

overSEAS 2022

This thesis was submitted by its author to the School of English and American Studies, Eötvös Loránd University, in partial fulfilment of the requirements for the degree of Bachelor of Arts. It was found to be among the best theses submitted in 2022, therefore it was decorated with the School's Outstanding Thesis Award. As such it is published in the form it was submitted in **overSEAS 2022** (<http://seas.elte.hu/overseas/2022.html>)

A HKR 76. § (2) pontja értelmében:

„... A szakdolgozat a hallgató önálló munkája, melyben be kell tartani a jelen Szabályzat 74/A–74/C. §-okban foglalt rendelkezéseket. A szakdolgozat feltöltésekor a hallgatónak nyilatkozatot kell tennie, amelyben kijelenti, hogy ez az önálló szellemi alkotása megfelel a jelen Szabályzat 74/A–74/C. §-okban, valamint a (3) bekezdésben foglalt rendelkezéseknek...”

SZERZŐSÉGI NYILATKOZAT

Alulírott **Kovács Panna** (név) **Z3QVQ7** (Neptun-kód) ezennel kijelentem és aláírással megerősítem, hogy az ELTE BTK **anglisztika** alapszakján **angol** szakirányon/specializáción írt jelen szakdolgozatom saját szellemi termékem, amelyet korábban más szakon még nem nyújtottam be szakdolgozatként, és amelybe mások munkáját (könyv, tanulmány, kézirat, internetes forrás, személyes közlés stb.) idézőjel és pontos hivatkozások nélkül nem építettem be.

Budapest, 2022.04.16.

Kovács Panna s.k.
a szakdolgozat szerzőjének neve

EÖTVÖS LORÁND TUDOMÉNYEGYETEM

Bölcészettudományi Kar

ALAPSZAKOS SZAKDOLGOZAT

A kétnyelvűség pozitív hatásai a háromtól tíz éves gyerekek kommunikatív és nyelvi kompetenciájára és kognitív fejlődésére

The positive effects of bilingualism on the communicative and linguistic competence and cognitive development of 3-to-10-year-old children

Témavezető:

Dr Szitó Judit

Professor

Készítette:

Kovács Panna

Anglisztika alapszak

Angol szakirány

2022

In this thesis, the positive effects of early-age bilingualism on the communicative and linguistic competence and cognitive development of children are discussed. Although there had been numerous studies on this area before, due to changes in manner of bilingualism research, the topic should be revisited. Furthermore, this topic is important to be discussed since it affects many people given that the number of bilingual children and people is growing by the day. Thus, the aim of this thesis is to reflect on the positive effects of early-age bilingualism when young children's development is concerned. The definition of bilingualism is determined for the purpose of clarification. Code-switching is discussed, concluding that it is an indicator of linguistic and communicative sensitivity. Early-age bilingualism is also shown to have both short- and long-term positive effects on cognitive development. Lastly, the schooling of bilingual children is reflected on to see how it can fulfil the needs of children and how it can help in the maximalisation of the positive effects of early-age bilingualism.

Table of contents

1. Introduction.....	1
2. Bilingualism.....	4
3. Early-age bilingualism.....	6
4. Code-switching and what it shows.....	7
5. Linguistic sensitivity.....	10
6. The positive effects on cognitive development.....	12
7. The relationship between positive effects of bilingualism and the children's education.....	16
8. Summary.....	18

1. Introduction

In today's multicultural society more and more children are being raised to be bilinguals. Children are brought up a bilingual way for numerous purposes and reasons, such as families living abroad, one parent having a different native tongue than the other, or the parents wanting better opportunities for their children, and therefore adopting the one parent – one language method (i.e., one parent communicates with the child in one language and that language only, the other parent does this in another language) (Akgül et al., 2019). Since there are bilingual children not only because of natural circumstances but also because parents choose to raise them bilingually, it is highly important to examine whether bilingualism affects bilinguals' competences positively.

I find it important to write about this topic since it is still often questioned in everyday situations whether being exposed to two languages and acquiring two languages simultaneously has positive or negative effects on children's mental progress. It is often the topic of conversation whether it does more harm to one's progress than positive ones (Yow et al., 2017). Another question frequently appears that asks whether it leads to semilingualism or to the lack of comprehension although one speaks the language (Yow et al., 2017). Code-switching is also mentioned from time to time as a problem, in everyday situations it is frequently viewed as evidence of problematic development. I will elaborate on these questions in my thesis with the use of studies done on children of 3-to-10-years showing that bilingualism positively affects the communicative and linguistic competence and cognitive development.

Although there has been controversy in the literature discussing bilingual children and their competence in areas like communication or linguistic awareness, more recent pieces of literature agree on the positive effects (Blom et al., 2014; Genesee et al., 1996; Yow et al.,

2017). However, earlier pieces of literature found and focused more on how children who are bilingual are affected negatively by the fact that they have multiple mother tongues. It was an accepted view that bilingual children had an intellectual deficit to monolingual children, that they were lagging behind linguistically (Tunmer and Myhill, 1984). However, according to Peal and Lambert (1962; as cited in Tunmer and Myhill, 1984), these findings were made due to methodological flaws in the studies. As they claim these tests did not control for socioeconomic status or cultural identity; also the definition of bilingualism was not standardized either. These variables could all affect and alter the results (Lambert, 1962; as cited in Tunmer and Myhill, 1984).

However, there is still controversy in more recent studies as well. It is important to note that according to de Bruin et al. (2014), there is an overall bias in bilingualism research. The study of Bruin et al. (2014) focused on published research on bilingualism. Their main question was whether the studies with positive results get published more often than the ones suggesting negative effects of bilingualism. Their method consisted of gathering 128 abstracts on bilingualism from 52 different conferences on applied linguistics, classifying them according to their subjects, exercises, methods, and results. The studies were grouped into four categories. Firstly, there was the ones with information only supporting bilingual advantage (BA). Second there was the category of the ones with mixed result but still supporting BA. These were the ones not resulting in BA in the tasks given or the analysis but with results which agreed with the idea of BA in executive control. Third, there was the group of mixed results which did not support but rather question BA. In these cases, there were results indicating BA but at the same time there were cases where although BA was expected, it was not found. And finally, there was category of abstracts with results completely challenging BA. After classifying the abstracts, the researchers investigated which of the studies were published and in what category. The results showed that the abstracts belonging

to the first category, thus supporting BA, got published quite frequently, more precisely 68% of them were published. This was in contrast with the abstracts of the fourth category, thus the ones challenging BA, where only 29% of the abstracts got to publishing. The prospects of publication for the abstracts belonging to the other two categories were mixed, but the studies with compatible results to BA had a bigger chance for publication than the abstracts of the third category (Bruin et al. 2014). These results suggest a bias in the research on this subject. This gives another reason why the topic of bilingual advantage should still to the day be thoroughly investigated and researched. More research and more strict monitoring of the publishers can lead to the overcoming of this problem. However, the result of the bilingual advantage cannot be overlooked. I focus on these results because the research data suggesting its reality is indicated in the majority of the studies available today.

Bilingualism has been in the focus of studies for years now but there is still a need for more research. However, this is not only because of the question of research bias proposed by de Bruin et al. (2014). Another reason is that there is a lot of variables present in children's learning and behaviour, which is the same for all people's learning and behaviour in general. This presents a reason for more and more research to be done. By having a significant amount of data from numerous subjects, more general conclusions can be drawn than from the data of fewer people. Furthermore, the methods of the more recent studies differ from the earlier ones. Earlier studies did not control for socioeconomical status and cultural differences, which newer studies do control for (Lambert, 1962; as cited in Tunmer and Myhill, 1984; Blom et al., 2014; Genesee et al., 1996; Yow et al., 2017). Still there is the variable of individual differences so the effects may differ from individual to individual. This is why it is important to gather more data so the findings can be as unbiased as possible. For this reason, the studies used in this thesis have subjects with different backgrounds. This way it can be ruled out that the positive effects found are only found in a certain group. Individual differences are still not

controlled for but socioeconomical dissimilarities and cultural distinctions are The fact that there are more up-to-date research methods available and greater resources for this study area gives round for more unbiased results (Lambert, 1962; as cited in Tunmer and Myhill, 1984).

2. Bilingualism

First of all, it is important to clarify what bilingualism is. According to the definition by Beardsmore (1986), someone is bilingual if they have more than one language in their knowledge. It does not necessarily mean that both languages are known at the same level. The manner of language use is also highly important. It is also important to be stated that the term bilingualism is also used for speakers of more than two languages thus it often names the cases of multilingualism which refers to either a community where more than one language is used habitually or people who use more than one language habitually (Clyne, 2017). Thus, according to these definitions, one does not only count as a bilingual if they learnt their second or third or any other language at an early age (i.e., early age bilingualism) but people at any age also are bilinguals if they acquired any language other than their L1 and they are able to use it. Early-age bilingualism, however, only happens in cases where children either acquired two languages simultaneously or started learning their L2 at a young age (i.e., around the age of 3-5) (Genesee, 1989). In this thesis, early-age bilingualism is in the main focus, given that this topic has been researched to prove that it affects children's development in numerous areas.

However, prior to the study by de Avila and Duncan (1977), there had been a vagueness around the phenomenon of bilingualism. According to de Avila and Duncan (1977), there had not been one unambiguous definition to bilingualism. It also had not been decided what counts as bilingualism. This led to confusion and differing results in the research since there had been too big of a diversity in the language knowledge of the research subjects. In order to

remove the vagueness around what bilingualism actually is and around who a bilingual is, the Language Assessment Scales were developed by de Avila and Duncan (1977). The levels of language knowledge were assessed and grouped in the following categories: non-speakers with total linguistic deficiencies, non-speakers with apparent linguistic deficiencies, speakers with limited speaking ability, near-fluent speakers, and totally fluent speakers. The first group was made out of people who either know nothing of the language or only have a knowledge of a few words. The second group's members know how to make simple sentences from time to time, but their knowledge is mostly limited to short phrases. Those who belong to the third group are able to produce complex sentences but only with systematic errors. The fourth group's speech production only contains occasional errors. The totally fluent speakers can produce native-like speech.

The children taking part and examined in the study by de Avila and Duncan (1977) were given points according to their knowledge of language(s) and the group they were assigned into was based on this knowledge. The researchers differentiated between fully fluent, balanced bilinguals, who had a balanced proficient knowledge in both of their languages; partial bilinguals, who are proficient in one language but limited in the other; limited bilinguals, who had problems in both languages; monolinguals, the ones who acquired only one language; and limited monolinguals, or in other words the late language learners (de Avila and Duncan, 1977; Tunmer and Myhill, 1984). With this direct assessment, it becomes easier to determine what bilingualism is. Using points to determine one's level of language knowledge helps to categorise the children based on their language knowledge levels. This categorization made it clear who and how should be researched if one decides to do research on early-age bilingualism.

This thesis shall focus on bilingual children brought up in communities of multilingualism thus the effects of being brought up in an environment where a language was

not just learnt in school but used in everyday lives. There can be numerous reasons for this; especially seeing that one third of the world's population is bilingual (Akgül et al., 2017) there is a great variation in socioeconomic statuses of families where children grow up to be bilingual, their reasons for why they raise their children in multilingual environments and the parents' methods often differ from of the others. Although there is diversity in reasons and ways of learning two languages simultaneously from a young age, how this way of learning one's L1 and L2 affects the cognitive development of the children in question are quite similar. Their communicative and linguistic skills, for example their linguistic sensitivity, and their cognitive development are all affected (Blom et al., 2014; Genesee et al., 1996; Yow et al., 2017).

3. Early-age bilingualism

The children of the studies examined in this thesis existed in a bilingual environment since their birth; or started in a monolingual environment and got into another around the age of three. Both of these cases can be treated as early-age bilingualism. This is a highly important period according to the Critical Period Hypothesis (Lenneberg, 1967). According to the aforementioned hypothesis, if language learning and acquisition starts during a certain period of one's lifetime (the critical period), the quality of the knowledge of the language will be considerably better than the language knowledge acquired after the critical period. The critical period ends around the age of puberty. As Lenneberg (1967) states, by the end of the Critical Period, thus by the start of puberty, the brain of children will not be as receptive to language as at an earlier age. Furthermore, the manner of language learning, and of learning in general, changes through people's lives. Children who are exposed to two languages simultaneously from the beginning of their lives or learn their second language at an early age have a different approach to language than those who start learning their L2 later. This is related to the way young children acquire their mother tongue.

The manner in which young learners and adult learners acquire a language differ. Whereas adult learners tend to rely on rule-based methods while they learn a language, children's language learning processes are almost entirely memory-based (Skehan, 1998). The former group, whose approach is called an "analytic approach" by Skehan (1998, p. 269), rely on the rules and system of the language while trying to reproduce it. On the other hand, the members of the second group, who are mostly young children and whose way of learning is called a "declarative approach" by Skehan (1998, p. 93), the rules and regularities of the language are not analysed, the system of memory is responsible for the language production (Skehan, 1998; Nikolov, 2009). However, according to Nikolov (2009), this does not mean that older language learners are unable to master a language, since they usually make up for the differences of the learning approaches by extra concentration and studying. It is however shown by various studies, which I will mention in the following sections, that bilingualism has its positive effects on young children's development: it does not only affect their language knowledge but also their cognitive, communicative, and linguistic progresses (Blom et al., 2014; Genesee et al., 1996; Yow et al., 2017).

4. Code-switching and what it shows

What is often a cause of concern in everyday situations is if bilinguals, mostly bilingual children, would be able to differentiate between languages or would mix the languages or even get confused by what language they should use. However, as Yow et al. (2017) claim, what is often seen as mixing the languages and treated as a negative effect of bilingualism on children is actually a phenomenon called code-switching or translanguaging (i.e., the changing of languages or styles for a reason either sentence-by-sentence or even within one sentence (Myers-Cotton; 1997)). This is a normal phenomenon in the case of children who learn two languages simultaneously and also in the case of bilinguals. Genesee et al. (1995) claimed that children whose parents often engage in translanguaging, will themselves engage

in it more frequently than not. Thus, profound translanguaging of parents seems to lead to their children engaging in extensive code-switching (Genesee et al.,1995). However, even if parents do not code switch at all, but employ the one parent – one language method while communicating with their children, children still code-switch. It is part of their language identity and not only at a young age. However, their pattern of code-switching goes through changes as their language knowledge develop and they mature cognitively.

The development of children's code-switching and their ability to differentiate between languages also have phases, just as the early stages of language development. As language development and acquisition in young children start with reflexive vocalization (i.e., production of sounds to show discomfort) then cooing and laughter (i.e., sounds produced to show positive emotions) (Stark, 1980), the bilingual language development also works in stages, of which the early stage can be understood as belonging to a unitary system. That is why no conclusions should be drawn from only the behaviour of young children whose speech is still developing. It may lead to false or biased results indicating that there is a problem with their language knowledge or speaking abilities. Just as no final deductions can be drawn about monolingual children's linguistic abilities from only their language production at a young age, the abilities of bilingual children should not be judged at a certain age only.

As Volterra and Taeschner (1978) state, in the earlier stages of languages learning, toddlers are unable to separate the two (or more) languages in their minds as these belong to a unitary language system (i.e., there are no differentiated phonological, lexical, and syntactic subsystems in the mind of the language speaker (Genesee, 1989)). However, according to Genesee et al. (1995), children learn to differentiate between the languages, especially above the age of three when their cognitive systems are developed enough to understand the differences of the two languages. This usually happens around the age of three when the use

of functional categories starts (Genesee et al., 1995). According to Stark (1980), when the children first start to produce actual words to communicate, they only speak in one-word-long utterances. First so called protowords are used (i.e., “[words] in which phonetically consistent forms are used to refer to primitive experimental groupings” (Stark, 1980, p. 75)). Around the age of three, however, children learn to speak the language grammatically correctly enough to produce sentences with grammatical categories (i.e., verbs, nouns, etc.) present (Genesee et al., 1995). As Genesee et al. (1995) states, this is the time when young children’s cognitive abilities are developed enough to be able to differentiate between languages. In the first stages of speech production, children tend to engage more in intra-utterance mixing (i.e., “mixing across utterances (even of the single-word variety) with the same interlocutor” (Genesee et al., 1995, p. 612). This happens often in the first stages of language learning as the difference between the two languages is not clear to them due the fact that they are in a learning period during that time (Genesee et al., 1995).

Although later children learn the differences between the languages, code-switching is still present; yet not for the reason of confusion but with clear motives and sensitivity to the context (Genesee, 1989). This suggest that code-switching is not random and not due to linguistic disabilities. It happens rather, either consciously or unconsciously, as a manner of self-expression or to overcome the language barriers between themselves and their conversation partners. Bilingual children feel the need for the act of code-switching when they engage in it. Causes might be a language barrier with their conversation partner, self-expression, finding an utterance more appropriate in a situation. In summary, what is often seen as a negative effect of (early age) bilingualism, rather indicates positive development to linguistic sensitivity.

5. Linguistic sensitivity

As mentioned earlier, many parents use the one parent – one language method while communicating with their children (Akgül et al., 2017). This leads to children knowing which tongue to use with which of their parents. However, this sensitivity is not exclusive to their parents and their habits as a family, namely which language they use with which of their parents or other family members: it is shown that bilinguals are sensitive to the situation as well. This will work even in situations which include strangers (Genesee et al., 1996). In this study conducted by Genesee et al. (1996), bilingual children were put in situations with interlocutors with whom the children had no earlier contact. This was done to test if they were sensitive to the person and the situation or only to the habits of their lives. The tests were done in calm environments, namely in their homes with only the one person they were interacting, once with their mothers, once with their fathers, and once with an interlocutor who was a stranger. Of the four children tested in this study, only one was required to use their more dominant language. The researchers chose this method in order to show that their ability to converse was not a question of how well one knew the language but of sensitivity to a situation and of communication skills.

According to the results of the research (Genesee et al., 1996), the children were sensitive to the language that the interlocutor used no matter if they had to use their less dominant tongue. Although the children still engaged in code-switching, it did not only happen with the interlocutor who, in most cases, did not use their more dominant language, but also with both of their parents. Thus, it was shown that code-switching is not the indicator of poor language knowledge but rather the ability to make one's thoughts understood and to fill in the gaps of one's developing language. Furthermore, it was also shown that code-switching does not happen because children are unable to use the language needed in certain situations, but because they were sensitive to the situation and the language needed. Moreover, context did

not affect the amount of their code-switching. It was more affected by how they tried to express themselves.

On the other hand, children may also code-switch context-sensitively. However, as the study of Yow et al. (2017) clarifies, this type of code-switching does not reflect poor language knowledge as it is often thought but rather their sensitivity to context and situation. Fifty-five English-Mandarin bilingual children aged between 5 to 7 were studied by Yow et al. (2017). These children all went to child-care facilities where activities were given in both English and Mandarin. According to their parents, all the children were simultaneous bilinguals (i.e., acquiring two languages at age 3 or younger) apart from one who was exposed to their second language later. Children were monitored in the day-cares by student-assistants. Both audio and video recording were conducted of their everyday interactions. The researchers paid attention to make the recordings in a way in which children were not interrupted or affected by anything.

The results of their study which was done with these English-Mandarin simultaneous bilingual children showed that these children used more Mandarin in an environment where it was needed although English was their more dominant language. It was also shown that code-switching helps children better their skills in their less dominant language as they learn to use it in appropriate situations. As young children are often not able to express themselves equally well in both of their languages, code-switching helps them ease the stress of learning two languages simultaneously while being able to communicate their thoughts and acquiring proficiency in both (Yow et al., 2017).

6. The positive effects on cognitive development

Not only does bilingualism help children's communication skills as code-switching indicates, but it also helps the development of their inhibition ability (i.e., the controlling of impulses in the stimuli), visuospatial and verbal working memory. MacLead (2007, p. 5)

defines inhibition in the following way: “[c]ognitive inhibition is the stopping or overriding of a mental process, in whole or in part, with or without intention”. As Baddeley (1992) states, working memory is responsible for providing short-term storage which is needed in tasks like language comprehension or learning. Visuospatial memory is in use if one needs to comprehend and do clearly described tasks Baddeley (1992). According to the results of Blom et al.’s study (2014), bilingual children showed cognitive advantages when tested on visuospatial and verbal working memory tests. The working memory tests were done according to the Automated Working Memory Assessment by Alloway (2007, as cited in Blom et al. 2014). In the study Dutch-Turkish bilinguals were tested against monolingual children whose mother tongue was Dutch. The children were also on a wider range of socioeconomical statuses for a wider generalizability. Before the visuospatial and the verbal working tests were done on the children, both groups had to take a receptive vocabulary test of Dutch. The monolinguals’ vocabulary knowledge of the one language they spoke was bigger than the bilinguals’ vocabulary knowledge of the same language. This result was expected by the investigators. However, since researchers were aware of the fact that the bilingual children’s experience with Dutch was smaller given their age, the other tests done were more about the cognitive development and not the vocabulary knowledge. In said tests the bilingual children showed clear advantage compared to their monolingual peers in both a visuospatial working memory task and in a verbal working memory task.

In addition, bilingual children not only show differences to monolinguals in inhibitory control but also in cognitive flexibility (i.e., the capability of modifying one’s behaviour and way of thinking to make them appropriate for the given situation) (Bialystok, 2001; Bialystok and Viswanathan, 2009). Bialystok and Viswanathan’s study (2009) was done with 90 seven-to-nine-year-old children who were either monolingual in Canada, bilingual in Canada, or bilingual in India. The latter two related to an important factor of the study, namely that the

importance of the socioeconomical status had to be ruled out. The tasks of the study focused on the children's (Bialystok et al., 2006, p. 1341), inhibitory control, cognitive flexibility, and response suppression (i.e. "the ability to withhold a response triggered by a habitual cue"). The Indian bilingual children were of a lower socioeconomical status than the Canadian bilingual children, thus their life, schooling, and learning experiences were different. Although the two bilingual groups were from different socioeconomical statuses, it did not affect how well they worked. The result of the two bilingual groups were quite similar and equivalent. Compared to this, the members of the monolingual group performed more poorly than the other two in the tasks which were connected to inhibitory control and cognitive flexibility.

In another study by Bialystok et al. (2006), adults, both younger and older, were tested to investigate whether bilingualism's effects are influenced by aging. The research was done with 96 participants of which four groups were made: one young adult monolingual group, one young adult bilingual group, one older adult monolingual group and one bilingual group. This way the members' performances could be compared to the performances of age-appropriate co-subjects. The study's aim was to clarify which development of non-linguistic tasks are affected by bilingualism. The tasks were focusing on inhibitory control, cognitive flexibility, and response suppression. The effects indicated by the results of this study (Bialystok et al., 2006) seem to originate from, and thus are long-term effects of early-age bilingualism. This is why although this research was done with adults, it is still relevant to the topic.

Cognitive abilities of bilinguals are preserved in a better state through their lives than of the monolinguals. Bilinguals, either younger or older, outperform monolinguals of the same age in cognitive tasks. The results of the research by Bialystok et al. (2006) can be compared with the results of the children in the study of Bialystok and Viswanathan's study (2009) from

which this conclusion can be drawn. In this research by Bialystok et al. (2006), all the bilingual test subjects, both older and younger, outperformed the monolingual examinees in all of the above-mentioned abilities. Taking the results together with the findings of Bialystok et al. (2009), it can be concluded that the positive effects of bilingualism on one's cognitive developmental state differ in the case of children, adults, and older people; probably because of the differences in accumulated experience or the stability of executive functioning in one's lifespan. Whilst in the case of children bilinguals outperformed monolinguals in tasks on inhibitory control and switching/cognitive flexibility, in the case of older adults the result showed that adult bilinguals not only have advantage over monolinguals on these two aspects but also in response suppression as well. This shows that lifelong bilingualism starts to show its positive effects from a young age and as time goes on the effects become stronger and stronger.

Since children's results did not show an advantage in response suppression, it cannot be listed as a first-hand positive effect of bilingualism on their cognitive development. However, taken together with the findings of Bialystok et al. (2006)'s another research, although young-age bilingualism does not seem to have an effect on children's development of response suppression; the results of older bilinguals outperforming the older monolinguals in these tests suggest that it does help with preserving response suppression in a good condition at an older age. Naturally older adults did slower in the tests than younger adults, which was expected as a decrease of cognitive condition is natural. However, the results of bilingual older adults were significantly less weak compared to the results of the younger adults than the results of monolingual older adults. Overall, aging monolinguals experienced a bigger loss of abilities in response suppression inhibitory control, and task switching than bilingual older people (Bialystok et al., 2006). These results suggest that bilingualism does not only show its positive effects during childhood, but it also has long-term positive effects.

There is further evidence which suggests that early age bilingualism helps against age-related cognitive decrease. First of all, it is important to state that there is still limited research on this topic. However, Bak et al. (2014)'s study led to important findings. Their research was done in two instances. The first instance happened in 1947 when 1091 10-11-year-old participants completed a questionnaire with which their intelligence was measured. Between 2008 and 2010 866 of the earlier partakers returned for the second part of which 853 completed the second questionnaire which was about bilingualism. In this study one is listed as a bilingual if they reported being able to at least communicate in their L2. The variables of bilingualism, namely age of acquisition of L2, number of languages, and the frequency of L2 usage, were separately considered during evaluation of results.

The results indicated that the cognitive state of bilinguals was less affected by their age (Bak et al., 2014). The participants were tested on general fluid-type intelligence with six non-verbal tests: on their memory, on the speed of their information processing, on verbal reasoning with the Moray House Test, on vocabulary and/or reading, and on their verbal fluency. The cognitive effects of bilingualism impacted mostly reading, verbal fluency, and general intelligence. All bilinguals outperformed the monolinguals, but furthermore it was also found that bilinguals who knew three or more languages also outdone the bilinguals who only knew two. Early-age bilingualism seemed to be more preferable for people with higher childhood IQ, whilst for children with a lower IQ later-age second language acquisition seemed to be more beneficial. There is still research needed on this area to understand why this is so. However, according to Bak et al. (2014) it might be because second language acquisition has different effects on frontal executive functions depending on one's IQ. There was no significant difference found between active and passive bilinguals' results. Thus, in summary, as Bak et al. (2014) stated, while no negative effects of bilingualism were detected, the positive effects were clear.

7. The relationship between positive effects of bilingualism and children's education

Bilingual education has become popular in Hungary and worldwide in the recent years. It is a type of school where the language of schooling is either in a foreign language or it is bilingual in the form of Content and Language Integrated Learning (CLIL). In CLIL programmes some subjects but not limited to language courses are taught in a foreign language and some in the children's mother tongue (Ruiz de Zarobe, 2014). This way children can start learning their L2 from a young age during their schooling in implicit (i.e., general classes given in the target language) and explicit (i.e., language classes) ways. This method of language learning through diverse topics and constant interactions in the target language affects foreign language learning positively. However, for the effects to be as positive as possible, children's upbringing and education should happen in a certain way. As Cummins (1979) clarifies, children should be led through their linguistic development instead of making them feel that they are in a disadvantageous situation compared to their peers. In situations where children have a different L1 than their peers, either not speaking the main language of the program or only at a limited level compared to the others, academic difficulties can emerge if not enough attention is paid to their language development. Here is where the difference between submersion programs and immersion programs becomes important. Whilst both are tools for a different environment, different language approach in second language education, the way this happens in the programs is distinct. Given from the differences in the approach to second language teaching, their effects on the children who get their educations in these facilities also differ from each other (Cummins, 1979). In immersion programs every child starts the educational program with no or only little knowledge of the language of the program. This way it is ensured that no one gets the advantage of being familiar with the language beforehand. This is important because if every child starts from the same level, the focus on them and on their needs can be divided satisfactorily. Naturally,

individual differences play a part here as well. However, beginning at the same level of language knowledge minimize the other differences. This is helpful for the children because they do not feel that they lag behind from the very beginning and for the teachers because they have smaller diversity in learning needs in their classes (Cummins, 1979).

On the other hand, the groups in submersion programs involve children with differing knowledge of the educational language. Often there are children in submersion programs whose first languages are actually the language of teaching. This can result in bilinguals' academic struggles since the comprehension difficulties can easily lead to learning difficulties. And since there are students who do not struggle with the language, given that it is their L1, the bilinguals' needs for help are frequently not met. Also, since the teachers often are not familiar with the children's cultural background or their first language, it is even more difficult for them to make themselves understood. This is stressful for the children because they feel that they need to struggle for the same or worse academic achievements that their classmates can achieve easily. Furthermore, it is stressful for the teachers as well since they have to work in an environment where a big diversity of teaching methods is needed for which they often not have the resources for. This leads to a situation where both the children and the teacher feel they did not fulfil their tasks, that they failed (Cummins, 1979).

Contrastively, teachers in immersion programs have knowledge about the children's cultural backgrounds so their expectations and behaviour towards the children are more culturally suited. This is important to be considered also since bilingualism does not only affect one's mother tongue(s) but their cultural identity as well. Thus, as Cummins (1979, p. 5) summarizes, "In general, what is communicated to children in immersion programs is their success, whereas in submersion programs children are often made to feel acutely aware of their failure." In other words, positive effects of bilingualism help students in their

educational progresses as well, but it is important that the environment be appropriate for their development and not be such where the negative impacts override the positive effects.

Although some years have passed since the study of Cummins (1979), a more recent writer (Ruiz de Zarobe, 2014) agrees on the importance of CLIL immersion programmes. According to Ruiz de Zarobe (2014), this type of program helps students feel more confident during their learning, it helps them to be highly motivated. Furthermore, these programmes usually do not have a negative effect on students' academic results but challenge the students to get better. Ruiz de Zarobe (2014) also stresses the importance of the teachers' role in these programmes. The tutors should pay attention to both the language learning needs and cultural needs of the students they teach. However, not only the children benefit from these extra focus points. Teachers of these programmes develop their pedagogical skills better in these programmes (Ruiz de Zarobe, 2014). In conclusion, CLIL immersion programme is a positive approach to early-age bilingualism, students benefit from it, and it positively affects their development. With the right approach to teaching, it is advantageous to both the students and their teachers, however extra work is needed for these programmes to work.

8. Summary

In summary, the developmental areas affected by bilingualism cover a wide scale. It can be concluded, as the research results suggest as well, that positive effects of bilingualism can be shown both in children's communicative and linguistic competence and on their cognitive development without being affected by the children's socioeconomical statuses. Given that both bilingual children with high and low socioeconomic status outperformed the monolinguals, it can be ruled out that positive effects of bilingualism are only present if children are from a richer family.

Counter to early research where negative effects had the most focus, more recently the overall results of investigations indicate that acquiring two, or more, languages at once has more positive effects on the development of children affected. In early studies, socioeconomic statuses, cultural dissimilarities, and individual differences were not controlled for resulting in biased findings. More recent studies involved a diversity of participants in order to have the most unbiased result possible. In a number of studies where extra attention is paid to have a diversity in children's cultural backgrounds and socioeconomic statuses, the findings indicated that the positive effects of bilingualism on the communicative and linguistic competence and cognitive development of 3-to-10-year-old children are present.

What are listed as problematic behaviours, for example the poorer academic results or code switching which is often seen as random changing of languages also have different causes rather than bilingualism only. Some problematic academic performance may be caused by the schooling program which is inappropriate for the bilingual children's needs. Schooling programmes can be improper for the children if not enough attention is paid to their cultural or language learning needs in cases where they do not speak the language of the programme at the same level as their peers. Their minds are still developing, whilst they are also acquiring two languages at once. Thus, it is important that the children in question should be put into an educational facility which is appropriate for them both language teaching wise and culturally, given that bilingualism is interconnected with cultural diversity.

What is often called the "unnecessary switching of languages" in everyday situations is actually a phenomenon called code-switching. This is not only natural for someone with the ability to speak more than one language but also shows linguistic and communicative sensitivity. Children are able to adjust their language and language use to the situation they are in but also to the needs of their communication partner in order to overcome linguistic barriers. This does not only happen with people they know and whose linguistic needs they

are familiar with but with those as well with whom they speak for the first time, which show high linguistic sensitivity. This phenomenon also helps children make themselves understood better when their language knowledge is not fully developed. Whenever they cannot express themselves in one language, they can change to the other which gives them time to acquire the other language better as well.

Cognitive advantages related to bilingualism in the case of bilingual children are also present. Their results in tasks about inhibitory control and cognitive flexibility were better than of their monolingual peers. The results do not depend on the bilingual children's previous education or socioeconomical status given that there were bilinguals with differing socioeconomical statuses. Both the bilingual children with high and the ones with lower socioeconomical status outperformed the monolingual children tested in the study. When the results of bilingual children were compared to the results of adult bilinguals it became clear that not every positive effect of bilingualism is present at a young age since one's life and language experiences also form one's mind. However, the results taken together showed that early bilingualism results in positive effects which become even more significant in later life. In conclusion, early age bilingualism helps to preserve one's cognitive state in a good condition.

References:

- Akgül, E., Yazıcı, D., & Akman, B. (2017). Views of parents preferring to raise a bilingual child. *Early Child Development and Care*, 189(10), 1588–1601. <https://doi.org/10.1080/03004430.2017.1400541>
- Baddeley, A. (1992). Working memory. *Science*, 255(5044), 556–559. <https://doi.org/10.1126/science.1736359>
- Bak, T. H., Nissan, J. J., Allerhand, M. M., & Deary, I. J. (2014). Does bilingualism influence cognitive aging? *Annals of Neurology*, 75(6), 959–963. <https://doi.org/10.1002/ana.24158>
- Beardsmore, H. B. (1986). *Bilingualism: Basic principles*. Multilingual Matters.
- Bialystok, E. (2001). *Bilingualism in development: Language, literacy, and cognition*. Cambridge University Press.
- Bialystok, E., & Viswanathan, M. (2009). Components of executive control with advantages for bilingual children in two cultures. *Cognition*, 112(3), 494–500. <https://doi.org/10.1016/j.cognition.2009.06.014>
- Bialystok, E., Craik, F. I., & Ryan, J. (2006). Executive control in a modified antisaccade task: Effects of aging and bilingualism. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 32(6), 1341–1354. <https://doi.org/10.1037/0278-7393.32.6.1341>
- Blom, E., Küntay, A. C., Messer, M., Verhagen, J., & Leseman, P. (2014). The benefits of being bilingual: Working memory in bilingual Turkish–Dutch children. *Journal of Experimental Child Psychology*, 128, 105–119. <https://doi.org/10.1016/j.jecp.2014.06.007>
- Clyne, M. (2017). Multilingualism. In Coulmas, F., Ed., *The Handbook of Sociolinguistics* (pp. 301–314). Blackwell Publishing Ltd.
- Cummins, J. (1979). Linguistic interdependence and the educational development of bilingual children. *Review of Educational Research*, 49(2), 222–251. <https://doi.org/10.3102/00346543049002222>
- de Avila, E., & Duncan, S. E. (1977). Language assessment scales, Las I for grades K-5, English/Spanish. *The Modern Language Journal*, 62(7), 350. <https://doi.org/10.2307/324454>
- de Bruin, A., Treccani, B., & Della Sala, S. (2014). Cognitive advantage in bilingualism. *Psychological Science*, 26(1), 99–107. <https://doi.org/10.1177/0956797614557866>
- Genesee, F. (1989). Early bilingual development: One language or two? *Journal of Child Language*, 16(1), 161–179. <https://doi.org/10.1017/s0305000900013490>

- Genesee, F., Boivin, I., & Nicoladis, E. (1996). Talking with strangers: A study of bilingual children's communicative competence. *Applied Psycholinguistics*, 17(4), 427–442. <https://doi.org/10.1017/s0142716400008183>
- Genesee, F., Nicoladis, E., & Paradis, J. (1995). Language differentiation in early bilingual development. *Journal of Child Language*, 22(3), 611–631. <https://doi.org/10.1017/s0305000900009971>
- MacLeod, C. M. (2007). The concept of inhibition in cognition. In D. S. Gorfein & C. M. MacLeod (Eds.), *Inhibition in Cognition*, 3–23. <https://doi.org/10.1037/11587-001>
- Myers-Scotton, C. (1997) Code-Switching. In Coulmas, F., Ed., *The Handbook of Sociolinguistics*, Blackwell, Cambridge, MA, 217-237.
- Lenneberg, E. H. (1967). The biological foundations of language. *Hospital Practice*, 2(12), 59–67. <https://doi.org/10.1080/21548331.1967.11707799>
- Nikolov, M. (2009). *The age factor and early language learning*. Mouton de Gruyter.
- Ruiz de Zarobe, Y. (2014). The effects of implementing CLIL in education. *Content-Based Language Learning in Multilingual Educational Environments*, 51–68. https://doi.org/10.1007/978-3-319-11496-5_4
- Skehan, P. (1997). *A cognitive approach to language learning*. Oxford University Press.
- Stark, R. E. (1980). Stages of speech development in the first year of life. In *Child Phonology* (pp. 73–92). Academic Press.
- Tunmer, W. E., & Myhill, M. E. (1984). Metalinguistic awareness and bilingualism. *Springer Series in Language and Communication*, 169–187. https://doi.org/10.1007/978-3-642-69113-3_10
- Volterra, V., & Taeschner, T. (1978). The acquisition and development of language by bilingual children. *Journal of Child Language*, 5(2), 311–326. <https://doi.org/10.4324/9781003060406-29>
- Yow, W. Q., Tan, J. S., & Flynn, S. (2017). Code-switching as a marker of linguistic competence in bilingual children. *Bilingualism: Language and Cognition*, 21(5), 1075–1090. <https://doi.org/10.1017/s1366728917000335>