



Bilingual Factors in Children: A Systematic Review

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ABSTRACT:

Bilingualism is the ability to speak using more than one language. There are external and internal factors that can influence a child's abilities in learning a second language. The systematic review aims to analyze 10 international journals with variable factors of bilingualism in children. The results of a systematic review show that external factors are the factors that play the most role in language development in children. Several external factors consist of kindergarten's language, external factors, home and community, language, caregiver vocabulary knowledge, low-income, socioeconomic status, input factors, sociocultural, gender. Meanwhile, internal factors are internal, independent. These findings provide recommendations for conducting research on bilingual factors in children.

Keywords: bilingual; external and internal factors, children

1. Introduction:

Language is a means for individuals to be able to communicate by conveying what is meant. Language will be understood by other individuals if the language is conveyed with clear sounds and meaning. Language is a system of arbitrary sound symbols that is used to collaborate, interact and identify oneself, including children. The use of language in children is one aspect (of the many stages) of children's development that should not escape the attention of parents. Children acquire language indirectly by interacting with the surrounding environment. This acquisition is done by learning to pronounce several words through a process of imitation (mimicry). This development started from simple language to complex structures (Khomsiyatun & Samiaji, 2022). Each word or phrase in a sentence structure forms a relationship with other words and phrases in the sentence. A new word appears approximately every 200–400 milliseconds, but the time required for sensory, phonological, lexical, syntactic, and semantic processing is longer than the duration of each word (Phillips & Ehrenhofer, 2015)

Language acquisition is the process of how someone can speak a language or the process of children in general acquiring a first language. Language acquisition is divided into first language acquisition and second language acquisition. First language acquisition occurs if a child has never learned any language, and then acquires a language. The language acquired can be one language or monolingual FLA (first language acquisition), two languages simultaneously or sequentially (bilingual FLA), or more than two languages (multilingual FLA). Second language acquisition occurs if someone acquires a language after mastering the first language or is the process of someone developing skills in using a second or foreign language. (Khomsiyatun & Samiaji, 2022). The process of language acquisition in children cannot always be done easily, this is also experienced by bilingual children. The differences between the concepts of sound and print that are unique to each language can facilitate or hinder bilingual children in their efforts to master the literacy forms of one or both languages. The specialization of cognitive and linguistic processes required for reading may be influenced by the child's experience in learning two languages. If bilingualism influences children's early access to literacy, then it is through the development of these basic concepts that supports literacy (Bialystok & York, 2002).

There are three ways language processing abilities can help or hinder learning. First, language-learning children may fail to assign parses to input sentences, perhaps because they are too complex or arrive too quickly. This will slow down but not hinder active learning, as it will not lead to false generalizations. Second, it systematically incorrectly parses certain types of input sentences, for example due to parsing bias and/or reanalysis failure. Third, learners who successfully parse input sentences can extract more or less information from them, depending on their ability to predict in advance how the sentence will unfold (Bates et al., 2019). Children face the task of learning language with perceptual mechanisms that function with certain ways and with limited attention and memory abilities. This cognitive system will influence what is noticed in language input, and may be central to the learning process. Likewise, children's previous experiences with the material and social world provide an initial basis for interpreting the language they hear. Later, they will also use language signs. The structure of the language to be learned, and the frequency with which various forms are heard, will also influence the child's language development (Jhonston, 2010).

Learning two languages during infancy and childhood introduces variety in children's experiences to increase the diversity of their vocabularies. Bilingual children are often treated as if they are different, especially in societies where monolingual children are treated as the norm (Paradis et al., 2011). Diebold

used the word 'incipient bilingualism' for the initial stage of contact between two different languages. He mentioned that a person may be bilingual to some degree, but he or she cannot make complete meaningful utterances. For example, a person cannot produce language, but he is able to understand that language (Hadei, 2016).

Bilingual is a term used for individuals who have more language skills from one. Walner explains that bilingualism is the ability to communicate fluently in a language other than the individual's first language (Jayanti & Sujarwo, 2019). The babies whose mothers talked to them more at 18 months were the ones who learned more vocabulary at 24 months. But the most important finding was that babies who experienced more and richer language were also more efficient at real-time language processing 6 months later, compared with babies who heard less maternal talk. This suggests that babies have the opportunity for rich and varied engagement with language from attentive caregivers providing babies not only with models for language learning, but also with valuable practice in interpreting language in real time (Black et al., 2017). Children who are young are given the opportunity to be involved in development vocabulary, then language mastery will also increase and influence children's language skills. Adam (1990) explains that children with a higher level of oral proficiency and more complex vocabulary are able to read more easily than their less proficient peers, while children's language development can also increase, Garton and Pratt (1989) even state that learning to read facilitates the development of oral language proficiency (Bialystok, 2007).

Language skills in children can develop with various media and environments. Language acquisition in children can be influenced by several factors, both from the home environment (namely parents and adults), by play environment factors, and the school environment. These two factors have their own impact on children (Khomsiyatun & Samiaji, 2022). Several other aspects also show a role in inhibiting language development in children. For some families raising bilingual children simultaneously, it is difficult to maintain the child's bilingualism if one of the parents is monolingual. Differences in socioeconomic status (SES) are strongly associated with variations in language outcomes. There are many different experiential factors associated with living in poverty that can contribute to variability in language learning. The physical conditions of daily living related to safety, sanitation, noise levels, and exposure to toxins and hazardous conditions differ dramatically for children in low and high SES families, as does access to resources. important resources such as adequate nutrition and medical care (Fernald et al., 2013).

Based on the explanation above that there are external and internal factors to become bilingual, it has been explained that external and internal factors can influence the development of a child's vocabulary in learning a second language. The aim of this systematic review is to find out what factors can influence vocabulary and language development in bilingual children. It is hoped that this systematic review research can provide information regarding efforts to improve language skills in children so that it can provide benefits to parents and other adults in the child's environment, as well as becoming a basis for further research.

2. Methodology:

The author expanded the keyword terms to create a comprehensive list of search terms. The search words used were bilingual, bilingual child, and bilingual factor. These search words were used to search for articles in the PubMed and Google Scholar databases. In the next stage, the author checks for duplicate journals using Mendeley and Rayyan. The author screened all journals that had passed the duplication check based on the title and abstract. Journals that have passed title and abstract screening are then analyzed based on the full version of the journal. After selecting 356 journals, 10 journals were found that discussed bilingual factors in children. The graph of the journal selection flow can be seen in Figure 1. The author determines the limitations in this review, namely: (1) the journal discusses factors bilingual as the dependent variable, (2) the subjects were children, (3) the journals were in English, and (4) the research was conducted from 2010 to 2020. Journals that were not included in the criteria were: (1) journals that discussed the effects of bilingualism and cognitive development in bilingual children, (2) not written in English, (3) articles with the type of reviews, reports, books, literature reviews, and research whose methods are not clearly described. The number of journals identified based on database searches was 356, the number of journals after screening was 217, the number of journals screened in full text was 47, the total number of journals reviewed was 10.

3. Results

Bilingualism can be defined as the ability to use two languages. The ability to use two languages to communicate can be achieved by individuals in any age group. However, this discussion will only focus on bilingual individuals in children. The existence of internal and external factors in the process of learning a new language for Bilingual Children has an influence on the amount of vocabulary that can be learned. Diebold uses the term Incipient bilinguals which can be interpreted as the initial stage of connection between two different languages. It is explained that someone may be bilingual to a certain level, but cannot make complete meaningful sentences (Hadei, 2016). This can happen because there are many factors that can influence children in learning a new language, such as factors external ((Abreu, 2012), (Buac et al., 2014), (Calvo & Bialystok, 2014), (Correia & Flores, 2017), (Dixon, Wu, et al., 2012), (Dixon, Zhao, et al., 2012), (Eichler et al., 2013), (Paradis & Jia, 2017), (Smithson et al., 2014), (Sun et al., 2018)) and internal factors ((Calvo & Bialystok, 2014), (Sun et al., 2018)) It can be concluded that children can become bilingual because there are certain factors that can make children superior in their ability to communicate in other languages.

In the review results, bilingual factors are grouped into two types, namely factors external and internal factors. External factors include the environment, input quantity, quality input, and outcomes of children's language, while internal factors include age, gender, and language talent in children (Sun et al., 2018). In table 1 it is known that there are several types of factor variables in bilinguals. The external factors used were nine journals out of ten research journals analyzed, with Factor variables used are Kindergarten's language (Dixon, Wu, et al., 2012), external factors (Sun et al., 2018), home and

community (Dixon, Zhao, et al., 2012), language environment (Paradis & Jia, 2017), caregiver vocabulary knowledge (Buac et al., 2014), low-income (Abreu, 2012), socioeconomic status (Calvo & Bialystok, 2014), input factors (Correia & Flores, 2017), sociocultural (Smithson et al., 2014), gender acquisition (Eichler et al., 2013). The internal variables used in two out of ten journals are internal (Sun et al., 2018), independent (Calvo & Bialystok, 2014). This shows that external factors are one of the many predictors that affects children's language learning abilities.

External and internal factors influence language outcomes in children because aspects of the environment around the child can influence how much the child incorporates new vocabulary in the language learning process. For example, children with supportive environmental conditions will give children the opportunity and facilities to learn new vocabulary. It is known that the environment also has an influence on the initial vocabulary acquisition of bilingual children (Sun et al., 2018). Meanwhile, internal factors, Cummins and Swain (1986) showed that older bilingual children were able to show superiority in initial speed in learning language compared to younger children in terms of receptive vocabulary (Sun et al., 2018), thus children who receive more language input and are older will become more mature in their language development.

There are four main factors that are included in external factors and can contribute to the development of language skills among bilingual children, including: the status of the language used, the socio-economic status of the child's family, the amount of language input in each language, and the language used by the mother or caregiver when together with children. The education of the mother or parents often has a correlation with the level of family income: in the context of monolingual children, it shows that mothers with higher education tend to have a larger vocabulary, are more involved in literacy activities, and talk to friends. External factors show an influence on children when learning a new language (Dixon, Wu, et al., 2012).

One external factor that can influence the development of language vocabulary in bilingual children is the home. Home factors can influence vocabulary development including socio-economic status, parental educational attainment, language input from parents and watching television (Dixon, Zhao, et al., 2012). The role of the home environment appears to play a greater role in the development of children's English as a second language vocabulary than in the development of Spanish as their primary language, suggesting that the development of children's vocabulary skills in English is particularly sensitive to fluctuations in input in the language (Buac et al., 2014). It is possible that input factors in the home influencing vocabulary acquisition and maintenance may have a greater influence in these languages compared to English. This is reinforced by Smithson who stated that using English at home is very helpful. One reason for this difference may be that the parents who speak English at home with their children are native English speakers (Smithson et al., 2014). The fact that bilingual children come from households where at least one of the parents is a native speaker does not guarantee the acquisition of Portuguese in the pattern of language development presented by monolingual children in that country (Correia & Flores, 2017).

Singaporean children who have caregivers who speak English at an exclusive level or have a combination with the child's primary language so that the child can have a larger English vocabulary than children whose caregivers only speak the primary language (Dixon, Wu, et al., 2012). Early school age shows that caregivers' vocabulary skills have a stronger influence on the other languages learned by bilingual children than the vocabulary of their primary language. This can be explained that the ability to develop the English vocabulary of bilingual children is sensitive to the caregiver's vocabulary knowledge in using English explained that there is a special relationship between language and the language environment and vocabulary development in bilingual children. So this reveals that caregivers' English vocabulary knowledge can predict children's English vocabulary performance (Buac et al., 2014).

The role of SES (social economic status) on intellectual functioning and academic achievement is well established: children growing up in families with more financial resources and more educated parents score higher on cognitive measures than children without these advantages (Calvo & Bialystok, 2014). Young children growing up in disadvantaged conditions are likely to experience environments that inhibit or even harm healthy brain development (e.g. unresponsive parenting, exposure to stress, economic hardship). In this study, low-income bilingual children outperformed monolinguals in executive control, despite the presence of environmental conditions typically associated with equivalent or even lower performance (Abreu, 2012). With respect to SES, monolingual and bilingual vocabulary acquisition can be greatly influenced by family SES. Children from high SES homes tend to receive more language input and the type of input they receive tends to stimulate language development more than the type of input in low SES homes (Smithson et al., 2014).

Socioeconomic status influences the vocabulary and sentence complexity of bilingual children where the complexity of bilingual children's sentences is not too superior to the main language, this shows that home situation factors are more closely related to vocabulary development than grammatical development in early childhood (Dixon, Zhao, et al., 2012). SES is usually conceptualized as a combination of family income, parental education level, and employment status. In the US, SES has been shown to be a predictor of children's language and school outcomes in bilinguals. Income can be a means to "buy" access to more language learning resources (e.g., books, CDs, DVDs) or experiences (e.g., going to the zoo, museums, puppet shows, plays). In Singapore, the location of the current study, income may also influence the hiring of tutors to improve performance in one or two languages (Dixon, Wu, et al., 2012).

SES influences bilingual children's vocabulary and sentence complexity; bilingual children's vocabulary sentence complexity was not lower than monolingual comparisons, suggesting that home factors may be more strongly related to vocabulary development than grammatical development at this young age (Dixon, Zhao, et al., 2012). Children from low SES backgrounds have lower levels of receptive and expressive language skills than more affluent children (Calvo & Bialystok, 2014). Low SES children are more likely to experience low proficiency in both languages or English, compared with middle and high SES children. However, roughly equal percentages of low SES children showed one of three profiles: low on both, high on both, or high on ethnic languages while low on English, suggesting that low SES does not make children low (Dixon, Wu, et al., 2012). Higher SES families may use more English at home through reading books and other educational activities even when the primary language of the home is Tamil, or Tamil-

speaking families may choose to emphasize English over Tamil for academic type activities due to schooling through the medium of the English language (Dixon, Zhao, et al., 2012).

Parental education level also plays an important role in parents' attitudes, beliefs and practices in educating children, even among families with low social economic status. Parents with higher education have a positive view of bilingualism and therefore they are able to provide the necessary support for children to develop a strong vocabulary in both languages studied (Dixon, Zhao, et al., 2012). Parents with higher education have a positive view of bilingualism and therefore provide the necessary support for the child to develop a strong vocabulary in both languages.

Maternal education has previously been used as a measure of SES in studies investigating vocabulary outcomes. College-educated mothers tend to use richer vocabulary, and ask more questions compared to mothers with high school education (Smithson et al., 2014). Maternal or parental education, which often correlates with family income level, is another indicator of SES: in monolingual contexts it has been shown that mothers with higher education tend to have larger vocabularies, engage in richer literacy activities, and talk with their friends more children than mothers with less education (Dixon, Wu, et al., 2012). Therefore, there will be individual differences in the outcomes predicted by length of exposure to English, mother's education, mother's English fluency, child's use of English at home, richness/quality of English input outside school and age of arrival in Canada. In short, the time frame for a bilingual to catch up to a monolingual depends on the linguistic subdomain, the difficulty of the task and on the individual child's language environment, making 4–6 years a rough estimate only (Paradis & Jia, 2017).

Everyday language use by parents and children plays a role in children's language. Parents who use more Spanish at home help children to produce a larger Spanish vocabulary, but have no effect on the English vocabulary of children taught through English; However, the more parents and siblings use English at home, the lower the child's Spanish vocabulary (Dixon, Zhao, et al., 2012). Whereas in Singapore, parents with fewer years of education may be less successful in learning English, similarly if parents' English proficiency is low, they may not be able to provide English interactions that will help their children develop vocabulary (Dixon, Wu, et al., 2012). In relation to how much children develop their main language, the status of their main language and other languages can also be a factor in children learning and developing language.

There are many external factors that can influence language development in children, where the role of media can influence children in learning language, because media that uses the child's main language can support the development of the child's main language vocabulary (Dixon, Zhao, et al., 2012). Apart from that, the role of the community in the child's environment can also create opportunities for language development in bilingual children and increase achievement and use of their primary language. There are three factors the main communities that can influence the development of bilingual children: culture and ethnicity, social profile of both languages, and community support. Certain cultures or ethnicities may have certain types of beliefs and practices regarding education or vocabulary learning in children. In addition, there are unique patterns of interaction between parents and children that can be uniquely associated with subcultures or ethnic groups which will have a potential influence on children's vocabulary learning. Meanwhile, the social profile of the two languages studied can influence people's perceptions regarding the value of learning or maintaining a particular language. Community support will also influence the amount of vocabulary, types of resources and children's exposure to languages in their environment (Dixon, Zhao, et al., 2012). Culture and ethnicity in each country play a role in language development in children. Kamsiah and Ayyub (1998) As in Malay society, Malay culture, Malay language, and religion (Islam) are highly respected and are considered to be interconnected - so losing one means losing identity, ethnic values and intergenerational connections (Dixon, Zhao, et al., 2012).

Additionally in multilingual/multicultural societies, some cultures or communities place a higher value on maintaining the primary language and/or offer more support (e.g. primary language classes, cultural activities in the primary language, and religious rituals in the primary language), whereas other communities lack of respect for maintaining their language (Dixon, Zhao, et al., 2012). Bilingual children's vocabulary performance is modulated by factors such as the amount of input they receive in each language. Moreover, the influence of these language input factors appears to vary according to whether a language has minority or majority sociocultural status (Smithson et al., 2014). The quality of language input is undoubtedly important to a child's language development, in that the amount of time allocated to each language also plays a role in how much vocabulary a young child develops in each language; when schooling in a community language has begun, school input is sufficient for community language development (Dixon, Zhao, et al., 2012). Vocabulary Development Languages can experience a decrease in vocabulary growth, this is due to the grammar in several other countries' languages that use gender differences.

Gender is a rather automatic grammatical phenomenon in natural languages. The enormous potential that bilingual children demonstrate when acquiring gender, a potential that is not accessible to the same extent in second language acquisition later in their lives, the enormous potential that bilingual children demonstrate when acquiring gender a potential that cannot be accessed to the same extent in second language acquisition later in their lives. In the literature, it has been shown that gender regularities of a semantic, phonological and morphological nature exist in the four languages investigated (Spanish, Italian, French and German). Although much research has been conducted to show that gender can be predicted based on semantic and formal aspects, the reliability of gender regularity differs between these languages (Eichler et al., 2013). The German gender system distinguishes three genders: masculine, feminine, and neuter. Gender marking in German is linked to cases and numbers, so it is not transparent from the child's point of view. This also makes it difficult to analyze the child's speech. From a child's point of view, it is important to mention that nouns in German have somewhat unexpected endings compared to Italian or Spanish. Like France, Spain and Italy have two genders, feminine and masculine. Gender is marked in singular and plural in definite and indefinite articles, thereby providing clear gender cues, for masculine nouns and for feminine nouns. It can be said that Spain has a rather transparent gender system with some very valid gender rules. Eichler claims that children's gender accuracy can be predicted based on language acquisition, but language dominance can confound these ratings (Eichler et al., 2013).

Age is an internal factor in language development in children, the results show that chronological age is not a predictive factor of lexical development. This may be due to the fact that the age of bilingual children, (i.e., between six and eleven years), may not be a representative measure of the amount of input they actually receive over time (Correia & Flores, 2017). Older children with a more mature level of development will show the ability to produce sounds or phonetic forms in expressing their vocabulary. So that children at a more mature age level will be able to understand each meaning of a sentence, through the language input they receive and use in communication as a form of expression for children.

4. Conclusion

Bilingualism in children can occur due to various factors. In simple terms, bilingual factors in children can be divided into two types, namely external factors and internal factors. There are several kinds of external and internal factors, including kindergarten's language, external factors, home and community, language, caregiver vocabulary knowledge, low-income, socioeconomic status, input factors, sociocultural, gender. Meanwhile, internal factors are internal, independent. External factors are the most numerous factors in this review. External and internal factors have their own role in the development of language skills in children.

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