Jurnal Scientia
Volume 13, Number 03, 2024, DOI 10.58471/ scientia.v13i03
ESSN 2723-7486 (Online)
https://infor.seaninstitute.org/index.php/pendidikan

Simple Science Learning To Improve Children's Cognitive Abilities Through Taste Playing Activities

Novi Cynthia Yusnita[1], Afdhalina[2], Dinda Widyastika[3]
[1,2]Pendidikan Guru Pendidikan Anak Usia Dini, [3]Pendidikan Guru Sekolah Dasar, Universitas Battuta

Article Info
Keywords:
Science Learning,
Cognitive Abilities,
Play Activities.

ABSTRACT
This research was motivated by children who rarely learn science because the activities carried out are not appropriate for early childhood. Science learning for young children is very important because it can build a strong foundation for their scientific understanding in the future. At an early age, the approach used in teaching science must be fun, interactive, and appropriate to the child's developmental stage. So the aim of this research is to find out the extent of children's cognitive abilities by carrying out simple science learning through play activities to get to know taste. The research method used in this research is a descriptive qualitative method, namely a method used to describe actual phenomena. To support this research, data was collected using observation, interviews and documentation. The results of this research are that there are five playing activities to get to know taste, namely exploring taste, matching taste, guessing taste, creating taste, and making a taste book. By doing these activities, young children not only learn about taste but also develop important cognitive skills such as problem solving, memory, and understanding concepts. Activities that involve this sense make science learning more interesting and interactive.

Corresponding Author:
Novi Cynthia Yusnita
Pendidikan Guru Pendidikan Anak Usia Dini
novicynthiay@gmail.com

INTRODUCTION

Early childhood is a human being who has unique characteristics, they are said to have unique characteristics because they have a high curiosity, have an egocentric attitude, like to fantasize about new things. Children during this period are classified as being in a sensitive period, a period of child growth and development. Science learning for young children is very important because it can build a strong foundation for their scientific understanding in the future. At an early age, the approach used in teaching science must be fun, interactive, and appropriate to the child's developmental stage (Wiyanti, 2020). In essence, early childhood education is playing while learning. Playing has a very important role in a child's personal development period. When playing, children can socialize, imagine, show their talents/potentials, train themselves to be disciplined in obeying the rules, gain a sense of satisfaction, train honesty, responsibility, loyalty and train physical and psychological abilities. Playing is a means for learning and in a playing atmosphere children's attention to lessons can be greater.

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Early childhood science refers to the introduction and learning of scientific concepts in very young children, usually aged 0 to 8 years. The primary focus of science at an early age is building a foundation of understanding of how the world around them works through exploration, observation, and hands-on experience. By introducing science in a fun and relevant way, young children can develop a strong foundation for future scientific learning and increase their critical thinking skills and curiosity. Process skills are a child's initial preparation for applying scientific methods to develop science and acquire new knowledge. According to Munastiwi (2015), process skills are divided into two: basic science process skills and integrated science process skills. Basic science process skills are the foundation for integrated process skills. Basic science process skills include activities: observing, comparing, classifying, measuring and communicating.

According to Ambarwati (2023), early childhood cognitive abilities refer to the development of mental processes that enable children to think, understand and interact with the world around them. At an early age, cognitive abilities develop rapidly and cover various aspects that are fundamental to learning and development. By understanding and supporting the cognitive abilities of young children, we can help them develop optimally and prepare them for future learning and challenges. Basically, cognitive development is intended so that children are able to explore the world around them through their five senses so that with the knowledge they gain, children will be able to live their lives and become complete humans and be able to empower what is around them for the benefit of themselves and others.

Science and children's cognitive development have a close relationship because science learning can significantly influence various aspects of children's cognitive abilities. Effective and fun science learning can strengthen various aspects of children's cognitive abilities. By stimulating curiosity, introducing new concepts, and encouraging problem-solving methods, science helps children develop holistically cognitively, socially, and emotionally. The integration of science learning in children's daily life and education not only increases their scientific knowledge but also strengthens their critical and analytical thinking skills (Umboh, 2023).

Introduction to science should be carried out from an early age with fun activities and through habituation so that children experience the science process directly. Science activities cannot be separated from our daily lives, which function to provide experiences such as making observations to see how events occur in nature and in the environment where we live (Dwi, 2010). This is done so that children not only know the results but can also understand the process of the science activities they carry out. Science allows children to explore various objects, both animate and inanimate. Apart from that, it can also train children to use their five senses to recognize various symptoms of objects and events. To support this process, teachers must prepare appropriate methods.

Based on the results of observations made in Group B at RA Al-Hidayah Stabat, children's cognitive abilities, especially in the field of scientific processing abilities, have not yet fully developed well. Teachers more often use the method of giving assignments using children's worksheets and kindergarten magazines, so this is lacking because the learning activities carried out by teachers are still not conducive. The science learning process at RA

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Al-Hidayah still uses the lecture method, the teacher tells science experiments through picture story books or magazines. This causes children to not be able to develop their knowledge and curiosity, children only imagine and imagine the experimental process told by the teacher. Science learning is dominated by teachers providing examples of experiments without involving children in activities, this makes it difficult for children to explore the media around them.

According to Suyanto (2005) the topic of science learning in early childhood is carrying out simple experimental activities. Experimentation is something that is very suitable for young children because young children have a high curiosity. Experimental activities provide facilities for children to explore the things and objects in the activity. Children can carry out experimental activities in watering wilted plants. According to Ali (2005) children can learn that plants need water to survive through these experimental activities. Play activities designed to introduce taste can be a very fun and educational experience for children. These kinds of activities can help children understand different tastes, such as sweet, sour, bitter, and salty, while expanding their knowledge of food and their taste preferences.

Playing with tastes as part of children's science learning is a fun and effective way to introduce basic concepts in science, such as the sense of taste, taste sensations, and how the body responds to various food ingredients. By using play activities that involve getting to know taste, children can learn about science in a practical and fun way, while expanding their knowledge of food and their senses. We can learn science by playing in a fun way. Science can train children's mentality to be more positive, think logically and systematically. Apart from that, with science we can practice being careful. Because in science we have to observe, organize, estimate and make decisions. Based on the previous problems, the researchers will discuss further about simple science learning to improve children's cognitive abilities through play activities to get to know taste.

METHOD

This research uses qualitative research methods. Qualitative research methods are research approaches used to understand social phenomena or human behavior in depth and comprehensively. Qualitative methods place greater emphasis on in-depth understanding of the meaning, experiences and perspectives of individuals or groups (Sugiyono, 2011). The main focus of this method is to provide an accurate and comprehensive description of what happens in the research context. This method emphasizes a detailed and comprehensive description of the phenomenon being studied. The goal is to describe experiences, views, or events in a clear and detailed manner. In contrast to other qualitative methods which may aim to develop theories or models, descriptive approaches focus more on presenting data in detail and accurately, without the need to build new theories (Mukhtar, 2013).

This research was conducted at RA Al-Hidayah Stabat with a total of 20 students accompanied by 2 teachers. Data is collected through techniques such as in-depth interviews, observation, and document analysis. This data usually takes the form of text, images, or recordings that provide a complete picture of the topic being researched. Data analysis in descriptive methods usually involves identifying themes and patterns in the data collected,

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but the focus is on describing and explaining phenomena as they are, not on constructing theories or hypotheses.

RESULT AND DISCUSSION

Getting to know taste in the context of science learning for early childhood (AUD) can be a fun and educational activity. This activity not only introduces the basic concept of taste, but also develops children's sensory and cognitive skills. Here are some ideas for playing with taste in AUD science learning:

Activity 1: Taste Exploration

Goal : Introduce the five basic tastes: sweet, salty, sour, bitter, and umami.

Material :

1. Foods or drinks that represent each taste (examples: sugar for sweet, salt for salty, lemon for sour, coffee or bitter greens for bitter, and cheese for umami).
2. Several small cups or bowls.
3. Spoon or small spatula.

Step :

1. Invite children to taste each ingredient in turn.
2. Discuss the taste they are experiencing and help them to identify and name the taste.
3. Use picture cards or pictures to help children associate tastes with certain objects.

Activity 2: Matching Flavors

Goal : Develop taste matching and understanding skills.

Material :

1. Several different foods or drinks.
2. Cards or pictures showing various flavors.

Step :

1. Invite children to taste various foods or drinks.
2. After tasting, ask children to match the taste they tasted with the appropriate picture or card.
3. Discuss their experiences and how they felt.

Activity 3: Guess the Taste

Goal : Develop the skills of perception and understanding of taste.

Material :

1. Various food ingredients with different flavors.
2. Blindfold or cloth to cover the eyes.

Step :

1. Gently close the child's eyes or use an eye patch.
2. Serve various food ingredients one by one.
3. Ask children to guess the taste of the ingredients they taste.
4. Discuss the results and provide feedback.

Activity 4: Creating Flavors

Goal : Develop creativity and understanding of how flavors can be combined.

Material :

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https://infor.seaninstitute.org/index.php/pendidikan

1. Various simple food ingredients (example: fruit, vegetables, yogurt, honey, etc.).
2. Cutlery (spoon, bowl, etc.).

Step :

1. Give children some food ingredients that they can mix.
2. Encourage children to try creating their own flavor combinations.
3. Discuss the taste of the combination they created and how the taste changes from the ingredients used.

Activity 5: Make a Taste Book

Goal : Integrate art and science by getting to know taste.

Material :

1. Paper and colored pencils.
2. Pictures of food representing various flavors.

Step :

1. Invite children to make a small book about taste.
2. Ask them to draw or paste pictures of foods representing different flavors on the pages of the book.
3. Discuss the images and flavors they chose and what they learned from the activity.

Based on the activities that children have carried out, it can be seen that there have been several improvements in children's cognitive abilities such as: (a) Improved Memory and Observation: Recognizing taste requires children to remember the taste of various foods and compare them, which can strengthen memory abilities. and observation; (b)Development of Critical Thinking Skills: Children learn to make connections between taste and its source, and understand how taste influences their experience with food. Meanwhile, when children play to learn about taste, there is science learning, especially in the context of sensory science and cognitive development. Here are some of the main connections between sense play and science for AUD:

1. Sensory and Perceptual Science
   a. Digestive and Sensory Systems: Recognizing taste involves the child's digestive and sensory systems. This activity helps them understand how the tongue and digestive system function to detect various tastes. It provides a basic understanding of human biology and how the body works.
   b. Sensory Stimulation: Playing with taste introduces basic sensory concepts, such as how the senses of smell and taste function in taste recognition, as well as how these sensations can be influenced by factors such as temperature or food texture.
2. Exploration and Experimentation
   a. Experimental Methods: Getting to know taste often involves simple experiments, such as mixing different ingredients to create new flavor combinations. This gives children the opportunity to conduct experiments and observe the results, which is a basic principle of the scientific method.
   b. Observation and Research: Children learn to observe how different food ingredients produce different flavors and how combinations of ingredients can affect taste, introducing them to the concepts of research and observation in science.

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3. Chemical and Biological Concepts
   a. Food Chemistry: Although simple, the basic concepts of how food ingredients affect taste (for example, the role of sugar in providing sweetness) can lead to an initial understanding of food chemistry and how chemical reactions can influence taste.
   b. Biology of Taste: Getting to know taste teaches children about the different types of basic tastes sweet, salty, sour, bitter, and umami and how these tastes are perceived by receptors on the tongue. This introduces them to the basic biology of the sense of taste.
4. Application of Science in Everyday Life
   a. Nutrition and Health: Recognizing taste helps children understand the importance of variety in food and the impact of nutrition on health. It teaches them about the basics of nutritional science and how to choose healthy foods.
   b. Eating Preferences and Habits: Playing with taste can influence children's food preferences and form healthy eating habits, which are related to the science of diet and health.
5. Cognitive and Social Skills Development
   a. Cognitive Skills: Recognizing taste helps children in the development of cognitive skills such as memory, problem solving, and critical thinking. Children learn how to compare and contrast tastes, as well as associate them with different foods and ingredients.
   b. Social Skills: Taste-based activities, such as taking turns tasting foods or discussing taste preferences, encourage social and communication skills. It also supports their ability to work together and share experiences.
6. Multidisciplinary Integration
   Creativity and Science: Flavor activities often integrate art with science, as in creating creative flavor combinations. It teaches children that science is not only about theory, but also about experimentation and creativity.
7. Direct Experience and Contextual Learning
   Practical Learning: Playing provides a direct and contextual learning experience, where children learn through direct observation and experience, not just theory.

By incorporating taste play into science learning, young children not only gain a basic understanding of how their bodies work and how taste is produced, but also experience fun and relevant learning. This builds the foundation for a deeper interest and understanding of science as they grow older (Setyowaty, 2022). By doing these activities, young children not only learn about taste but also develop important cognitive skills such as problem solving, memory, and understanding concepts. Activities that involve this sense make science learning more interesting and interactive. Learning science by learning while playing can train students' critical and creative thinking skills. Critical thinking skills that are trained include finding possibilities, errors, distinguishing facts and opinions, estimating causes, and making decisions. Meanwhile, the creative thinking skills that are trained are creating new combinations, comparing, finding other alternatives, thinking creatively, trying to think in reverse and analyzing designs.

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CONCLUSION

Playing with tastes as part of children's science learning is a fun and effective way to introduce basic concepts in science, such as the sense of taste, taste sensations, and how the body responds to various food ingredients. By using play activities that involve getting to know taste, children can learn about science in a practical and fun way, while expanding their knowledge of food and their senses. There are five activities to play with getting to know taste, namely exploring taste, matching taste, guessing taste, creating taste, and making a taste book. By incorporating taste play into science learning, young children not only gain a basic understanding of how their bodies work and how taste is produced, but also experience fun and relevant learning. This builds the foundation for a deeper interest and understanding of science as they get older. By doing these activities, young children not only learn about taste but also develop important cognitive skills such as problem solving, memory, and understanding concepts. Activities that involve this sense make science learning more interesting and interactive.

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