

## **Overview Of The Process Of Utilizing Smart Tv Merah Putih In Stimulating The Cognitive Abilities Of Children In Group B At Satya Prawira PAUD**

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### **Abstract**

*The Smart TV Merah Putih, as one of the learning technology products in the Merdeka Belajar program, offers great potential in early childhood education. This research aims to describe the process of utilizing the Smart TV Merah Putih in stimulating the cognitive abilities of Group B children at PAUD Satya Prawira. The study uses a descriptive qualitative approach with a case study method. Data collection techniques were carried out through participant observation, in-depth interviews with teachers, and documentation of learning activities. The research subjects were 15 Group B children and 2 accompanying teachers. The results revealed that the utilization process of the Smart TV Merah Putih occurs in three main stages: (1) preparation (teachers select educational content from the Digital Aplikasi Sekolah Indonesia (DASI) and Merdeka Mengajar platforms that align with cognitive objectives), (2) implementation (screening animated videos, educational songs, and interactive games that stimulate memory, classification, problem-solving, and number concept recognition), and (3) reflection (teachers conduct Q&A and follow-up activities based on the viewing). This process successfully created engaging learning, increased children's focus and participation, and provided concrete visual-auditory experiences to develop cognitive abilities. The main challenges lie in internet connectivity and the need for teachers to adapt in integrating viewing with hands-on activities. It is concluded that the Smart TV Merah Putih, when supported by thorough teacher planning, can be an effective cognitive stimulation tool in building the logical and creative thinking foundation of early childhood.*

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## **1. INTRODUCTION**

The development of information technology has brought about significant transformations in various aspects of life, including education. In the context of Early Childhood Education (PAUD), technology is not present as a substitute for the central role of teachers and social interaction, but rather as a tool and learning partner that can enrich children's learning experiences (Plowman & Stephen, 2014). The Indonesian government, through the Ministry of Primary and Secondary Education (Kemendikdasmen), has launched the Smart TV Merah Putih program. This Smart TV is specifically designed for learning, offering access to national digital education platforms such as the Indonesian School Digital Application (DASI) and Merdeka Mengajar (Freedom of Teaching), providing educational content aligned with the Merdeka Curriculum (Ministry of Education, Culture, Research, and Technology, 2023).

Cognitive abilities are a fundamental aspect of development in early childhood, encompassing the processes of acquiring knowledge, processing information, solving problems, and thinking logically (Santrock, 2022). In Group B children (aged 5-6 years), these abilities develop rapidly through interactions with the environment and media that provide appropriate stimulation. Vygotsky's (1978) constructivist theory emphasizes the role of cultural tools, including technology, as mediators in reaching the Zone of Proximal Development (ZPD). In this regard, Smart TVs can function as cultural tools that provide "scaffolding" or learning support through interactive audiovisual content.

Previous research has shown that integrating audiovisual media into learning can improve children's attention, memory, and conceptual understanding (Mustafa et al., 2021). However, most studies have focused on the use of general digital media such as tablets or laptops. Specific studies on the integration and utilization of Smart TV Merah Putih—a product of national policy with curated local content—in the context of early childhood education (ECE) cognitive stimulation are still very limited. Yet, the presence of this technology requires a holistic understanding of the process: from teacher preparation and presentation strategies to child-media-teacher interactions, and evaluating its impact on achieving cognitive goals.

Based on this background, this study specifically aims to describe in depth the process of utilizing the Merah Putih Smart TV to stimulate the cognitive abilities of Group B children at Satya Prawira PAUD. This process description is expected to provide practical insights and guidance for PAUD educators in optimizing available educational technology, while also serving as evaluation material for policymakers regarding technology implementation in PAUD units.

## 2. RESEARCH METHODS

This research uses a descriptive qualitative approach with a case study design. This approach was chosen because it is in accordance with the research objectives, namely to understand and describe a phenomenon (utilization process) in depth and contextually in its natural setting. (Moleong, 2022).

**Research Location and Subjects:** The research was conducted at Satya Prawira PAUD, which already has and utilizes the Merah Putih Smart TV in learning. The research subjects consisted of: (1) 15 Group B students (aged 5-6 years), and (2) 2 Group B class teachers who were responsible for using the Smart TV. The selection of subjects was done purposively based on the criteria of direct involvement in learning activities using the Smart TV.

**Data Collection Techniques:** Data were collected through triangulation of the following techniques:

1. **Observation:** Researchers directly observed the learning process involving Smart TV Merah Putih, from preparation, implementation, to reflection. The focus of the observations included: the type of content broadcast, duration, children's interactions with the broadcast, children's emotional and cognitive responses, and the teacher's strategies in guiding the process. This was conducted over eight meetings.
2. **Semi-structured In-depth Interviews:** Interviews were conducted with both teachers to gather information on the reasons for selecting content, the cognitive goals they wanted to achieve, the challenges and obstacles they faced, and their perceptions of the impact of Smart TV use on children. The interview guide was developed based on the research focus.
3. **Documentation Study:** The documents collected are: (a) Daily Learning Implementation Plan (RPPH) that integrates Smart TV, (b) photos/videos of learning activities (with permission), and (c) examples of content/materials broadcast from the DASI/Merdeka Mengajar platform.

**Data Analysis Techniques:** The data was analyzed interactively and continuously using the Miles, Huberman, and Saldana (2014) data analysis mode,<sup>1</sup> which consists of:

1. **Data Condensation (Data Reduction):** Selecting, focusing, and simplifying raw data from observation notes, interview transcripts, and documents.
2. **Data Display (Data Presentation):** Presenting reduced data in the form of descriptive narratives and matrices to facilitate concluding.
3. **Conclusion Drawing/Verification:** Drawing meaning from the presented data, identifying patterns, and describing the process as a whole. Verification is done through discussions with the teacher and repeated data reviews.

**Data Validity:** Checked through source triangulation (teachers, children, documents) and technique triangulation (observation, interviews, documentation). In addition, member checking

was carried out by confirming the data interpretation with the research subjects (teachers) to ensure accuracy.

### 3. RESULTS AND DISCUSSION

#### 3.1. Research Results

Based on data analysis, the process of utilizing Smart TV Merah Putih at PAUD Satya Prawira can be described in three interrelated stages: Preparation, Implementation, and Reflection/Evaluation.

- 1) Preparation Stage: At this stage, the teacher conducts thorough planning before learning. The main activities are:
  - a. Cognitive Goal Setting: The teacher determines the specific cognitive aspects to be stimulated, such as recognizing patterns, classifying objects by color and shape, or solving simple problems in the story.
  - b. Content Selection and Curation: Teachers explore the DASI and Merdeka Mengajar platforms installed on Smart TVs. Content is selected based on relevance to the weekly theme (e.g., "Shapes and Colors"), the children's ages, and cognitive objectives. Frequently used content includes short animated videos (5-10 minutes), children's songs with movement and counting, and simple interactive games.
  - c. Device and Environment Setup: Teachers ensure the Smart TV is in good condition, the internet connection is stable, and the content has loaded to avoid buffering. The space is arranged so that all children can view the screen comfortably without distractions.
- 2) Implementation/Presentation Stage: The presentation process lasts an average of 15-20 minutes, embedded within the learning flow. The observed patterns are:
  - a. Apperception and Direction: The teacher introduces the topic and asks a lead question before turning on the TV. For example, "Today we will learn about shapes. Can you name some shapes that you know?"
  - b. Interactive Content Playback: As the content plays, two-way interaction occurs. Children don't just passively watch. They sing along to counting songs, answer questions posed by the narrator in the video (e.g., "Which picture is a circle?"), and sometimes imitate movements. Most children exhibit enthusiastic expressions and high levels of focus.
  - c. Teacher Support Strategy (Scaffolding): The teacher actively provides support by: (a) pointing to the screen to emphasize information, (b) repeating questions from the video if the child has not responded, (c) providing additional explanations in simple language, and (d) inviting children around them to focus more if their attention seems to be diverted.
- 3) Reflection and Evaluation Stage: After the screening, the teacher does not immediately move on to another activity. This stage is crucial for strengthening cognitive stimulation:
  - a. Discussion and Q&A: The teacher asks open-ended questions to gauge understanding and stimulate memory, such as "What happened to the mouse deer?", "How many red balls were there in the video?", or "How do you solve that problem?"
  - b. Follow-up Activity: As a concrete application, the teacher connects the video with a hands-on activity. For example, after watching a video about classification, children are asked to group wooden blocks by shape or color. This activity reinforces the concepts they have seen abstractly on screen.
  - c. Teacher Reflection: Outside of child's hours, the teacher conducts an informal evaluation of the effectiveness of the content and duration for improvement in the next session.

### 3.2.Discussion

The findings of this study confirm that the Merah Putih Smart TV, when utilized in a structured manner, can be a potent medium for cognitive stimulation. The identified three-stage process (Preparation-Implementation-Reflection) aligns with the TPACK (Technological Pedagogical Content Knowledge) technology integration model, which emphasizes the importance of alignment between technology, pedagogy, and content (Mishra & Koehler, 2006). Teachers at Satya Prawira Early Childhood Education (PAUD) demonstrated efforts to master these three aspects, albeit at an early level.

During the preparation stage, selecting content from official platforms like DASI ensures its alignment with educational values and the national curriculum, while reducing the risk of exposure to non-educational content—an advantage over using mainstream digital media like unfiltered YouTube (Nurjanah & Rudyanto, 2022). This supports the principle of prudence in technology use for early childhood.

In the implementation phase, cognitive stimulation occurs through several mechanisms. First, memory and attention stimulation: an engaging combination of audio (narration, music) and visuals (colorful graphics, animation) can increase children's attention span and facilitate the encoding of information into short-term memory (Spencer et al., 2021). Second, concept reinforcement and problem-solving: interactive content, such as videos that ask children to choose an answer, creates a simulated problem-solving situation. This provides space for children to practice basic thinking skills such as comparing, simple analysis, and decision-making (Papadakis et al., 2022).

The teacher's role as an active facilitator and scaffolder during the screening is key to success. This finding reinforces Vygotsky's theory that technology is merely a tool; its effectiveness is largely determined by the social mediation provided by the teacher or more capable peers (Plowman & Stephen, 2014). Teachers at Satya Prawira Preschool do not leave children alone, but actively engage to ensure the screening is understood and linked to prior knowledge.

The reflection phase, which involves discussion and follow-up activities, is critical. According to information processing theory, information from media needs to be processed and consolidated to retain it in long-term memory (Santrock, 2022). Discussion and hands-on activities after viewing serve as elaboration and application, transforming passive knowledge into active learning. This address concerns that digital media only produces superficial learning.

Identified challenges, such as internet reliance and teacher adaptation needs, are common in the adoption of new educational technologies (Howard et al., 2023). This suggests that the success of the Smart TV Merah Putih program depends not only on hardware availability but also on infrastructure support and ongoing teacher capacity development.

Overall, the utilization process described in this study demonstrates the transformation of Smart TV Merah Putih from a mere "smart television" into a contextual pedagogical tool. Its success in stimulating cognitive skills depends heavily on teachers' ability to meaningfully integrate it into child-centered learning designs, in keeping with the spirit of the Independent Curriculum.

## 4. CONCLUSIONS

Based on the research results and discussion, it can be concluded that the process of utilizing Smart TV Merah Putih in stimulating the cognitive abilities of Group B children at Satya Prawira PAUD is a systematic, interactive, and integrated process. This process consists of three core stages: thorough preparation through the selection of educational content based on a national platform, implementation involving the presentation of interactive content accompanied by active scaffolding from teachers, and in-depth reflection through discussions and follow-up hands-on activities. Smart

TV Merah Putih functions effectively as a cognitive stimulation medium, especially in developing attention, memory, concept recognition, and simple problem solving, because it is able to present interesting and contextual audiovisual representations. The success of this process is largely determined by the role of teachers as designers, facilitators, and mediators of learning, as well as by the availability of supporting infrastructure. The implications of this research are the importance of ongoing training for PAUD teachers in mastering integrative pedagogical strategies for specific technologies such as Smart TV Merah Putih, as well as the need for adequate technical support at the educational unit level so that the potential of this technology can be fully optimized to achieve the goals of early childhood cognitive development.

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