



تأثير ثنائية اللغة على الذكاء والإنجاز الدراسي

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الملخص:

يمكن أن تشير ثنائية اللغة إلى القدرة على الحفاظ على المهارات اللغوية ، إلى مستوى معين ، في نظامين لغويين منفصلين ، في الأساليب اللغوية الأربعة: الاستماع والتحدث والقراءة والكتابة. يتعلق بعوامل اجتماعية ونفسية واقتصادية وسياسية. الهدف من هذه الدراسة هو مراجعة الدراسات السابقة التي استهدفت التأثير ، سواء كان إيجابياً أو سلبياً ، للغة ثنائية على الذكاء ومن ثم على التحصيل الدراسي للطلاب ثنائيي اللغة مقابل التحصيل الذهني والمدرسي لذوي اللغة الواحدة.

الكلمات المفتاحية: ثنائية اللغة ، أحادية اللغة ، الذكاء ، التحصيل الدراسي



Bilingualism Impact on Intelligence and Scholastic Achievement.

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Abstract

Bilingualism can refer to the ability to preserve linguistic skills, to a certain level, at two separate linguistic systems, in the four linguistic skills: listening, speaking, reading, and writing. It is closely-connected to social, psychological, economic, and political factors. The aim of this study is to answer the question whether mastering languages can have a kind of influence, whether positive or negative, on the intelligence and then on the scholastic achievement of bilingual students versus the intelligence and scholastic achievement of monolinguals. Literature shows different levels of effects on the different aspects of intelligence. Some studies are in favor of the bilingual approach, others prefer the monolingual approach, and some show no significant effect of learning languages on intelligence and performance.

key words: bilingualism, monolingualism, intelligence, scholastic achievement



.1 Introduction

Away from the extreme definitions of bilingualism by Bloomfield “the ability to communicate in both languages in a native-like manner” (Bloomfield, 1933, p. 56) and by Macnamara as “the basic knowledge of a second language” (Macnamara J. , 1967, pp. 59-60), any person understands and/or communicate with more than one language can be called bilingual. The level of proficiency may not be easy to identify as the standard of measuring it is difficult to be determined. It fluctuates from the capability of students who merely understand and use simple sentences in the other language to the ones who use both languages interchangeably and native-likely .

Bilingualism is the result of language contact at individual and societal levels. With the different degree of contact, there are various outcomes that lead to bilingualism like immigration and migration, globalization, international business, travelling and tourism, internet, translation, personal preference, education and pursuing knowledge, government policies and language planning, opportunities in the big cities, and means of media and education .

One of the difficulties of performing studies in the field of bilingualism is that this subject is connected to extremely emotional and political aspects (Bochner, 1996). Normally, minority and underprivileged students whose mother language is marginalized, especially the ones who perform poorly in the second language in the monolingual atmosphere, are remarkable candidates of poor scholastic achievement (Sweetnam Evans, 2011.)

As bilingualism is the result of languages contact on the personal level or the societal level, it turns to be the surface phenomenon and there are several factors behind its emergence that link bilingualism to intelligence and/or students’ achievement or underachievement in schools. The scope of influencing factors extends from personal preference to accept the second language/culture, second language proficiency, motive, strategy, approach (Bochner, 1996), social and ethnic factors (Nguyen, 2017), to cultural and socioeconomic status (Fitouri, 1984 .)

Previous studies mostly agreed upon the fact that bilingualism has some kind of influence over the cognition and intelligence of the students; however, there is a discrepancy on the positivity or negativity of that influence. Also, there are studies that show the equivalence of bilinguals versus monolinguals in some aspects of assessed capabilities .

The significance of the study stems from the need of investing teaching languages at schools in order to promote other capacities of students; however, that exposure to new languages and cultures must be carefully measured and supposed to be balanced.

In order to answer the research question does learning languages have any kind of influence on intelligence and scholastic achievement?, three approaches come to surface: the monolingual, the bilingual, and the neutral approach .

.2 Neutral Approach

Of the different studies achieved in the field of bilingualism, there are a few that attribute no effect of learning a second or foreign language on the mind or intelligence of the learner. For instance, it



is found that, in mathematic skills, bilinguals and monolinguals are equal when directly assessed which means they are both cognitively developed at the same level and in the same way (Bialystok & Codd, 1997). As for the processing of information and the organization of the minds of bilinguals, a study by Duncan (1996) showed a simultaneous activity of the two languages in the minds of people who speak two languages in contradiction with other views that claim that only one language can be active each time .

A study achieved by Sampath (2005) shows that the levels of second language has no significant effect on the nonverbal intelligence. On the other hand, the level of proficiency in the second language can be a decisive factor; that is to say the advanced levels of second language capabilities could reflect similar conceptual organization as that of the monolinguals in the lexical and semantic skills (Bialystok, 2005 .(

Exposing students to a second language and mastering the two languages concurrently, or even high levels of proficiency at the second language would positively impact the students' achievement at school, while concentrating on one language would result in a negative impact especially if bilinguals are tested in their weaker language (Fernandez & Nielson, 1986). So, there is a need for balanced proficiency in the two languages. Also, students need to experience the culture associated with the foreign language in order to attain educational success because culture is proved to be the most prominent factor that influences learners' success at school (Fitouri, 1984.(

.3 Monolingual Approach

Bialystok (2005) cited a study by Saer who tested bilinguals with Stanford-Binet test and found that bilinguals are mentally confused and inferior compared to monolinguals. (Macnamara, 1966) reported that learning another language could hinder the students' skills in arithmetic word problems. They tend to spend more time in solving arithmetic problems than monolinguals do especially if they are tested in the weaker language; i.e., the deficiency in the second language could be interdependent with arithmetic skills. Monolinguals outperformed bilinguals when tested in receptive vocabulary even when tested in each of their languages.

“ .. bilingualism does not alter children's ability to construct the necessary mental representations for mathematics relative to monolinguals, but the problems framed in a verbal context that exceeds their linguistic sophistication imposes a barrier to accessing those representations and interferes with performance” (Bialystok, 2005, p. 421 (

Students mostly enjoy being tested in their first language and achieve better in tests. The level of second language proficiency is independent from logical thinking, mental capacities and organization, processing of information, intelligence, verbal and nonverbal skills, arithmetic problem solving, and social judgment. On the contrary, studies preferred the monolingual/monocultural learning atmosphere which prompts some aspects of verbal and nonverbal intelligence (Sampath, 2005 .(

.4 Bilingual Approach



The contradicted view is that learning another language may have a positive impact on the intelligence and the achievement of learners. Children education is positively influenced and developed via bilingual programs assisting students' flexible thinking and handling data in two different linguistic systems (Cummins, 2003). Students who are exposed to a second language outperformed their monolingual peers in verbal and nonverbal tests "by virtue of bilinguals having two codes for every concept, bilingualism is likely to stimulate intellectual development for abstract reasoning tasks which should be expressed in higher scholastic achievement" (Fernandez & Nielson, 1986, p. 45). Concentration and cognitive activity and development of bilingual students are more mentally sophisticated than those of monolinguals, and the processing of information in the well-configured mind of a bilingual is more complicated in an unequivocal way (Bialystok, 2005). Three prominent studies achieved by (Bochner, 1996) showed that bilinguals consider learning as an opportunity to stand out, to sustain self-esteem, and to better achieve their goals through adopting the right learning strategies and approaches. They tend to be highly motivated, more "deep" and "achieving" compared to their monolingual counterparts .

The linguistic capability and mental capacity of a bilingual may outperform that of a monolingual; however, they would perform in a similar way in nonverbal activities (Pearl & Lambert, 1962). From a different perspective, it is tested that although bilinguals are not equal to monolinguals in vocabulary, they are more advanced in verbal and nonverbal skills (Ben-Zeev, 1977). It is reported that bilinguals solve simple arithmetic problems if they are presented in digits rather than being presented in words in a quicker way when compared to monolinguals (Frenck-Mestre & Vaid, 1993). Hence, bilinguals tend to achieve better and quicker if the tests are in their strong languages. Also, their ability to solve arithmetic problems exceeds that of monolinguals when their second language proficiency reaches average or above the average level (Sampath, 2005). In addition, they are found to achieve better at school for the ability they have in memory, concentration, and avoiding distraction (Nguyen, 2017). Nguyen also cited other studies about the benefits of bilingualism in retarding dementia and Alzheimer's, increasing the size of brain, and prove that bilingual education increases the students' IQ and results in better achievement. They seem to avoid distraction and deceptive prompts and show superior ability to focus and adapt (Bialystok, 2005). As a result, in India, for example, persons who are proficient in more than one language "are considered as superior persons with capacity to draw wisdom and culture from various resources" (Sampath, 2005, p. 2048). There are also other benefits of bilingualism; for instance, great linguistic skills at the first language, superior IQ, and enhanced concentration, brain flexibility and cognitive development (Nguyen, 2017). The advantage of learning a second language comes from the capacity of accessing learners' first language and mental experiences when facing new experiences in the second language and trying to establish mental associations between the two languages and integrating them into their existing knowledge (Sweetnam Evans, 2011 .(

.5 Scholastic Achievement



The educational atmosphere plays a crucial role on the students' achievement/ underachievement; it can be monolingual, monocultural, bilingual, or bicultural educational environment. Students' poor achievement is mainly attributed to different factors; to name a few: ignoring students' mother tongue or native culture and focusing on the second language as a sole medium of instruction, students' lack of knowledge about the target culture or students' having poor second language proficiency, or even having poor skills in reading and writing (Sweetnam Evans, 2011). Baker (2006), on the other hand, lists several advantages for bilingual education on the performance of students at schools like developing better communication, broadening their understanding of others cultures, history, traditions and perspectives, enhancing one's awareness, attaining better self-esteem and confidence which result in better scholastic achievement and better career opportunities .

However, bilingualism could have a negative impact on scholastic achievement in the way that affect students' cognition and knowledge base at their first language which leads to poor achievement in all fields of education and sometimes that deterioration is more evident than the progress in the second language (Sweetnam Evans, 2011). Hence, the necessity to apply balanced education comes to surface as the concentration on one language would negatively affect the other where knowledge base in that language and the overall achievement would also be affected (Fernandez & Nielson, 1986.)

.6 Conclusion

In this paper, bilingualism has been discussed in light of its significance and impact on second language learners, their IQ, and achievement. Different studies were reviewed that tested that effect. A few studies are in favor of the monolingual/ monoculture medium of instruction for the proficiency in one language would negatively affect the knowledge base in the other language and result in poor performance in school. However, the majority of researchers are in favor of the bilingual/ bicultural educational environment as they proved a positive effect on learners' cognition, IQ, and overall performance .

Being said that way, it is recommended that bilingual education must be applied especially in the first stages of school and students should be taught a second language in a balanced way that maintains their first language and culture in order to develop their cognitive organization, linguistic systems, intelligence, and scholastic achievement. Works Cited

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