

YOUTUBE KIDS AS A MEDIUM FOR CHILDREN'S COGNITIVE DEVELOPMENT

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Abstract

YouTube Kids mediate learning. Their presence offers various audio-visual recorded objects especially targeted children. The biggest concern about the current research is how the selected videos can positively impact children's development. There are three main issues that would be discussed in this context: the level of children's concentration, intelligence, and language. This study employs an experimental research approach: two children were engaged in the given activities but were given distinctive treatment. Rara, the first participant, was exposed to YouTube Kids, while Nayla, the rest of the participants, was not. The YouTube programs introduced to the first kid were Baby John from Little Angle channel and Play Doh. To test the three cognitive dimensions, we gave participants the same distractions, the same questions, and the same chance to participate in the exchange. The finding remarkably demonstrates that the children show different outcomes in relation to three cognitive dimensions: Rara, with a treatment, tends to have a high concentration, be responsive to the given questions, and have more various vocabularies. Nayla, in contrast, goes in a different direction. It indicates that YouTube Kids facilitate children to develop cognitively.

Keywords: cognitive, concentration, intelligence, language, YouTube Kids

INTRODUCTION

It is claimed that YouTube Kids could impact children negatively in some ways. Its claim is based on the fact that children are becoming more addicted to watching more videos result in having a low level of social skills and academic performance. Other views assert that YouTube Kids facilitate learning. This paper explores how YouTube Kids are associated with three dimensions of children's cognitive development: concentration, intelligence, and language.

Nowadays, the digital era, or usually called as 4.0 era, leads to 'an instant life.' Many sophisticated technologies exist in this era, such as laptops, mobile phones, and others. Technology also affects smart people to make an interesting application or software.

YouTube is one of the media that provides diverse information through the video-based application. Nowadays, YouTube is the world's most popular social media site and its user numbers exceed Facebook or Wikipedia (Wardoyo, 2019). It means that YouTube gives an enjoyable performance by showing an interesting 'moving picture' – a picture that involves movement or we know as a video clip and the audio or what we call audio-visual media (multimedia).

YouTube was started in 2005 by Chad Hurley, Steve Chen, and Jawed Karim. They started posting and sharing video materials. In 2006, YouTube was sold to Google with 100 million views activity rate and over 65,000 daily video uploads (Paolillo, 2008). YouTube then becomes one of the most visited websites on the Internet with one billion users (Covington et al., 2016). There are hundreds of millions of hours of videos watched daily (YouTube, 2017).

Many people use YouTube to watch everything they want to watch because the content is so broad. However, to limit YouTube's use based on age, YouTube releases the YouTube Kids app appropriate for children. The concept is the same as YouTube, an audio-visual concept. What makes this different is that the content is targeted for children only. The high percentage of YouTube users, especially children, has to pay more attention to children's development, whether it is good for children or even their amusement, without influencing the users.

As a big phenomenon of YouTube users, children tend to develop cognitively: concentration, intelligence, and language. Before language acquisition, for instance, children psychologically experience something while watching YouTube Kids. Their mind processes the language based on what they hear and watch. In general, this stage helps children build their knowledge about something new based on their experiences without external force from people around them. This way of reception, process, and response toward information acquisition is involved in cognition study.

Cognitive developmental study reveals some key concepts related to the long-term changes in knowledge acquisition and the nature of intelligence. It involves two classifications: constructivism and nativism. Constructivism means the development is constructed through environmental factors, whereas nativism deals with the individual's innate characteristics and abilities. This study is parallel to the process of constructivism. The idea refers to the environment or external force that plays an important role in children's cognitive development. Modern cognitive developmental psychology emerged when the Swiss psychologist Jean Piaget (1896–1980) combined experimental methods with close observation of children to produce a constructivist theory of child development. His theory discusses the acquisition of how a person perceives his environment in the stages of development when someone acquires a new way of representing information mentally.

Cognitive development leads to language acquisition. It occurs because in the process of thinking, memorizing, and others involved in children's brain, one of the aspects that get into those is language. Language is accepted through the audio, transported by

acoustic properties than processed psychologically in children's brains. In the appropriate period of age, children will utter what they receive and understand. In understanding the language, visualization contributes more to this process because children could imagine and correlate the utterance and the picture they see.

Furthermore, Jean Piaget's cognitive development theory suggests that children move through four different mental development stages. According to Piaget, the four major stages are sensorimotor, preoperational, concrete intellectual operations and formal operations. Children experience those in each period:

- Sensorimotor period (age 0-2 years)
- Preoperational period (age 2-7 years)
- Concrete operational period (age 7-11 years)
- Formal operating period (age 11 years to adult)

These periods are being looked at in this study to make the correlations among the discussions. In this case, the media, which becomes the external factor in children's development, is YouTube Kids. Unconsciously, the media could be a big source for children to get information through the amusement. Related to the study of cognitive process, YouTube Kids as the new way children receive information affects how they think and how they represent their thought. The following illustration shows the process of mind processing towards information:

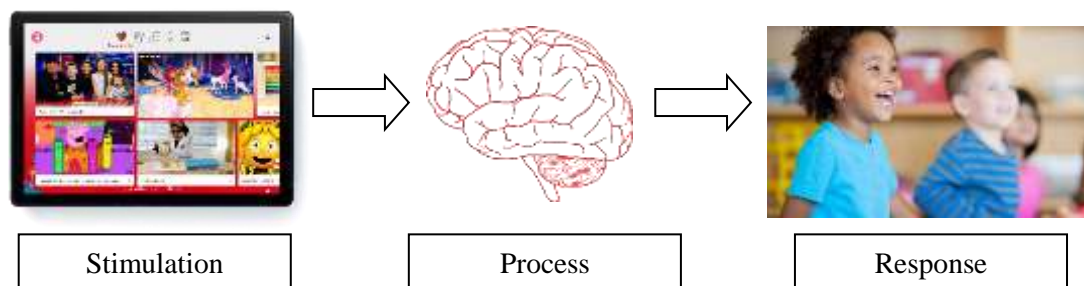


Figure 1. Process of mind processing towards information

As the stimulation provides some interesting content accompanied by colorful moving pictures, animations, and others, YouTube Kids could attract children's interest. Children tend to be focused on what makes them interested. It means that it could increase the level of concentration. The information is being processed in children's brains, and it affects their critical thinking. The last is the actual effect which exists in children's activities. This paper concerns how children could be developed cognitively in some aspects such as concentration, intelligence, and language.

RESEARCH METHOD

This study uses descriptive qualitative study because it emphasizes on the phenomenon of language acquisition toward children. It is sensitive to some contextual factors, so there will be no exact interpretation. This qualitative study gives a chance to understand how children make sense of their experience (Ospina, 2004). Denzin & Lincoln

(2000) claim in (Ospina, 2004) that qualitative research involves an interpretive and naturalistic approach: “This means that qualitative researchers study things in their natural settings, attempting to make sense of, or to interpret, phenomena in terms of the meanings people bring to them.”

To collect the data, the current study employs experimental/laboratory research. The idea refers to the different treatments given to engaged participants at hand that are pivotal to see the language outcomes shown by the participants. There were two kids involved in this study. We treat them distinctively: one exposed to YouTube Kids and one was not. The purpose of the treatment is to look at how cognitive development of the children is likely affected by the fact that they are exposed or not exposed to the selected children content-basis application. Indeed, undertaking an experimental/laboratory research is not always associated with the study done in a laboratory.

This study is mainly focused on how YouTube Kids could stimulate the children’s cognitive development and comparing between two children who got special treatment through watching YouTube Kids continuously with a child who rarely even never watch YouTube Kids. There are two participants as the source of data: Rara (3 years old) and Nayla (2.5 years old). They are pseudonym. Related to the stages that have been proposed by Piaget in his theory, both are included into the second stage, the preoperational period. Rara was exposed to YouTube Kids while Nayla was not. While watching some contents on YouTube Kids, Rara also got special treatment such as asking her to follow what is being said in YouTube. In other words, the researchers create more meaningful conversation by proposing further questions about what she was watching. The questions are to stimulate the kid to think and clarify and or enhance her understanding about the content of the YouTube Kids.

Meanwhile, Nayla went to different direction. She never got that special treatment as Rara had. The contents were Baby John from Little Angle channel and Play Doh from some channels such as AWESMR Kids. The data was also collected through question-answer session with the children. The researchers provided different colour papers then mentioned a colour in Indonesia and in English. By having this, we asked them what colour it is to what displayed. Furthermore, the researcher also shows some toys to be guessed by both.

DISCUSSION

This section illustrates the findings of the research. The following table indicates the information related to data collection processing conditions and cognitive issues represented in three important aspects: concentration, intelligence, and language.

Table 1: data collection processing

Aspects	Subject 1	Subject 2
Video giving intensity	Often	Rarely almost never

Treatment	Accompaniment while guiding to follow what is being said and also explain what the meaning of each utterance in Bahasa Indonesia	No special treatment
Concentration	High	Middle
Intelligence	Easily answer the question	Facing difficulties
Language	Play Doh : <ul style="list-style-type: none"> - Colours (Yellow, Red, Green, Blue, Purple, Orange) - LOL - Numbers (one, two, three) - Slime Baby John: <ul style="list-style-type: none"> - Baby John - Mommy 	Does not know all colours although in Bahasa Indonesia, LOL, slime, and numbers. Does not know who is Baby John and Mommy.

In the data above, it shows the different developments in relations to three cognitive dimension: concentration, thoughts and language. In general, it can be stated that YouTube Kids carry positive impacts on children's cognitive development as can be seen from the following further elaboration.

YouTube Kids could increase the concentration of children when they have watched the videos and it could affect other developments. It is the first thing that parents could see; when their children watched YouTube, they are focused on what they are watching. This becomes the surface evidence that people directly could see. It could be happened because YouTube Kids facilitates children's interest.

Further, this kind of effect not only could support other benefits but also could obstruct other developments. As people know, cognitive development is not only coming from technology but also coming from the social environment. When children in their childhood interested in watching YouTube Kids even they are focused on it, they would ignore their social life so that it will inhibit the cognitive development that can be obtained through social environment.

However, YouTube Kids also could bolster other developments through their high concentration on watching it because they tend to be focus on understanding what they watch and hear. So, as media, YouTube Kids play an important role to reinforce the level of concentration as a way to achieve other improvements. While we played together, we intentionally broke Rara and Nayla's focus. Interestingly, Rara remained focused to what

she was doing while Nayla was interested in the given interruption. Nayla left the previous activity. On the basis of our evaluation, one minute is the longest period in which Nayla was able to maintain their concentration. Rara, on the other hand, was even longer.

Other aspect which is developed through watching YouTube Kids, is the children's intelligence. The term intelligence used in this context refers to the ability to learn or understand the questions and the relevance of the answers to the given questions. According to Syaodih and Agustin (2008: 20), cognitive development deals with the development of thinking, the way children think and how thinking activities work. In children's life, they tend to face some problems to pass their period. Appropriate solution is needed in resolving each stage of problems that will be more complex. Absolutely, it needs critical thinking to find out the brilliant solution.

YouTube Kids give a room for this; it contributes and espouses children's development in their intelligence capacities. This multimedia tool could change the way children think and could make children become more critical to confront the matters. Unconsciously, the mixture of many modes in YouTube Kids such as colourful moving pictures, interesting audio, and text, are enjoyable video which could attract children's attention and force the children to comprehend the meaning of the video through thinking and trying to follow. When they are hearing the audio, the stimulation will be processed in their brain. Then, in this application, the visualization also helps them to understand the video even to memorize what the content is about.

Children's brain will develop and work better. Piaget in Wadsworth (2004) stated that cognitive development is a process of ongoing interaction between children and their perceptual views of an object or event in an environment. Psychologically, children who utilize YouTube Kids will have different perceptual views of an object that they faced if it is compared with children who have never watched YouTube Kids. The way they think will be different so that they will also have different level of intelligence in resolving their problems. So, through watching YouTube Kids which consist of many modes, children could have critical thinking because what they are focused on the change the way they think and see their environment.

Rara and Nayla show different responses to the given questions. When we displayed a colour and asked them "What colour is it?", Rara was correct. Nayla was not. We also include asked them about number. Rara was able to answer the question but Nayla was not. More interestingly, Rara can count in English (one, two, and three). In the meantime, sometimes Rara used gestures in counting the number: she indicates the number through fingering.

Rara was also more interactive compared to Nayla. She frequently asked questions such as loh, kog gitu? Kenapa? (hang on, why is it so?) related to what we were watching. This mirrors that Rara shows more curiosity and critical questions (why) to what she watched or heard. In this stage, we can compare between Rara and Nayla's critical thinking relating to objects around them.

Language as another important aspect, evolve in every period of age as the result of watching YouTube Kids. After psychological effect toward children's thought, YouTube Kids as a multimodal media, also give an improvement toward children's language especially in the aspect of vocabulary. Many researchers have found the effect of multimedia application on vocabulary development. They have found that the utilization of supplementary prompts such as videos and pictures enhances vocabulary learning (Heriyanto, 2015). Chun & Plass (1996) argued that supporting vocabulary learning with pictorial and verbal cues can help increase the retention and recall of the lexical products.

YouTube Kids are greatly effective in improving vocabulary mastery because the multidimensional source that offers videos in all fields of knowledge and can be accessed effortlessly could easily make children acquire some vocabularies in which those might not be obtained from other sources.

We can see how Rara learns a number of different colours and numbers in English. She can identify types of colours and say them in English. Yellow, red, green, blue, purple, and orange are apparent examples Rara can demonstrate before us. Furthermore, numbering is also unexceptional. Rara is able to count in English (one, two, and three). Comparing to Nayla who was not exposed to the program, she really had no idea to what we were talking about. She could not be able to count in English and was unknowledgeable of the basic ideas of colours in English. What we can highlight from those evidence is that how the exposure to a particular pattern of language, various topic of discussion, results in the language production (Steinberg & Sciarini, 2006).

Psychologically, children are more easily acquiring words through hearing. Moreover, if there is a supporting element, visualization, it completely could encourage the stimulation. Audio-visual media is greatly boost the stimulation reception so that it will be processed in children's brain and they will understand even remember many words. It is evidenced by the previous research that reveals the effectiveness of the utilization of YouTube conducted by Heriyanto (2015). Through the pre-test and post-test before and after watching YouTube, he argued that YouTube technology is an effective tool that can help the students understand and comprehend language or in this case, the mark vocabulary better. In addition, there is the significant difference in the scores of the pre-tests and post-tests demonstrated integrating YouTube has improved the students' ability to recognize and comprehend the target vocabulary better (Heriyanto, 2015).

Further, this result will also be significantly different from children who have never utilized YouTube Kids as media for language learning. It is proven by interviewing children around us. Rara comprehends many words that Nayla does not understand that. In fact, the rest of children who do not understand the words, have never watched YouTube Kids. The child who is facilitated with the sophisticated thing such as gadget tend to spend their time to watch YouTube especially YouTube Kids contents such as Play Doh, Baby John.

YouTube Kids can have positive impacts on children language acquisition. The participant could understand some words from that source although she still cannot utter

it perfectly. Her pronunciation is, however, considered to be well understandable. In comparison, the participant who was not facilitated with gadget, prefer playing traditional games, and seldom even have never watched YouTube Kids, tend to find more difficulties in recognizing and uttering the words that are provided in YouTube Kids. It does not mean that she could not understand it, but she took even much longer time to achieve as the first participant does in a certain period of time. In other words, when we exposed our kids to YouTube Kids, they are much more likely to show faster comprehension, indicated by their ability to pronoun the words compared to the one with no YouTube Kids exposure. Therefore, language acquisition especially vocabulary development becomes significantly different in each kid – more increasing in the next period as a result of utilization of YouTube Kids.

The three dimensional cognitive aspects that the kids show were different in some ways. In terms of concentration, the first participant tends to have higher level of concentration compared to the second participant even though the distraction given to both of them. The second aspect was intelligence. It means that the first participant was more responsive than the second one. And the last point was the variety of English vocabularies they can learn. Rara is indeed able to know the basic colour in English and also counting the number in English. At the same time, Nayla shows no language proficiency as Rara does. Therefore, it is strongly believed that YouTube Kids can help children to develop cognitively.

CONCLUSION

YouTube Kids facilitate a useful explanation how many modes could help children learn better in the aspect of concentration, intelligence, and language. The theory suggests that presenting information in video format caters to both the visual and also auditory senses and that provides a more effective method of teaching than just through either of those senses alone (Moreno & Mayer, 2001). Moreover, in the early childhood, children tend to firstly understand language through hearing. After hearing process, the stimulation takes place and they will comprehend what they hear although they still could not utter the words. YouTube Kids do not only provide an audio but also colourful moving pictures so that the stimulation becomes stronger and children could greatly improve their cognitive development in terms of concentration, intelligence, and language.

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