelings of joy and sadness have been described in red and blue. According to Burkitt (2008) red colour has been proven as a colour that combines both emotions. This is because red is associated with positive interpersonal and intrapersonal, such as strength and confidence. In addition, red is also associated with negative interpersonal and intrapersonal like coups and sadness. The red colour is also not suitable to be used as a colour that illustrates one's success. It is also a more emphasis on the warnings (Elliot, Maier, Binser, Friedman and Pekrun, 2009). While blue is, it is often associated with calm and sadness (Burkitt *et al.*, 2003). Consequently, the use of these two colours in children's paintings can show the emotions and emotions of the children.

2.2 Colour Effects on Childhood

Colour plays a very important role in the lives of children. Based on previous study results, age also affects colour selection for children. This difference has proven that colour and age affect children. Burkitt & Sheppard (2014) stated that bright colours and pastels can help stimulate children's senses until they are 6 years old. Villarroel (2016) stated that bright colours and pastels are more likely to be chosen by older children while younger children are more synonymous to canonical colours where they will be more likely to distinguish an object with a green colour for leaves, yellow to the sun and others.

The results of the AI study (2017), the 4-year-old children's paintings highlight the elements of flowers, soil, rain, sun, grass, seeds and clouds. While 5-year-old children paint more flowers, clouds, houses, grass, sun, rain and insects. This clearly shows that Ahi (2017) can prove that with the increasing age of children, they can link between plants with the elements around them. Overall, based on Ahi's (2017) study, children can associate the use of colours with plants and other elements drawn on the paintings. The use of green is used as the main colour of plants, brown and light green is used as soil colour and grass, light blue is used as cloud colour and yellow colour is used as sun colour. Here clearly shows that children think realistically based on canonical perception. Where the child can classify an object based on specific colours.

2.3 Impact on Children's Sex

The importance of colour to children is not only about cognitive, social and emotional aspects, but colours also play a very important role in the game by sex. Generally, in pink and pink European and American games are very much related to girls while the blue game is linked to the game for boys (Paoletti, 2012). Paoletti's statement (2012) is supported by the results of the study conducted by Prieto et al. (2017) where girls are more likely to choose pink and purple as the colour of their game. This study also revealed that most of the boys are more likely to choose blue and red colours as their game colours. The difference in colour selection of games by gender also plays an important role for children. This is because the tendency of the game according to the gender of the child is one of the drivers for the child to be more convinced to play with the game.

Specific colour selection and suitability of game types by gender also play a very important role for child development. The results of the study conducted by Prieto et al. (2017) girls are more likely to choose the purple Geometric Shapes game and Number Tiles game with pink colour. While for boys it is more likely to choose the game Geometric Shapes with red and Dominoes game with blue. The tendency of girls to choose pink and purple and the tendency of boys to choose blue and red to the game chosen is because they are colour closely related to their life since childhood. Prieto et al. (2017) also reinforced the results of the study where the colours and types of games according to gender can motivate children to play with the game. Indirectly these special colours and games have a positive impact on the children's learning.

Based on the results of the study conducted by Ahi (2017), girls are more likely to choose soft colours to use in their paintings than boys. The colours used by girls in the painting are light green and light blue. While boys are more likely to use bright colours in paintings such as yellow, red and blue colours. The Ahi study (2017) is supported by Burkitt and Newel (2005) statements where boys are more likely to choose bright colours while girls are more likely to choose soft colours. In addition, Ahi (2017) states that girls prefer to use a lot of colours in their paintings. A total of 8 out of 12 colours have been used in their paintings compared to boys who only use 5 of the 12 colours provided in their paintings. So it is clear that girls are more

likely to choose bright colours and a lot of colour use in paintings than boys who prefer to use bright and light colours in their paintings.

3. FINDINGS

The use of colour to children through activities carried out during the teaching and learning process is one of the activities that benefits many children. Through activities that emphasize on the use of colour have shown its importance to cognitive and emotional development and affect the age and gender. The tables 1 to 4 below summarizes the importance of colour towards cognitive and emotional development of children. Each colour used in the activities carried out shows emotions as well as can classify and categorize objects painted on the colours used by children. In addition, the difference in colour usage in the activities is based on sex as well as age for children.

Table 1: Colour Selection Based on Emotion

Feeling	Reference	Colour
Positive	Burkitt and Newell (2005)	Bright
	Burkitt and Barret (2004)	
Happy	Lawler and Lawler (1965)	Clear and bright Orange Yellow Green Blue
	Boyatris and Varghese (1994)	Bright
	Burkitt and Speppard (2013)	Yellow
	Buckalew dan Bell (1985)	Yellow
Negative	Burkitt and Newell (2005)	Dark
	Burkitt and Barret (2004)	
Sad	Lawler and Lawler (1965)	Coklat Black Red
	Boyatris and Varghese (1994)	Dark
	Burkitt and Speppard (2013)	Brown Black
Happy and sad	Burkitt (2008) Burkitt, Barrett and Davis (2003)	Red Blue

Table 2: Colour Selection By Age

Reference	Age	Object in the drawing	Element	Colour
Ahi (2017)	4 years	i. flowers ii. Soil iii Sun iv Grass v Seed vi Cloud	i Trees and grass ii Soil iii Cloud iv Sun	i Green ii Brown iii Light blue iv Yellow
	5 years	i Flowers ii Cloud iii House iv Grass v Soil vi Sun vii Rain ix Insects		
Villarreal (2016)	6 to 7 years		Leaf Sun	Green Yellow

Reference	Age	Colour	Impacts
Burkitt and Sheppard (2013)	4 to 6 years	Clear and pastel	Can stimulate the senses of children
Villarreal (2016)	5 years and above	Clear and pastel	More likely to choose when painting

Table 3: Percentage of Colour Choices By Gender

Reference	Sex	Colour
Paoletti (2012)	Men	Blue
	Women	Pink
Prieto, Cvencekb, Llácer, Escobara and Meltzoff (2017)	Men	Blue Red
	Women	Pink Purple

Table 4: Use of Colours In Drawings By Gender

Reference	Sex	Colour	Total Of Colour Usage
Ahi (2017)	Men	Bright i Yellow ii Red iii Blue	5 – 8 colours
	Women	Soft i Light green ii Light Blue	8 – 12 colours
Burkitt and Newel (2005)	Men	Bright	-
	Women	Soft	-

4. CONCLUSION

Based on the study, it explains the importance of colour to the cognitive and emotional development aspects of preschool children. Based on the following importance, the game can explain the cognitive development and emotion of children to learn. With the feel of playing fun while learning, it encourages

children to get involved directly in the game. Additionally, the effects of the game can help children to pay attention during learning on the run. Based on game usage, it can attract children at the same time to help teachers provide the quality of teaching and learning of children as teachers teach in the classroom.

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