The Use of Technology to Support Children in Bilingual Education

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Abstracts: Technology has become integral part of the students' language learning source. The aim of this article is to review the published articles about the use of technology to support children in bilingual education. Bilingualism is defined as an individual's participation in at least two (or more) languages, in which one of the languages is English, speaking without reference to the proportion of each language. This study seeks to find out how technology used by children who has become bilingual, Indonesian and English. The most researches have shown that technology plays an important role in helping children become bilingual. Supporting bilingual children requires preparing skills according to the children's needs. Adult-child interactions had a strong positive relationship with children's language development. In addition, cooperation between parents and teachers was required to promote bilingual education without losing the mother tongue.
Keywords: Bilingual, Education, Technology

INTRODUCTION

The emersion of bilingual schools in today's era become popular in Indonesia in line with the existence of English as an International communication. Bilingual education is a process of learning at least two or more languages. Bilingualism began when a speaker of one language was able to speak fully meaningful speech in another (Haugen in Fauziati, 2014). We are running a language education program to improve the level of English as an international language and Indonesian as a national language. If someone can speak at least two different languages, they can be called bilingual. Bilingualism also equates to "natural control over two languages" (Bloomfield in Fauziati, 2014).

Cummins (2003) as cited at Eteke (2017) stated that bilingualism has positive effects on children's linguistic and educational development. When a person speaks two languages, it is good for their social and brain development. In addition, it increases mental flexibility, inter-cultural skills and opportunities for global exchange and trade. Besides, bilingual education can also grow numbers of studies report that life-long bilinguals outperform monolinguals on a number of non-linguistic tests of cognitive control. Because of this belief, some parents want their children to be bilingual. In teaching and learning process, they were supported by some schools that offer bilingual education programs. This has made bilingualism a new requirement for people as a way of success. Also, some parents may feel that enrolling in a bilingual school can improve their child's language skills.

Nowadays, there are some schools that offer bilingual education program. They teach the students bilingually, which means that the students do not only learn about the language but also learn the material in two languages. Bilingual schools are available from kindergarten to senior high school level. It was because bilingual becoming a new demand by people as a path way to success. Basically, bilingual schools use English in the learning process and also the use their national language in daily conversation in the classroom.

METHOD

This study was a literature review wherein the articles relevant to the research topic were reviewed and summarized in paragraphs. This study examined related research to technology in bilingual education. Literature review which is carried out systematically and with a documentation process can become a research methodology in a study (George, 2008). The keywords used for selecting related

articles were bilingual and bilingual education, helping children become bilingualism, technology and its exposure and children's interactions.

FINDINGS AND DISCUSSIONS

Bilingual and Bilingual Education

Bialystok (2004) as citied at Mahsain (2014) found that bilinguals score the same as monolinguals in non-verbal tests, but less than monolinguals in verbal tests. Bialystok's study, however, claims that they have not found strong scientific evidence in their favor. In the context of bilingual education in Bali, bilingualism can be straight forwardly described as a concept of teaching that use two languages as the medium of instruction, one of thoe is an international or prestigious language (i.e. English). However, in the context of educational research in general, the term tends to bevery complicated to define as it involves different language situations in different regions and countries (Chen, 2017). According to its literal meaning, "bilingual education" usually refers to any educational program that involves two languages in the progress of teaching. Chen also stated that bilingual education has developed for a long time, and many statements on its definition are concluded by some worldwide famous scholars like Anderson and Boyer (1970). But here is a definition that is more relevant to the primary school education, which is represented as "any system of school education in which, at a given moment in time and for a varying amount of time, simultaneously or consecutively, instruction is planned and given in at least two languages" (Hamer & Blanc citied in Chen, 2017). This definition stresses the use of two languages as media of instruction rather than achieving academc purposes through two languages.

As Baker (2001) claimed that, the term of "bilingual education" is like "a simple label for a complex phenomenon". Although many theorists define bilingual education from different angles, most of them share common ground in the following three aspects: school is usually the context of bilingual education; two languags are involved as teaching languages; one of the two languages should be students' first national language, and the other one is students' second language or can be international language. Baker (2001) state that the term bilingual education is not as straight forward asit sounds. Mackey (1970) as cited in Baker (2001) classified bilingual education includes 90 varieties of bilingual education. Ferguson, Houghton & Wells, (1977), as cited in Baker, (2001) provided several purposes of bilingual education with varying and conflicting philos- ophies. Some emphasize monolingual forms of education and they are assimilative in nature but some others are pluralist and additive in nature allowing participants to use (Baker, 2001).

In other hands, United Nations Educational, Scientific and Cultural Organization (UNESCO) (1990) embraces the term bilingual education to refer to describing an education environment in which national, native and international languages are spoken (Eteke, 2017). UNESCO states that bilingual education is the education system of using two different instructional languages, one of which is not the learner's first language". Bilingual education differs from conventional language education programmes prepared for EFL and ESL learners. It encompasses receiving education or instruction in two languages instead of only learning the languages themselves as different subjects. It also requires the non native language exposure in specific contents, which makes it a means of teaching and learning. It gathers learners and teachers from diverselinguistic, cultural and national backgrounds together and ensures conformity among the munder a lingua franca (Baker, 2001). Recently, Cambridge Education Brief 3 (2015) as stated in Eteke (2017) defined bilingual education as the use of two or more languages as medium of instruction for content subjects.

Thus, in general, bilingual education could be defined as involving or using two languages in education system, in which one of the language used is students' native language and in using the languages without mention the degree of each language proportion. However, Chen (2017) stated that since there is no one certain definition can be accepted by all people, the criteria of effective bilingual education should be kept in every individual's mind with everyone's own judgement.

Helping Children become Bilingual

There are some ways for parents to help their children become bilingual (Artini and Nitiasih, 2017):

a) Use two languages from the beginning. You can start talking to the children. Based on research, knowing both languages have no negative impact if your child was previously exposed to multiple languages.
b) If one language is used exclusively in school, they can try to use another language extensively at home. Commentary is in different languages and stays in different situations and places.
c) Provide opportunities, technology and learning resources in both languages in your child's daily life. For example, prepare an interesting story-telling book in English and speak Bahasa in Indonesian with your parents.

Technology, Its Exposure and Children Interaction

The rapid technological advancement in recent years has provided educators with opportunities to use technology for education. Therefore, the use of technologies has become nearly ubiquitous for language learning. New technologies (e.g., virtual reality, augmented reality or wearable technology) were detected and increasingly available. Furthermore, emerging technologies (e.g., cloud computing, computational thinking, natural language processing, etc.) are maturing and very promising to be used for language learning and instruction. The use of Information and Communication Technology (ICT) in daily life influences the education field to involved digital technology in learning activities (Strangelove, 2010; Ganapathy & Seetharam, 2016; Ferguson et al., 2014; Khan, 2017). In addition, Riyadh (2016) stated that technology has been used as a technique to improve education and teaching methods. Digital technologies are often associated with social media or mobile applications such as YouTube, Instagram, Facebook, Duolingo, Jolly Phonics, and so on which have been used extensively in learning the second language since smartphones and tablets are available most of the time.

Moreover, Mayer (2001) stated that multi-technology is the combination of various types of digital technologies such as text, images, audio, and video into integrated multi-sensory interactive applications or presentations to convey messages and information to the audience. The potential benefits of multi-technology are described as people with the ability to process information. Multi-technology allows students to communicate their understanding of the topic in different ways, giving students the opportunity to share their thoughts with others. In addition, it provides students with a medium of communication and new insights for organizing and assessing information (Ivers and Baron, 2002). Moreover, Roseberry et al. (2009) is quoted in AlHarbi (2015), where older children can learn vocabulary from television on their own, while younger children can only learn vocabulary if supported by social interaction.

Furthermore, language exposure on television can lead to passive vocabulary development and can lead to active interactions. Also, the idea that listening to a language lead to the ability to produce it verbally is not entirely true. Listening can only expand the reservoir of passive vocabulary. The word is understood, but not ready for active use in speech (Zimmerman, et al., In AlHarbi, 2015). Furthermore, interaction is required to activate these passive vocabularies. Some studies have emphasized the importance of interactions in children's television programs as a means of developing children's language skills. Linebarger and Vaala (2010) investigated how screen technology affects children's language development by examining infants' ability to see if they can learn from technology. They found that technology was effective when the child could be identified by its content. In addition, technology have been used as a media for teaching and learning to improve students' skills (speaking, listening, writing, and reading), motivation, and interaction, which is benefit for the students to be bilingual (Listiani et al., 2021; Mahzum et al., 2020; Pujiati et al., 2019; Hoffmann & Ramirez 2018; Chang & Roldan., 2018; Prihastuti et al., 2018; Pratama, 2018; Riyadh, 2016).

However, parent-child interactions have shown a strong positive relationship with children's language development. Parental interaction has had a positive effect on child imitation and vocabulary learning. This sensation falls into the category of parental integration into children's learning experiences. In addition, the environment in which the child learns the language is important. In Brickman (2017), Duursma (2007) investigated the role of language environment and home literacy activities in the development of bilingual vocabulary. They found that examining environmental support

for literacy activities, including determining the number of books found at home, was a factor associated with home language use (Brickman, 2017). When it comes to language learning, the environment also plays an important role in making children bilingual. Brickman (2017) found that learning provides important insights into the best times for bilingual learning.

Regarding the power of technology, they were able to design pedagogical practices in which technology not only served as a tool for children's literacy learning, but in ways that supported students' academic identities as the children envisioned new roles for themselves as inquirers and writers (while the preservice teachers embraced the role of teacher and learner).The distribution of labour in which the children became agents and at some times "teachers" for each other and in which the preservice teachers learned from the children reminds us of Freire's (1970) vision in which both (adults and children) are simultaneously teachers and students. Language input is defined as an important language that children receive from interacting people. This includes donations from fellow children, teachers, families and parents.

CONCLUSION

In bilingual parenting, parents recognized that technology played a role in supporting bilingual children. Technologies that have played an important role in helping bilingual children need to be prepared based on their needs. The finding in this study reveals that technology helps improve children's basic skills such as listening performance, increasing vocabulary, satisfying learning outcomes, and self-improvement which should be supported by social interactions. This means that exposing a language to technology can facilitate the development of passive language and interact to make it active. The interaction may be with the closest family member, teachers, and friends. Being bilingual would help children learn technology and computers, as all computer instruction was available in English. It's also great to get a better job for the future of children, as language is so important for communication and building relationships with others.

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