Digital Entertainment to Support Toddlers' Language and Cognitive Development

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Abstract

This current research aimed at seeing how English nursery rhymes and kids' songs as learning media support toddlers who are not living in an English speaking country (Indonesia) but exposed to the English language media during their normal baby-sitting times to learning English. To observe how two Indonesian toddlers learned English language in their early critical period of language acquisition through co-watching activity, Early Development Instrument which focuses on language and cognitive development domain with reading awareness and reciting memory subdomain was applied to observe two subjects after 15 month treatments (from age 10-24 months). The results show that the media and the co-watching activity are able to support the toddlers' understanding of the English words spoken and their ability to produce the intelligent pronunciation of those words. The interesting fact reveals that English which is normatively learned merely as a foreign language to most Indonesian people is no longer something far-off to the toddlers who are exposed to it through English nursery rhymes and kids' songs online since they are at the very young age. They naturally tend to be bilingual since at the same time they learn their mother tongue.

Keywords: cognitive development, digital entertainment, language development, nursery rhymes

Introduction

In the era of internet, visual media is a part of children's everyday lives. Researches have shown that at the very early stages of their development, children are exposed to digital entertainments which include nursery rhymes, kids' songs, and cartoons. Watching video clips online is part of toddler's daily behavior. Joan Ganz Cooney Center (2014) released a report that almost 80% of children between the ages of 0 and 5 use internet on at least a weekly basis in the U.S. High popularity of YouTube channels are targeting toddlers and preschoolers. Ofcom's research on children's and parent's media use and attitudes done in U.K. reported that YouTube is used by 48% of children at the age of 3-4 of which 52% of these say that cartoons are their favorite things to watch (Ofcom, 2017). Among the online kids channels, the statistic shows that *ChuChu TV Nursery Rhymes & Kids' Songs* are the most popular children-themed YouTube channels, ranked by 19.92 million subscribers (Statista, 2018). In Indonesia where this current study was conducted, though the surveys on the internet users have not yet targeted on children below 10 years old, the survey result released by Indonesian internet service association (APJII) in 2016 provides an overview that children are internet active users. Reporting the survey result, the head of the association (APJII) stated that children at the at age of 10 to 15 have accessed internet. Though not yet being active in social media, they have been YouTube users (Viva.co.id., 2016).

The exposure to digital entertainment contributes particular experience to children, especially young children as they are ready to watch. Co-viewing activity as daily activity done by parents and children promotes an outlook that online kids' channels take role as "digital babysitter" which assists parents in daily basis (Dredge, 2015). Study on toddlers as YouTube viewers based on a face-to-face survey among 289 parents of toddlers aged 18-36 months shows that online viewing has become normative behavior among toddlers which is integrated into the basic daily routine of parents to fulfill a wide range of their childrearing needs (Elias & Sulkin, 2017). Digital entertainment provide not only pleasure to children, but also information. The children's world is the world of learning. Thus, the existence of digital entertainment which provides more freedom and flexibility to employ information and express interests changes the way they learn. Children born as digital natives as well as nurtured by "digital babysitter" are visual learners in a way that they learn about the world surround them through visual media such as YouTube kids' channels. A survey on more than 1500 parents of children ages 2-10 by The Joan Ganz Cooney Center (2014) reveals that 57 percent who define learning media as media that is good for a child's learning or growth or that teaches some type of lesson, such as an academic or social skill believe that most young children's media use is educational.

Young children learn from whatever they see including learning languages through visual media such as YouTube Kids. For young children, enjoyment is learning and learning is enjoyment. Pre-school age when children are mostly intrinsically motivated is the most suitable age for foreign language learning since the learning process occurs naturally (Adžija & Sindik, 2014). This language learning is supported by innate factor (Chomsky, 1968), element of imitating (Skinner, 1989), and cognitive ability (Piaget, 1967). YouTube Kids which gives plenty options for digital children's entertainments can be used as learning media for facilitating children with fun, stress free situation, motivation stimulation to acquire knowledge, needed to make a learning process successful. Thus, the unavoidable and inseparable exposure of young children to these digital entertainments drives this recent study to use YouTube Kids 'channels as learning media, especially in learning English language.

This recent study used English nursery rhymes and kids' songs as learning media to support toddlers who are not living in an English speaking country (Indonesia) but exposed to the English language media during their normal baby-sitting times to learning English. It takes the advantage of both English nursery rhyme and digital media usage as learning media. Thus, during their initial period of language and cognitive development, those toddlers learn two different languages (English and Indonesian) at the same time with different ways. Visual media were applied in the toddlers' English language learning process, but not in their Indonesian language learning process. To observe how those toddlers learned English language in their early critical period of language acquisition, Early Development Instrument (see EDI in table 1) proposed by Dr. Dan Offord and Dr. Magdelana Janus at McMaster University was applied (Early Development Instrument, 2016). Among 5 domains with 26 subdomains, this recent study focuses on language and cognitive development domain with reading awareness and reciting memory subdomain.

Prior to this study, a study on the use of spoken nursery rhymes and kids' songs to support domains of child development was conducted by Ginger Mulan, a professional in Parent-Child Mother Goose Program™ and the result was released in *Journal of Childhood Studies* (2017). The study which limited to selected EDI subdomains: fine and gross motor

skills in physical health and well-being, age-appropriate reading and numeracy skills in language and cognitive development, storytelling and age-appropriate knowledge in communication and general knowledge, the ability to play or cooperate with others and follow rules in social competence, and the ability to deal with feelings at an age-appropriate level and empathetically respond to other people's feelings in emotional maturity indicates that adults can utilize several rhymes which introduce children words, numbers and concepts, share knowledge about their world, and teach them about feelings to support children's development in different domains (Mullen, 2017). Meanwhile, the use of digital media in this recent study is supported by a prior research on the influence of digital media usage on toddlers behaviour (Strouse & Ganea, 2017) which suggests that electronic books supported children's learning by way of increasing their engagement and attention. The study, further, shows that toddlers who were read electronic book paid more attention on electronic books, made themselves more available for reading, displayed more positive affect, participated in more page turns, and produced more content-related comments than those who were read printed versions of the books.

English nursery rhymes and kids' songs used as English language learning media provide more complex stimulus than the oral ones in a way that these online media contain colourful motion pictures, rhythmical lyrics and music. Some studies have proved that the use of colours, motion pictures rhythmical lyrics and music stimulus respectively is influential to support toddlers' learning processes. Studies reveals that colours give influences on children's perception to associate with positive emotions (Pope, Butler, & Qualter, 2012) and toddlers' preferences (Melkam, Koriat, & Paldo, 1976), cooperative behaviour (Read, 1997), and accurateness to naming objects that were congruent with the colours (Prevor & Diamond, 2005). The result of prior research supporting the use of music stimulus suggest that exposure to music and music education can have a positive influence on child functioning (Hogenes, Oers, & Diekstra, 2014). Music followed by movement also support young children's healthy development (Taylor et al., 2012). The animation used in children's visual media is influential as a study shows that cartoons give effects in changing children's mental response and behavior (Habib & Soliman, 2015).

Focusing on toddlers' reading awareness and reciting memory on spoken English concrete nouns after treatment as parts of their language and cognitive learning, this recent study investigates how toddlers are aware of the word sounds corresponding to the things of which the images visualized and how retention of rhyming spoken text enhances word recitation. In Stewart and Mason's study (1988), pre-kindergarten children's awareness to literacy is shown through their ability to express varying facets of learning to read and write in which children described how they were learning, how they tried to read a picture-phrase book, and how they wrote or drew pictures in response to requests to write something. As they listen to rhyming spoken text, Johnson and Hayes' study (1987) shows that young childrens' short-term retention of story narratives revealed that rhyme enhanced word-for-word recitation in correct sequential order, whereas nonrhyming presentations evoked initial faciliotation of semantic paraphrase. Memory for text can be supported by song and music to foreign-language learning. Good, Russo, and Sullivan's study (2015) indicates that singing can be intrinsically motivating, attention focusing, and simply enjoyable for learners and the melodic and rhythmic context of song enhances recall of native text. The study on the impact of music activities on foreign language done by (Lee, L. & Lin, S.C, 2015) posits that the use of the music, musical instruments and supplemental materials for the

participants' foreign language support the learning process. The use of kid's digital entertainment (nursery rhymes and kids' songs) in which visual, auditory, and kinaesthetic stimulus are all together in one package for toddlers to English language learning makes this recent study has complexity higher than all of the studies explained previously.

Theory

Early Development Instruments

The EDI categorizes childhood development into five domains: physical health and well-being, language and cognitive development, communication skills and general knowledge, social competence, and emotional maturity. These domains are further divided into 26 subdomains (see Table 1).

Table 1. Early Development Instrument

Domains	Subdomains
Physical Health and Well Being	* Fine and gross motor skills * Adequate energy for classroom activities * Independence in looking after own needs * Daily living skills
Language and Cognitive Development	* Reading awareness * Age-appropriate reading and writing skills * Age-appropriate numeracy skills * Ability to understand similarities and differences * Ability to recite back specific pieces of information from memory
Communication and General Knowledge	* Skills to communicate needs and wants in socially appropriate ways * Symbolic use of language * Storytelling * Age-appropriate knowledge about life and the world around
Social Competence	* Curiosity about the world * Eagerness to try new experiences * Knowledge of standards of acceptable public behavior * Ability to control own behavior * Appropriate respect for adult authority * Cooperation with others * Following rules * Ability to play and work with other children
Emotional Maturity	* Ability to think before acting * A balance between too fearful and too impulsive * An ability to deal with feelings at an age appropriate level * Empathetic response to other people's feelings

Nursery Rhymes and the Learners' Mind

Music can be beneficial to learning since it is proven that the anatomic structure of the brain and its functions support the learning process. The left hemisphere of the brain expresses thoughts in words, while the right hemisphere of the brain controls actions, problem resolution, memory, and emotions. Most learners use the right hemisphere of the brain to process music, and since most instruction relies heavily on left-brain approaches, music opens an opportunity to learners who have a strong right brain orientation (Borchgrevink, 1982). Guglielmino (in Pourkalhor & Tavakol, 2017) stated that songs bridge the brain's hemispheres, strengthening retention through a complementary function as the right hemisphere learns the melody and the left learns the words. This is supported by Anton (1990) stating "when a learning activity combines both left and right hemispheres simultaneously engaged in a particular activity, an ideal learning situation is established and the most productive learning occurs". This ideal learning situation facilitates flexible thinking and helps to explore new ways of expressing ideas. This would seem to indicate that music possesses an invaluable key to incorporate the whole brain in the learning process. This theory may provide principles to design more effective learning experiences. By using a variety of input methods including music, there may be more learning opportunities for students to connect to their present knowledge and add new knowledge. Music not only helps to store bits of information, but it is used as a mean by which the brain releases that same information for use.

According to Williams (2017) the beauty of nursery rhymes is that they are very repetitive and the tune is very easy to remember. Rhythm is also something that is extremely important to capture any little people's attention. In a small space of time a nursery rhyme really does do so much more than entertain. There are some benefits of introducing nursery rhymes to children such as providing a very simple way to aid vocabulary and building confidence. Research shows that a child who has been able to learn 8 nursery rhymes off by heart by the time he/she is 4 will be far more likely to become a confident reader. Children adore the repetition of the same songs over and over again. They are so confident and often lose themselves in the pure joy of singing the nursery rhymes.

Screen Media and Language Development

According to Christakis (Al-Harbi, 2015) early learning is very critical in children's language development in both receptive and productive linguistic skills. Language acquisition through exposure is what is occurring in this stage of human life, where the language seeps into the child's mind unconsciously. However, interaction in day-to-day experiences is a crucial activity for the acquisition to take place (Bronfenbenner, 1979). Children are influenced greatly by their immediate environment, i.e., by parents, siblings, and peers. But media has become part of the child's immediate environment as well, and its influence is undeniably significant. Krcmar, Grela, and Lin (2007) and Roseberry, Hirsh-Pasek, and Golinkoff (2009) saw that children can effectively learn vocabulary from video if it is associated with live social interactions. Krcmar et al., (2007) and Roseberry et al., (2009) also concluded that older toddlers can also learn new vocabulary from video alone although the former saw children respond and pay more attention to adults either live or on TV). Additionally, Zimmerman, Christakis, and Meltzoff (2007a) stressed the notion that children do learn new vocabulary from some interactive children's TV programs. The child

can be exposed to the language by means of screen media but, without interaction, without using the language in his or her daily life to express himself or herself, the child will not acquire that specific language.

Studies so far shows that learning from a screen is certainly possible under certain conditions (Guernsey, 2013). Researchers show that parents and caregivers should focus on three interrelated factors when choosing to use screen media with their children as digital entertainment: content, context, and the individual child. Linebarger (2010) also stated that the presence of a competent co-viewer appears to boost babies' language learning from screen media, much like the ways these processes facilitate learning in live scenarios. One longitudinal study led by Deborah Linebarger of the University of Pennsylvannia showed that some children gained early literacy skills form watching certain educational TV shows from they were 12 months to 30 months old. Word learning via video came from a 2007 study using a version of Telletubbies. It showed that it is not until children are about 21 months old that they provide any evidence of being able to learn word via screen without help from a live person (Krcmar, Grela, & Lin, 2007). The other study led by Elizabeth Vandewater at the University of Texas at Austin showed that 18-months-olds who were introduced to a crescent shape on video (with voiceover labelling the shape as "crescent") were later able to point correctly to a crescent when tested using a book with the same image (Vandewater et al., 2010).

Method

This is a qualitative study applying a concurrence observation to make an in depth-analysis. The subjects were 2 toddlers consisting of boy and girl who had been given treatments for 15 months. The subjects are Indonesian toddlers who were exposed to English nursery rhymes and kids' songs videos online for at least 30 to 90 every day at the age of 10 -24 months as the stimulus to support their language learning other than Indonesian language. The toddlers were exposed to English nursery rhymes and kids' songs taken from several online kids' channels *ChuChu TV, Dave and Eva, Mike and Mia, ABC Kids, and Cocomelon* in which each was seen in three month-interval treatment respectively. The treatments given was a form of daily "digital baby-sitting" in a way that the researchers got involved intensively was the subjects' co-viewing daily activity as the subjects' adult companions. Through those five kids' channels, the subjects were exposed to some of famous English nursery rhymes and kids' which include *Wheel on the Bus, Head Shoulders Knees and Toes, Twinkle Twinkle Little Stars, Chubby Cheek, Johnny Johnny Yes Papa, Baba Black Sheep, Number Songs, Five Little Ducks, Five Little Monkey, Rain Rain Go Away, Row Your Boat, Humpty Dumpty*; however, their watching experiences were not limited to those 12 songs.

The subjects' first encounter with English language was through the videos and with the researcher as their adult companions during the treatments and tests. The researchers used code-mixing and code switching (Indonesian-English) during the treatments and tests for instance when giving simple instruction, explaining meaning, and giving questions. The subjects' verbal and non-verbal responses were noted to see the overview of their monthly progress. After 15 month treatments, subjects were tested to see how their reading awareness and reciting memory on 75 spoken English concrete nouns contained in those 12 famous English nursery rhymes and kids' songs. The test instrument evaluated the subjects' response that show their ability to (1) point to the images seen corresponding with the words they

listened, (2) to produce the words corresponding with the images, and (3) to sing the lyrics of the songs. Their ability to point to the correct images correspond with the spoken words they listen shows their reading awareness. Reciting memory ability can be seen in their ability to produce the words corresponding with the images and sing the songs lyrics. The visuals used during the tests were not only limited to the images contained in the online videos, but also the real objects that represent the nouns. At their age, the subjects were not asked to pronounce the words perfectly for the reason that their speaking ability is still developing; however, as their adult companions during the baby-sitting, the researchers understood their cute and creative pronunciation of the English words learnt.

Findings and Discussion

Reading Awareness

The findings show a slight difference that of 75 spoken English concrete nouns tested after treatments the female subject perceived 51 words and 49 words for the male subject. Of the spoken words which are not perceived in their reading awareness, 11 words are similar and 6 words are different between both subjects.

Table 2. Reading Awareness

Subject	Reading Awareness			
	Words Perceived	Words not Perceived	Similar Words not Perceived	Different Words not Perceived
Amaris	51	13	11	6
Daffa	49	15		

The subjects' non-verbal response developed gradually (see table 3). During 15 month treatments, the response development shows the progress in three-month interval. Their verbal responses show their ability to produce the numbers of English words exposed in each song in which both subjects performed the same progress.

Table 3. Non-Verbal Response

Age	Non Verbal	
	Amaris	Daffa
10-12 months	listen and watch attentively; trying to grab	listen and watch attentively; trying to grab
13-15 months	listen and watch attentively; trying to grab	listen and watch attentively; trying to grab

16-18 months	listen and watch attentively; trying to grab; pointing	listen and watch attentively; trying to grab; pointing
19-21 months	listen and watch attentively; pointing; gesturing	listen and watch attentively; pointing; gesturing
22-24 months	Singing with gestures	Singing with gestures

The non-verbal response table shows the process in which the impetus complexity of the audio-visual learning media supports the subjects' reading awareness on English spoken words. The subjects have experienced progress in their English vocabularies acquisition gradually that can be evaluated in three-month interval.

In the first three months of treatments (at 10-12 months), the subjects' body gestures and facial expression showed their readiness to learn the words in English language they never heard before and their potential ability to perceive those words that the people surround them never spoke. Their eyes focused on the video. Sometimes, they smile at certain pictures and tried to grab them. Sometimes, when watching to the visualization of the English words, they looked very serious. Their response to the video can be seen when moving their body, hand, and legs while listening to the jaunty music *(Wheel on the Bus, Head Shoulder Knees and Toes, Number Songs, Five Little Monkey)*. They looked more relax when listening to the medium beat music *(Chubby Cheek, Johnny Johnny Yes Papa, Baba Black Sheep, Five Little Ducks, Rain Rain Go Away, Humpty Dumpty)*. Their eyes looked serious they were exposed to the slow music *(Twinkle Twinkle Little Star, Row Row Your Boat)*.

As the subjects got older (13-15 months), when watching and listening, they expressed their ability to perceive the foreign words by pointing to the single picture and/or object corresponds with the single English word their adult companion said. They gave more attention on particular pictures that they used as their song icons (the picture of bus, nose, star, eyes, duck, monkey, papa, sheep, ball, rain, and horse). During time of watching they could convey what video they wanted to watch first, second, and so on by trying to producing the words corresponding with the picture of bus, nose, star, eyes, duck, monkey, papa, sheep, ball, rain, and horse.

In fact, at 12 to 17 month-olds can understand the meaning of many nouns and verbs long before they use them in their own speech (Sharon Oviatt in Shaffer & Kipp, 2010). Thus, the subjects seemed to know much more about English language used in the videos than they could possibly produce. At the age of 19-21 months, the subjects were able to point to the real objects (wheels, wipers, stars, and sky), to the pictures (people), to their body parts (head, shoulders, knees, toes, sky, cheek, chin, hair, and lips) when their adult companion mentioned the English words. At 21 to 24 month-olds, the subjects were able to point to more objects corresponding with English words the adult companion mentioned which were not limited to English concrete words contained in the videos. By this age they had been exposed to five online kids' channels during their routines therefore all of the English productive language stimulated occurred at the same time.

At the age of 16-18 months, their progress on pictures-words perceiving referred to their body parts and to the things they likely to encounter mostly in their real daily life. They could point to their body parts when their adult companion said *"head"*, *"eyes", "ears", "mouth", "hair, and "teeth"*. They were also able to touch their parts of the body when they were watching the videos about body parts, it seemed that they wanted to have the same movement with what was on the screen. They recognized the real object as they were asked to point to door, bus, baby, mama, bed, horn, wheels, sugar, and papa. Of ten scales, they could perform with their own finger(s) when their companions said *"one" and "two"*. They recognized the pictures of monkey and doctor.

The test result done at the age of 24 months shows that the subjects were able to recognize more than 60% of objects and/or pictures correspond to the English words on the list. Both subjects have similar difficulty in perceiving the word *diamond, wool, bag, master, dame, hill, men, pet, boat, stream, and king* in which the visualization are not parts of their routine. Moreover, differences also happened between both; recognizing the word *children* and *boy* referring to gender was difficult to the female subject, yet it was not to the male subject. Unlike the male subject, the female subject did not find any difficulties in recognizing the words referring to body parts *(e.g. cheek, chin, and lips).* In fact, their reading awareness on spoken English words is not limited only to the vocabularies in the 12 nursery rhymes and kids' videos tested since this research did not include all the English vocabularies in all the songs exposed to the subjects.

Prior to the subjects' reading awareness on the spoken English words, their attention to the nursery rhymes and kids songs was supported by the use of sound, colour, picture, and movement in the video. The subjects showed their interest in the use of the media since their first encounter with it. Attention can be gained by the use of sound, colour, and movement (Smith, Cowie, & Blades, 1998). Their ability of selective attention was very limited during the initial video exposures, but improved significantly after the first three month-treatments. Sounds and colours were particular attraction to the subjects whereas at the same time the pictures which visualized the spoken English words they heard and the movement performed correspond with the words facilitated them to grasp the meanings.

Reciting Memory

Table 4. Reciting Memory

Subject	Reciting Memory	
	Memory on Word List	Memory on Song Lyrics
Amaris	51 words (correspond to reading awareness)	8 songs (*Chu Chu TV* version) correspond to memory on word list
Daffa	43 words (lower than reading awareness)	7 songs (*Chu Chu TV* version) correspond to memory on word list

The spoken English words perceived in the subjects' reading awareness correspond to their reciting memory particularly in the way they were able to produce the words corresponding with the images (see table. 4). The second task of reciting memory which required their memory on the song lyrics shows that of 12 songs, 8 could be sung by the female and 7 by the male. This also corresponds to their reading awareness and ability to produce the English words corresponding with the images. Reciting memory refers to the subjects' ability to produce the English words they have learnt through the visual media. The verbal response table below shows that the subjects' ability to produce the English words have increased gradually during the treatments.

Table 5. Verbal Response

Age	Verbal	
	Amaris	Daffa
10-12 months	none	none
13-15 months	single word	single word
16-18 months	2-3 words	2-3 words
19-21 months	3-4 words	3-4 words
22-24 months	more than 4 words --> Singing with gestures	more than 4 words --> Singing with gestures

In the first three month treatments, the subjects gave non-verbal responses. Their first verbal responses happened in the second three month treatments. At the age of 13-15 months, they were able to repeat single English words of each song. By age 12 to 13 months, infants realize that individual words have meaning; thus their receptive language is ahead of productive language from the 12th or 13th month of life and probably even sooner (Shaffer & Kipp, 2010). The subjects' first words were intelligible only to close companions to the pictures they meant *(ba-ba* for *ball* or *bus*, *na-na* for *nose*, sa-sa for *star* or *sheep*, *a-a* for *eyes, da-da* for *duck*, *ho-ho* for *horse, en-en* for *rain).* They said those words when they saw the corresponding images in the videos and/or in their daily life. The single words they produced represent the entire content of each video they wanted to watch.

At the age of 16-18 months, as their phonological development occurs, they could produce cute and creative pronunciations of 2-3 English words corresponding with the pictures in each videos and/or in their routine. Their pronunciation of the word *eyes, ears, mouth, hair, teeth, door, baby, mama, bed, horn, and papa* was more understandable versions. After being exposed to the 12 English nursery rhymes and kids' songs for six months, at 19 to 21 month-olds their English vocabularies even more increased; they could produce 3-4 English words of each video. When their adult companion pointed to the real

objects and/or pictures, the subjects were able to name them in more intelligent version of adult English word *wipers, people, head, shoulders, knees, toes, sky, cheek, chin, and lips*.

At 21 to 24 month-olds, the subjects were able to recognize numbers and count one to ten. They could say *one, two, three, four, five, six, seven, eight, nine, ten* when the companion showed them the finger to correspond what number it was. They were able to produce more than 4 English words of each video including the referential sound of the particular objects (e.g. *vroom vroom* for the engine sound, *cling cling* for the coin sound) and the simple descriptions (e.g. *red bus*, *chubby cheek*, *big ball*). They could name the real objects and/or pictures in English corresponding with the English vocabularies they learnt. The test result shows that the female subject could produce 51 words corresponding with the images. This means that her reciting memory on the words list tested corresponds to her reading awareness. However, the male subject showed a difference in his reciting memory on the words list tested which is little bit lower than his reading awareness.

The interesting fact is that their ability to sing the songs lyrics in correct order was higher than their ability to produce the words corresponding with the images. The reciting memory on singing the 12 song lyrics tested shows that the female subject could memorize lyrics of 8 songs and 7 songs for the male. In fact, their ability to memorize the song lyrics cannot be restricted to these numbers since they were exposed to more 12 songs during 15 months. They could memorize more words as they could sing the song lyrics without knowing all the meanings of the words in the lyrics. They produced the word *diamond, sky, teacher, wool, bag, master, dame, boy, hill, boat,* and *stream* as they sang; however, they were not able to point to the correct images corresponding with those words and neither the vice versa.

The rhyming lyrics aided the subjects easier to memorize the English vocabularies. Lyrics visualized in gestures also assisted the subjects to memorizing the words orders. Thus, memorizing came prior to comprehension. Though the role of adult companion is undeniable e.g. to translate in their mother tongue or to give simple explanation regarding the videos were seen, the vocabularies visualized in both images and gestures support the subjects to perceiving the meanings and pertaining them in their memory. As the subjects are still developing their language ability, the role of adult companion co-worked with visual media support the subjects' language learning process. The visual media used were able to help the subjects see the objects they did not met yet in their reality, for example, the image of duck was prior to their experience of seeing the real duck. Thus, the virtual experience which was prior to their real experience helped them know that things have names and enabled them to name the objects they did not yet met.

The adult companion co-worked with visual media during normal baby-sitting times is a form of joint activity which create a supportive learning environment that aids the subjects grasp the regularities of the language learnt. During co-watching activity, conversations happened, e.g. when the adult companion asked, *"What's this?"*, and continued with the answer, *"It's a bus."* Such conversation, according to Shaffer and Kipp (2010), gives children repeated opportunities to learn that conversing involves taking turns, that things have names, and that there are proper ways to pose questions and give answers. Co-watching activity also emphasizes toddlers- directed speech which, according to Shaffer and Kipp (2010), comprises words for objects and activities, for example, the adult companion trying to get the subjects know the animal's name said, *"The sheep are jumping."* The word *"sheep"* was repeated several times. When the subjects were asked to point which

images called *"sheep"*, the adult companion said the word *"sheep"* with varied pitch patterns. The question *"which one are sheep?"* were said from the flat pitched to the high one to help the subjects understand which images called *"sheep"* meant.

Co-watching activity support the subjects to acquire the referential style of English vocabularies consisting mainly of words that referred to people or objects prior to expressive style of vocabularies comprising a larger number of personal or social words e.g. *thank you* and *please*. In their early period of language development, the subjects were referential children in which, according to Nelson (in Shaffer & Kipp, 2010), referential children seem to think words are for naming objects, whereas expressive children use words to call attention to their own and others' feelings and to regulate their social interactions.

Conclusion

Nursery rhymes and kids' songs are integrated media comprising kinaesthetic, visual, and auditory learning in which by co-watching activity between toddlers and adult companion can support toddlers' language and cognitive development. The media and the co-watching activity are able to support their speaking ability and upkeep them to be bilingual at the very early period. This is proven by the toddlers' ability to understand the words spoken by their adult companion in two languages (Indonesian and English) and to produce the intelligent pronunciation of the words also in those two languages. English which is normatively learned merely as a foreign language to most Indonesian people is no longer something far-off to children who are exposed to it through visual media since they are at the very young age and at the same time they learn their mother tongue.

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