An Investigation of the Effect of Bilingual Education on Language Achievement of Iranian Pre-intermediate EFL Learners

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Abstract

The present study investigated the impact of bilingual education on language achievement of Iranian Pre-intermediate EFL learners. It actually used bilingual education through content-based methodology or subject matter such as math, science and reading. To this purpose, the researchers used 40 Pre-intermediate EFL participants who were studying English conversation at a private language institute in Sari. These learners were chosen and divided randomly into control and experimental groups. Both groups took the same test as a pretest. The experimental group had access to bilingual education methodology through math, science and reading, while in the control group, participants had no special treatment. They had just access to the conversation by the use of conversation methodology which was assigned by the institute curriculum. After nineteen sessions, the posttest was administrated to both control and experimental groups. Based on the obtained results, a significant difference was observed between the mean scores of the two groups on the posttest. In fact, the null-hypothesis was rejected as the experimental group performed significantly better on the posttest.
Key words: Bilingual education, Language achievement, Content-based language teaching

Introduction

In many communities around the world, competence in two, or more, languages is an issue of considerable personal, socio-cultural, economic, and political significance. For some, the issues surrounding bilingualism are viewed as "problems" to be overcome; for others, they are viewed as "challenges" that, once mastered, benefit the individual, the community, and even the nation in which they live. The need to know two or more languages is not new (Genesee, 2002).
It has been estimated that 60 percent of today's world population is multilingual. From both a contemporary and a historical perspective, bilingualism or multilingualism is the norm rather than the exception, and English is the world's most widely studied foreign language (Richards, 2002).How do children acquire language is at the center of the debate in recent days, and everyone suggest special methodologies for acquiring the foreign Language. The present study will examine the effects of a bilingual education in English-only program on general language achievement of Iranian Pre-intermediate ESL learners. In recent years, many countries has applied dramatic efforts to improve student academic achievement by investing in principals and teachers; focusing on literacy, math, and science instruction; strengthening existing schools; and opening new ones. These schools educate students who can speak, read, and write well in Persian and English.

They must develop students who are bilingual critical thinkers, and are prepared for higher education and work in community, in our city, and in the international area. Sought to better understand bilingual education and world language education and to formulate strategies to

close the achievement gap between English language learners and other students, the researcher tried to work at this area second language acquisition. This comprehensive definition provides an innovative approach for using bilingual education as a core strategy for academic achievement, not only for English language learners, but also for all students in the other fields.

The main feature of bilingual education programs is to provide instruction for all subjects in schools or institutes or other areas through two different languages for example Persian and a minority language (e.g. English).

A broad definition of bilingual education would include any educational program that uses two languages for instruction. Unlike foreign language education, in which students study the target language and culture as a subject, bilingual education usually entails the study of literacy or content areas (math, science, and social studies) through two different languages for example Persian and another language, such as English or Spanish . The feasibility for offering bilingual education programs for second language learners depends on several factors, including sufficient numbers of students from the same language group, availability of certified bilingual teachers.

Learners who arrive with a good education in their primary language have already gained two of the three objectives of a good bilingual education program – literacy and subject matter knowledge. Their success is good evidence for bilingual education.

Learning two languages well has significant cognitive, academic, and social benefits that can lead to higher academic achievement for all students. Teaching academic language across content areas can strengthen language development for English language learners and monolingual English speakers, increasing academic achievement.

Well-designed and carefully implemented language programs that are culturally and linguistically responsive can improve the educational achievement of students from diverse linguistic and cultural backgrounds and help to reduce the achievement gap between English language learners and other student groups.

Dual language programs are the most effective language programs for developing bilingual students and improving their academic achievement.

When schools value students' home language and culture, it helps language learners develop self-confidence and positive attitudes towards school; as a result, they succeed more often in school.

In addition to advanced cognitive development, bilingual immigrant children are able to maintain their cultural heritage through the use of their native-language (Mouw & Xie, 1999, cited in Bhatia & Ritchie, 2004).

Bilingual education models vary in type of program design and subscribe to one of the two linguistic goals (bilingualism or monolingualism), differences in length of implementation (short or long term), variations in amount of use of each language, and distinctions in programmatic composition. Bilingual education models also differ according to whether they are, transitional bilingual education, two- way bilingual education, dual Language, late-exit or developmental bilingual education.

A considerable proportion of students who are classified as English Language Learners (ELLs), although they go to the different language institutes have difficulty in performing ordinary proficiency in English language. There is evidence that students who designated as ELL are not good at their language achievement and oral proficiency. In addition, there is an achievement gap between ELL students who are enrolled in these institutes.

These realities heighten the importance of research that attempts to identify which types of program interventions aimed at ELL students are likely to be the most effective methodology in closing the existing performance gaps.

Also, in the most of the private language institutes in our country, learners feel bored and tired of different language teaching methods, and it causes different problems.

On the other hand, different institutes use different strategies for teaching. Using new program or strategy for learning English is another prominent factor of this study.

The researcher studies the effects of bilingual and ESL programs on academic achievement of Iranian students. We follow the strategy developed in Hanushek, Kain, and Rivkin (2002) where program effects are identified by following achievement gains of several cohorts of students across grades, using individual and school fixed effects.

The main feature of bilingual education programs is to provide instruction for all subjects in school through two different languages. For example, Persian and a minority language (e.g. English). In contrast, a program of instruction in ESL is intensively in English from teachers trained to recognize and deal with language differences.

The present study aims to answer the following research question:

Does bilingual education have any effect on language achievement of Iranian Pre-intermediate EFL learners?

Based on the above research question, the researcher formulated the following null hypothesis:

Ho: Bilingual education has no effect on language achievement of Iranian pre- intermediate EFL learners.

Literature Review

Bilingualism can be observed everywhere in the world. Among the reasons fostering bilingualism are various kinds of migration, intermarriages and educational/vocational opportunities. It is said that ―more than half of the world‗s population is bilingual and two thirds of the world‗s children grow up in a bilingual environment (Crystal, 1997).

Bilingualism has a positive effect on the academic achievement of immigrant. Studies have shown that immigrant children whom grow up speaking two languages are at a higher advantage than monolingual children because learning both languages stimulates cognitive development (Malim, 2002. cited in. Behita & Ritchie).

Kassaian and Esmae'li (2011) conducted a research to explore the effect of bilingualism on third language breadth of vocabulary knowledge and word reading skill. 30female Armenian-Persian bilinguals and 30 female Persian monolinguals participated in this study. The Nation's vocabulary levels test and Burt word reading test, respectively, were used to measure subjects' knowledge of vocabulary and their word reading skill. After computations, they concluded that bilingualism is highly correlated with breadth of vocabulary knowledge and reading skill.

The experience of becoming bilingual in a subtractive context is common for young children in Iranian educational institutions. According to Diaz (1995), in some situations, mother languages are gradually replaced by second or dominate languages. In our society, the dominant language in schools is Farsi. Although many minority bilingual children are successful in learning Farsi at school, their bilingualism is often limited because their first (home) language is not supported in the mainstream educational settings. As Cummins (1981) mentioned, children must attain a critical level of proficiency in their native language in order to avoid cognitive deficits associated with bilingualism, and that a critical level of proficiency in L2 must be reached if advantages in cognitive functioning are to develop. As Bialystok (2001) noted, children need a great amount of support from their communities, their families, and above all, support from their school, particularly when they are socio-economically disadvantaged.

It is sometimes claimed that research does not support the efficacy of bilingual education. Its harshest critics, however (e.g., Rossell & Baker, 1996), do not claim that bilingual education does

not work; instead, they claim there is little evidence that it is superior to all-English programs. Nevertheless, the evidence used against bilingual education is not convincing.

A vast number of studies have shown that bilingual education is effective, with children in well-designed programs acquiring academic English at least as well and often better than children in all-English programs (Cummins, 1989; Krashen, 1996; Willig, 1985). Willig concluded that the better the experimental design of the study, the more positive were the effects of bilingual education.

Method

Participants

For this research, first the researchers chose the participants from two Pre-intermediate classes from an institute in Sari. The institute curriculum offered classes at seven proficiency levels: beginning, elementary, Pre-intermediate, intermediate, upper-intermediate, advanced, and TOEFL preparation. The students were assigned to different levels based on their performance on Oxford Placement Test (OPT) which had 20 listening items, 30 grammar items, 30 vocabulary items and 20 reading items. The participants were enrolled in English conversation classes at this institute. This institute holds English foreign language classes at a variety of proficiency levels, ranging from beginning to advanced levels.

Procedures

A first, the OPT was administrated to 50 participants to assure the homogeneity of the two groups of the learners, and those whose marks were closer to the mean were chosen for the experimental and control groups. For this purpose the researchers calculated the mean, mode, median, and standard deviation, and then 40 participants whose scores were one standard deviation above and below the mean were selected for this research. The selected students were randomly divided into two groups of twenty participants, as control and experimental groups.

Because all the participants should be informed about the project completely, the researchers told them the aims of this project. Therefore, the researchers held an introductory session in order to introduce the program and clearing the purpose for the participants, and they showed their tendency for learning English especially through bilingual education.

It is to be noted that before the treatment, the pre-test which focused on vocabulary, grammar, and reading items was given at the first session of the course by the researchers to measure the entry behavior of the learners. The reliability of the test according the K R- 21 was 76.

The students in the experimental group were taught the bilingual materials (science, math, and reading) during the course (19sessions), while the other group received no special treatment; they passed only their own conversation class. At the end of the course, a posttest which included vocabulary, grammar and reading items was administrated. Then the researchers employed T-test to compare the results of two groups.

Results and Discussion

In this qusi-experimental study, the collected data from the two groups (one experimental which is bilingual and one control group which is monolingual education) were analyzed and the difference between the performance of the learners in the pre- test and post- test were compared by using SPSS (statistical package for social science) software version 18.

This study used an independent sample t-test to compare the effect of bilingual education on language achievement of elementary foreign language learners.

Result of the OPT

In order to have homogenized participants in terms of their general English language proficiency, the OPT was administered. Out of sixty-two participants, forty were considered as homogenous members based on one standard deviation above and below the mean (± 1 SD).

In order to show that there was no significant difference between the learners in control and experimental groups, the independent t-test which shows the mean score differences between two groups was performed. The results are presented below.

Table 1. Independent t-test for the comparison of control and experimental groups

Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means				
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Homogenized Equal variances assumed	.193	.663	.087	38	.931	-.10000	1.15565
Equal variances not assumed			.087	37.629	.932	-.10000	1.15565

As table 1shows, t (38) = .087, p= .931, p>0.05). Based on the results, it could be concluded that there was not a significant difference between the mean scores of the two groups and they were homogeneous in terms of language proficiency before the treatment begins.

Pretest/Posttest comparison within groups

Table 2 shows the result of the paired t-test for the comparison of pretest and posttest within control and experimental groups.

Table 2. Paired t-test for the pretest and posttest comparison within control and experimental groups

Paired Samples Test

	Paired Differences							
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
Pair 1 Con Pretest - Con Post	-4.95000	2.70429	.60470	-6.21564	-3.68436	-8.186	19	.000
Pair 2 Exp Pretest - Exp Post	23.90000	6.18061	1.38203	26.79262	21.00738	17.293	19	.000

Table 2, shows the result of the paired t-test. As it can be seen, there was a significant difference between the pretest and posttest of the control group (t (19) = 8.18, p<0.05). There was also a significant difference between the pretest and posttest of the experimental group (t (19) = 17.29, p<0.05).

Analysis of the research question
The research question of this study was as follow:
RQ: Does bilingual education have any effect on language achievement of Iranian elementary EFL learners?
Table 3 below shows the actual result of the independent t-test comparing the scores of control and experimental groups.

Table 3. Result of the Independent t-test
Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means				
	F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
ScoresConExpEqual variances assumed	.012	.913	15.124	38	.000	-18.90000	1.24963
Equal variances not assumed			15.124	37.883	.000	-18.90000	1.24963

The independent t-test was run to compare the mean scores of the control and experimental groups on achievement test. As table 3 shows, it can be concluded that there was statistically significant difference between the mean scores of the control and experimental group participants (*t (38) = 15.12, p = .000<0.05*). Therefore, the null hypothesis "bilingual education has no effect on language achievement of Iranian elementary EFL learners" is rejected.

Conclusion
The results of the study showed that the participants who were exposed to the bilingual education in the experimental group showed more tendency than the participants in the control group. Thus, the more motivated and engaged students are in language, the more effective their learning will be, Bailey and Celce Murcia (cited in Abadikhah, 1998). The purpose of researchers was to find out any significant impact of bilingual education on language achievement of Iranian pre- intermediate EFL learners. To determine this the results of pre-test were compared with the results of performance of post-test. The conclusion proved a significant improvement of performance in experimental group.

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