The Effect of Storytelling on the Theory of Mind in Preschoolers

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Abstract: This study aims to see the effect of storytelling on the theory of mind in preschoolers. Subjects in this study were 24 preschoolers (M = 60.62, SD = 2.41), who were given informed consent by their parents. The design of this study is one group of a pre-test/post-test design, measuring the theory of the mind before and after intervention. Data were analyzed with the Wilcoxon signed rank test. The measuring tool used in this study is the scale of the theory of mind. Storytelling is given daily to children for four weeks. Results show that storytelling can improve the theory of mind (p < .05) and affect its size (η2 = .80). The implications of this study is that giving storytelling will help to increase preschoolers' theory of mind, so they can imagine, think, and predict the next actions in a story. In addition, the interaction of the subjects with the researcher in storytelling sessions will also be able to stimulate verbal words that indicate an understanding of the feelings or thoughts of others.

1 INTRODUCTION

Understanding the mind is the main skill for children and is an important step towards subsequent stages of conceptual development. Understanding the mind is also a fundamental to developing an understanding of the social world (Fagnant and Crahay, 2011).

The Theory of Mind is important; it is used for socializing, so children can be accepted in their environment. This is in line with some studies that state that the Theory of Mind can develop the social competence of children (Aryanti, 2009; Astington, 2010; Walker, 2005) and can become the best predictor of peer acceptance (Slaughter, Dannis and Pritchard, 2002), can develop the ability of interpersonal relationships (Meltzoff, 2011), and cooperation, reducing prejudice, resolving conflicts (Gehlbach in Woolfolk, 2009), and the ability to interact precisely with others (Astington & Gopnik in Barr, 2006). In addition, the results of the Slaughter, Dennis, and Pritchard (2002) studies conclude that preschoolers with well-developed Theory of Mind skills tend to be more accepted by their peers. Another study conducted by Walker (2005) reveals that Theory of Mind is related to the early formation of social competence.

A lack of Theory of Mind skills in preschool children has a negative impact, especially in terms of social skills. The inability to understand the mental state of others is referred to as mind blindness or "blindness in understanding the mind" (Doherty, 2009). This low ability then implicates the social functioning of children. In Hughes's (2004) study, it is stated that children tend to be "hard to manage", aggressive, and children with behavioral disorders (conduct disorder) are also known to have a poor mastery of the Theory of Mind. In addition, the research conducted by Izard (Tentama, 2012) suggests that children who find it difficult to understand their feelings and those of others, are vulnerable to developing behavioral and learning problems when they are older.

Astington and Edward (2010) explain that the development of the Theory of Mind will have an impact on children's social relationships as well as their success in school. Children with more developed Theory of Mind have better communication skills and conflict handling skills, engage in more complex pretend play, are judged to have better social competence by teachers, feel happier in school and more popular with their peers, and school tasks can also be completed successfully. A study concludes that Theory of Mind abilities are associated with common bullying that happens at school age (Westby, 2013). Demonstrating a low Theory of Mind at the age of five can predict that a child is likely to become a victim or perpetrator

(engaging in aggressive activities as both in action and bullying) during early adolescence.

The problems described above are the basic reason the study of Theory of Mind needs to be carried out. Wellman and Liu (2004) suggest there are several independent factors that influence the development of the Theory of Mind, including conversation, language, and executive function. However, these abilities cannot be separated from the factors that affect it. One of the factors that empirically influences the ability of the Theory of Mind is the ability of language (Astington and Baird, 2005; Miller, 2006; Milligan, Astington and Dack, 2007; Novitasari, 2013; Slade and Ruffman, 2005).

Storytelling is an activity that involves language skills and improves understanding of the Theory of Mind during early childhood (Fernandez, 2011). Storytelling is an activity carried out orally, with or without tools (Dhieni, 2005). In storytelling activities there is a communication process that involves the interaction of the child with the storyteller about emotions, thoughts, beliefs, and desires shown by characters in the story (Fernandez, 2011).

Longitudinal research conducted by Huijung et al. (2008) demonstrates that storytelling activity prompted improvement in the Theory of Mind on a false belief task with 52 children aged 3–4 years. Studies by Symons et al. (2010) suggest that reading storybooks and storytelling activities can develop the mental state and Theory of Mind in children aged 5–7 years. Hacin (2016) also conducted research and results show that storytelling activities can also improve the Theory of Mind and the metalinguistic ability of children aged 4–6 years. Based on the explanations above, the researcher tries to investigate whether there is a significant influence between storytelling and the ability or development of preschoolers' Theory of Mind.

2 METHOD

2.1 Research Design

This study used a quasi-experimental research design that comprises of a one group pre-test/post-test design. Based on the design, for one group, the study measured the participants' Theory of Mind before the treatment (pretest). It then implemented storytelling, and finally, after the treatment, their Theory of Mind was remeasured (Neuman, 2006).

2.2 Participants

This study involved 24 children (57–64 months), comprising of 13 girls and 11 boys. Researchers sought the approval of the subjects' parents first by requesting their informed consent.

2.3 Procedure

The steps taken by the narrator or storyteller during the storytelling (Fernandez, 2011) were: 1) The storyteller started by communicating the theme to the child and keeping eye contact. 2) The storyteller told the child about the characters in the story. 3) The storyteller conveyed the content of the story with and without tools, using unique sounds linked to the characters to keep the listener's attention. 4) During the storytelling, the storyteller interacting with the children and they were encouraged to hold props used by the storyteller, such as dolls, drawings, and sticks. 5) After finishing the story, the storyteller asked the child about the story just told. Questions included: what is the title of the story? Who are the characters in the story? How do the characters behave in the story? What problems did the characters in the story fix? 6) The storyteller conveyed the wisdom, values, or messages contained in the story

This storytelling session was conducted for four weeks (each with six days in a week) for an average 10–15 minutes per session. This duration was based on an article written by Texas (2015), which states that five-year-olds can sit still and listen for 10–15 minute; they are optimistic, eager, and interested in learning, but they have a short attention span.

The storytelling used in this study was based on Astington and Edward's (2010) opinion that a story that can be used to increase the Theory of Mind skills is a story that involves surprises, secrets, tricks, and problems that are then corrected. This invites children to see things from different points of view (for example, a red-hooded girl did not know that the wolf dresses up and pretended to be a grandmother). From these criteria, the researcher chose stories to be told during the storytelling session.

The researcher selected six stories for storytelling, including Pinocchio, Brave Timun Mas, The Shepherd and the Wolf, the Prince of Thabit and the Ungu Monsters, Silver Forest Residents, and The Wizard of Oz (Witch of Oz Country).

2.4 Data Analysis

The data analysis technique used in this study was non-parametric statistical analysis with the Wilcoxon test using SPSS 16. The Wilcoxon test is a statistical test similar to a t-test in independent groups, and uses ordinal data (Jakson, 2009). The Wilcoxon test involves two measurements on the same subject against a particular treatment. The first measurement was performed before the treatment, while the second measurement was performed afterwards. The Wilcoxon test looked at the magnitude of the difference in the scores before and after treatment (Trihendardi, 2009).

2.5 Measurements

2.5.1 Theory of Mind Scale

The data collection tool used in this study was the scale for measuring the Theory of Mind ability of preschoolers. The researcher used the Theory of Mind scale adapted by Puteri (2014) from Wellman and Liu (2004). Some adjustments or modifications to the property or objects used from the Theory of Mind scale were made by Wellman and Liu (2004). The Theory of Mind scale used by Wellman and Liu (2004) was used for research that aimed to create a series of tasks capable of capturing the concept of understanding in preschoolers. The study involved 75 children aged approximately 3–5 years (age range from 2 years and 11 months to 5 years and 6 months).

The scale consists of seven questions, which were administered individually on each child. For each item that required the presentation of a real object, a doll was used to describe the character of the protagonist. In addition, assigned tasks also used the property of the image to show objects, situations, and facial expressions.

Each question consists of two parts: a target question that asked about the mental state or behavior of the protagonist character and a control question that asked about the reality, expression, or circumstances of others. The point on each question had a question that contrasted with another. A score was given if the child answered both questions correctly. The study results stated that the scale had good validity for use as a battery test to measure Theory of Mind ability, especially in preschoolers (3–5 years).

3 RESULT

The data from the pre-test and post-test obtained by the subjects were processed using non-parametric statistic analysis with the Wilcoxon test using SPSS 16. The researcher used non-parametric statistics because 24 subjects were involved in the study. The median of the pre-test and post-test scores/ranks were significantly higher than the pre-test (Me pre = 2, Me post = 5). Because the Z-value was -4.398 and the significance value of the Wilcoxon Signed Ranks Test was .000, it can be concluded that there is a significant difference between the results of the pre-test and post-test of the Theory of Mind variable. The Effect Size in this study used Cliff's Delta. The value of the Effect Size of this research data was .80. These values indicate that storytelling treatment has a high impact on improving the Theory of Mind in preschoolers.

4 DISCUSSION

The results show that storytelling can improve the Theory of Mind in preschoolers, as in the study of Guajardo and Watson (2002) who tested the hypothesis that storytelling activities can improve the Theory of Mind in children. His research proved that performance in false-belief tasks (which sees a child's understanding that one's beliefs may be different from reality) and deception (the use of information that does not correspond to reality) increases significantly in the subject of preschool-aged children provided with storytelling activities conducted in a school setting.

In this storytelling activity, the researcher acted as a storyteller to try and help the subject to understand the various characters, emotional expressions, actions, and story plots presented in each story. Through this storytelling, children are given the opportunity to interact with adults who have better Theory of Mind skills. Storytelling can also help children understand the complexities of social life, in addition to developing their Theory of Mind. In terms of cognitive and language development, the ZPD (Zone of Proximal Development) term put forward by Vygotsky becomes quite relevant. This is a scaffolding strategy carried out by adults during a storytelling session. He believes that children involved in a large number of private conversations, both with older children and adults, will be more socially competent (Santrock, 2011).

The storytelling method used in this research was direct storytelling using media (dolls and pictures). Ariyus (2006) found that preschoolers find it easier to learn a concrete object than abstract object by delivering familiar and simple words. The storytelling contents were selected based on the opnion of Astington and Edward (2010); stories that can be used to improve Theory of Mind skills are stories that involve surprises, secrets, tricks, and problems that are then corrected, inviting the child to see things from different perspectives. Stories that contain these characteristics are expected to form a child's understanding of others' perspectives. This supports the results of research by Peskin and Astington (2004) who suggest that Metacognitive vocabulary improves the conceptual understanding of a child's mental state.

When the subjects received storytelling stimulation for four weeks, indirectly stimulated them to think about and predict the events in the story, or at least predict the subsequent actions of the characters in the book. This predicting activity is also part of the development of the Theory of Mind's, in which one of the roles of the Theory of Mind is to explain and predict behavior. The process of explaining and predicting this behavior alone can only be carried out if one can understand desires and beliefs as well as the feelings of others (Doherty, 2009).

Stories containing metacognitive vocabulary can increase children's ability regarding the Theory of Mind. It is acquired through a dialogue process between the storyteller and the subjects. When it happens, the subject has an opportunity engage in a conversation involving various concepts and mental states, such as desires, beliefs, emotions, and sentences, which can describe various other mental states. It is closely related to aspects of language development, in which various linguistic activities can provide stimulation for children to develop their abilities.

This storytelling provides an opportunity for the child to achieve both factors mentioned above. Through storytelling, accompanied by the properties used, the child will develop their Theory of Mind, so they can imagine, think, and predict actions that will happen next in the story. In addition, the interaction of subjects with the researcher in storytelling sessions can stimulate verbal words that indicate an understanding of the feelings or thoughts of others. It mainly applies to words that indicate emotion; storytelling provides many emotionally nuanced words, such as sadness, happiness, and joy.

In general, this study yields the conclusion that storytelling can improve the Theory of Mind in preschoolers. Research has been carried out but regarding the implementation, there are still limitations. This method uses image media only. In terms of story selection, existing and famous stories were used.

The recommendations for further research include using a larger number of subjects to achieve a more generalizable process. The story selection process can be more varied by making up new stories. Research could implement varied storytelling methods to measure the differences in the influence of each method.

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