ICEE-2

The Ray of Light: An Activity Approach of Reggio Emilia

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Abstract. The article entitled The Ray of Light: An Activity Approach of Reggio Emilia is a literature review. This article aims to reveal how light can play a role in early childhood education. Exploration activities using light can stimulate critical thinking skills in children. The use of light in the realm of early childhood education was introduced Loris Malaguzzi who was named reggio emilia approach. The reggio emilia approach uses the Vigotsky theory, Piaget theory and uses the philosophy of John Dewey. This approach gives freedom to children to choose their own learning activities, solve a problem, cooperate with others so that children can build their own critical thinking skills and social abilities. The use of light in early childhood education is known as the ray of light atelier, which is a place for children to conduct research and experiments using light. Children who are given the freedom to experiment with light, can provide opportunities to teach children about the concepts of science, namely reflection, refraction, as well as introducing the concept of size and color.

Keywords: Light, Reggio Emilia, Early Childhood Education

INTRODUCTION ~ There have been several studies regarding the light that has been done (Chen & Chen, 2009; Gelman & Brenneman, 2004; Mcnally & Slutsky, 2016; Mitchell, 2009; Santin & Maria, 2017). However, research that focuses on discussing about The Ray of Light Atelier in Indonesia is still rare. Some research more often focus on discussing the introduction of light in general and for children aged above 8 years (Andersson & Kärrqvist, 2007; Bendall & Goldberg, 1993; Blackwell, Lauricella, & Wartella, 2014; Boyes & Stanisstreet, 1991; Brickhouse, 1994). The application of learning activities using light, including new ways of teaching activities, through this activity many aspects can be developed including science in early childhood and this is very necessary to be applied early on. Boyes & Stanisstreet (1991) reveals that more than a fifth of children aged 15-16 years who are the subject of his research think that vision occurs because light travels from the eye to the object. Therefore, it is necessary to provide an understanding of the concept of light correctly in the early age of the child so that it will not cause misconceptions until they became adult. Learning activities using light have been developed by Loris Malaguzzi, an approach in learning activities that is named Reggio Emilia approach.

Reggio Emilia prioritizes participatory, democratic education, construct children's knowledge through flexible long-term project activities including play activities and discussions between themselves and between students and teachers (Santin & Maria, 2017). Other research about using the light in early childhood education by Mitchell (2009) trying to find out innovative programs for technology use including the use of light in Reggio Emilia. Based on this, there is no specific research discussed about the ray

of light an activity approach of Reggio Emilia.

This paper is a literature review that discusses what is the ray of light and Reggio Emilia approach. The purpose of this paper in general is about to explain the importance of introduce the light in early childhood education.

METHOD

This paper uses meta analysis methodology. It analyses previous research about the light and Reggio Emilia approach in early childhood education. Meta analysis methodology is a process of learning and researching by analysing and reviewing various papers from previous research pertaining to the light and Reggio Emilia approach to young children (Mages, 2016; Mitchell, 2009).

RESULTS

Researcher first perform the analyzing to several articles found that rarely of light use in early childhood education. This is due to the lack of teacher's awareness to use light in learning activities.

DISCUSSION

After studying several articles to analysis, the researcher found two major themes related to the ray of light and Reggio Emilia. This sections discuss about the two themes contained in the analysed articles.

Reggio Emilia

Reggio Emilia approach adopt philosophies on thinking Howard Gardner, John Dewey, dan Lev Vygotsky. The similarity of the Reggio Emilia approach with vygotsky theory is that there is a parent's or adult's attention in their children's education, parents have a role to manage learning activities for children and stimulate children's development (Freeman, 2011). Reggio Emilia approach agrees with John Dewey's ideas about democracy, social, education and aesthetics in early childhood education (Lindsay, 2015). Loris Malaguzzi believes that children have 100 expressive languages and styles to convey what they think about (Abramson, Robinson, Ankenman, & Emilia, 2012; Freeman, 2011).

Reggio Emilia regard that children need the freedom to explore and experiment so that they can develop their intellectuals. The Reggio Emilia teacher believes that learning activities must be flexible that connects things that exist in the past, present and future and regard children as creatures who have various ideas and are competent (Freeman, 2011; Martin & Evaldsson, 2012). the priority meaning of learning according to preschool teachers in Italy is as a process of thinking, socializing, proving theory, experimenting, imagining (Freeman, 2011; Mcnally & Slutsky, 2016). Children are free to choose the activities they are interested in, they need to follow the rules

that have been set. This is in line with the results of the research Martin & Evaldsson (2012) which states that young children 6 to 7 years old can participate in a long-term project with the rules and active in their own learning at a Reggio Emilia elementary school in Sweden. A long-term project is one of the characteristics of the Reggio Emilia approach, because this approach focuses on appraise and pay attention to children with all the potential they have, they can reformulate, critical thinking, conduct their idea, and do everyday projects (Mitchell, 2009; Santin & Maria, 2017).

In implementing learning activities, the Reggio Emilia approach is more often used learning media made from natural materials, unused items or loose part (Freeman, 2011). Among the tools which used to encourage learning and explorating in the programs Reggio Emilia in Italy and other countries that follow the Reggio Emilia philosophy, technology is part of learning activities for young children like the light. Some of the technological tools used in Reggio Emilia includes light tables, computers, internet, projected shadows, overhead projectors, digital cameras, color printers, scanners, camcorders, audiorecorders, CD players etc (Blackwell et al., 2014; Mitchell, 2009).

The Ray of Light

There is no one of a place or something that is not touched by the light. Characteristics of light according to Kepler are that light is flowing, light is emitted to a distant and infinite place (Andersson & Kärrqvist, 2007). The light is a physical object that exists and spread in the space (Andersson & Kärrqvist, 2007). The existence of light not always maximally utilized in learning activities and sometimes is not appropriate delivery of the concept of light. The research results Boyes & Stanisstreet (1991) found that there was a misconception in the understanding of children under the age of 10 so they experienced confusion and assumed that light was a lamp and some other electronic objects such as televisions, LCDs and other artificial light sources. If they do not give children an understanding of the concept correctly, they will have difficulty understanding the concept of light even in its basic aspects (Boyes & Stanisstreet, 1991).

Loris Malaguzzi has an idea about how to introduce light and use light as a tool to supporting interesting and fun learning activities. Ray of Light Atelier is a place to investigate the use of light in various forms, stimulate children's creativity and is a characteristic for schools that apply the Reggio Emilia approach (Mcnally & Slutsky, 2016). One example found in Reggio Emilia is the use of light tables on Ray of Light Atelier, is a table that has light underneath to illuminate objects placed on the table (Kang, 2007; Mitchell, 2009). Through the use of this light table, can develop their thinking skills, creativity and develop their social skills. Similarly, Mages (2016) mentions that through the use of light tables from the Reggio Emilia

approach, children can explore collages, to apply developing critical thinking skills, conducting experiment activities in groups or themselves, investigate the silhouettes and patterns of various shapes.

CONCLUSION

The importance of conveying the concept correctly to children at the basic education level will determine the achievement of children at the next level of education. Learning activities using light is an innovation in early childhood learning activities that can attract children's attention to explore, think creatively and critical thinking early on. When children feel happy, they will find it easier to interpret, understand and interested to exploring new things. Utilization of light as a tools in learning activities in early childhood education is still rare to do, this is because it is considered inadequate in terms of facilities, lack of teacher understanding the benefits of its application, there is still a lack of teacher innovation in the implementation of learning activities in schools.

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