



Original Article

A Comparison of Reading Accuracy and Reading Comprehension in Bilingual Arabic/Farsi-speaking and Monolingual Farsi-speaking Elementary Students in the Fifth Grade

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ABSTRACT

Background: Reading comprehension is one of the primary skills required of students in elementary schools. Various factors can influence this skill, including bilingualism. Owing to the variety of languages and dialects in Iran, a large number of students learn Farsi as a second language; consequently, they are faced with numerous challenges in acquiring high-level skills such as reading and writing. The present study was aimed at comparing reading comprehension and reading accuracy between bilingual Arabic and Farsi-speaking and monolingual Farsi-speaking fifth grade children in Ahvaz.

Methods: This cross-sectional, descriptive analytic study was carried out employing a random sample of 165 bilingual students (91 girls and 74 boys), and 159 monolingual students (79 girls and 80 boys). The students were evaluated in terms of reading accuracy and comprehension skills using some selected parts from a reading test developed by Shafei et al., in 2009. Finally, mean scores were compared between the two groups employing the independent samples t-test.

Results: Both reading comprehension and accuracy were significantly higher in monolinguals compared to bilingual Arabic/Farsi-speaking students ($P=0.000$). Gender stratified results showed higher levels of reading comprehension skills in both monolingual girls ($P=0.000$) and boys ($P=0.03$) in comparison to bilinguals. However, in the reading accuracy subtest, only monolingual girls had a significantly superior performance than the bilinguals ($P=0.000$).

Conclusion: Overall, our results showed lower levels of reading comprehension and accuracy skills in bilingual fifth grade students in comparison to their monolingual peers in the city of Ahvaz. It seems that even in the late elementary school years, bilingual children have not attained the same level as their monolingual peers. Due to the importance of reading skills in academic achievement and day-to-day life, we highly recommend the implementation of measures toward improving these skills among bilingual elementary school students.

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Introduction

Reading skill is of critical value in the life of modern man. Nowadays, people are inundated by text messages

and can hardly imagine a life free of written text. We can honestly reiterate that reading, in all its various forms, plays a fundamental role in people's professional and social lives today [1].

Success in reading comprehension is hinged on several elements. Word knowledge, sentence comprehension and communication processing skills and knowledge are all imperative for adequate understanding of a text. Readers not only need to read words accurately, but also need to ensure sufficient processing of resources for reading comprehension [1]. On the other hand, success in reading comprehension depends on various factors, including mental preparedness, good listening and speaking skills, proper socio-emotional and cultural growth, teachers' cooperation and harmony as well as possession of healthy senses [2]. Moreover, bilingualism as an important factor in children's social growth can play a significant role in acquisition of successful reading skills [3]. Some of the reasons why bilingualism is a prerequisite that affects the process of acquiring literacy skills include oral language proficiency, metalinguistic awareness and general cognitive development [4]. Children who hear different languages at home, not the official spoken language of their community, go through a different language development process. In this regard, some of them learn the official language skills in parallel to monolingual children, but this is not the case for most of them. Other children only hear and speak the minority language at home and grow up as monolingual speakers, until they start learning the official language in kindergarten or preschool. Consequently, they have lower levels of skills in each language compared to monolingual children. In addition, there were obvious differences between the two groups in terms of vocabulary and grammar development [5].

There are various definitions for bilingualism. In terms of social role and application, bilingualism is grouped in three categories of home bilingualism, school bilingualism and street bilingualism [6]. In "school bilingualism", individuals only use the second language at school and for educational purposes, such as Turkish, Kurdish and Arabic-speaking children in Iran, who speak their native languages at home and learn Farsi at school.

The impact of bilingualism on reading and writing skills can be categorized into two groups: the first group believes that bilingual children have poorer academic performance in comparison with monolinguals [7, 8]. In a longitudinal study on 1,000 bilingual English/Spanish-speaking students it was revealed that under equal socio-economic conditions, monolingual children had a more extensive vocabulary than their bilingual peers, and this gap continued to exist until the fifth grade [9]. Similar results were reported in another study on bilingual English/French-speaking children; this study specifically showed the adverse effect of bilingualism on reading skills during early elementary school years [10].

The second study believed that early bilingualism can enhance the development of linguistic and nonlinguistic abilities and facilitate cognitive skills and divergent thinking in children. In this regard, we can refer to a number of studies that have indicated that bilingual

students significantly surpassed monolinguals in academic achievement [11-13].

Although various studies in Iran have been conducted on the relationship between bilingualism, linguistic and reading skills in students, their results are controversial, producing different results occasionally. Some studies showed negative impact of bilingualism on comprehension, semantic and reading skills [14-18]. For instance, in a study on bilingual Arabic-Farsi students in Ahvaz, findings revealed that both reading comprehension and accuracy skills were weaker in bilingual second grade students in comparison with monolinguals [19]. However, others showed no difference between monolingual and bilingual children in some sections of our country as mentioned in a meta-analysis study on the role of preschool education and bilingualism in educational attainment [20].

According to limited studies on reading skills in Arabic/Farsi-speaking children and the possible differences between different bilingual populations in Iran in terms of their literacy skills, more studies with better methodological structure are required. In addition, previous studies on this population were conducted on second grade students; therefore, the effect of education on reading skills of bilingual students in higher grades should be assessed to ascertain whether the gap between monolingual and bilingual students has been bridged. Finally, the present study was conducted with the aim of evaluating the reading accuracy and comprehension skills in bilingual Arabic/Farsi-speaking fifth grade students. The results of this study will be beneficial for detailed understanding of the reading skills of these bilingual students in different academic settings.

Methods

This is a cross-sectional, descriptive analytic study that involves simple random sampling technique. The study population included 324 fifth grade students from public schools in the city of Ahvaz, out of which 165 were bilinguals (91 girls, 74 boys) and 159 were monolinguals (79 girls, 80 boys). This study was approved by the Ethics Committee of Ahvaz Jundishapur University of Medical Sciences (AJUMS). Several schools were randomly selected from the schools in the first district of Ahvaz. After making the necessary arrangements with the schools and teachers, all bilingual students who met the inclusion criteria were selected from each classroom. For the control group, monolingual students, which were matched according to environmental and educational conditions, were selected from the same classrooms randomly. Afterwards, both the monolingual and bilingual groups took the reading test.

Inclusion criteria included a normal intelligence quotient (IQ), no history of academic failure and frequent absence from school, lack of severe vision problems, lack of family issues such as divorce, death, etc., and having intact hearing. All information was obtained by asking the school administrators and reviewing the students' health records. For bilingual participants, their

ability to comprehend and express Arabic language as their mother tongue was also checked. All bilingual participants were fully exposed to Arabic since birth and according to their parents, they completely understood and spoke the language and their real exposure to Farsi language was after entering school, especially in its written form. Consequently, the bilingual participants of the present study were classified under the category of “school” bilinguals.

All selected participants were assessed individually in a quiet room at their school. At first, the research procedures were elucidated to the participants. To prevent anxiety and mental stress, the children were assured that the questions had nothing to do with their academic evaluation and had no effect on their scores. The reading test developed by Shafei et al., (2009) was employed to evaluate the reading accuracy and comprehension skills. This test consists of a 100 word passage and four reading comprehension questions. Test reliability was computed as 0.77 by Cronbach’s alpha measure [21]. Each participant read a section of the reading test aloud and then answered 4 questions related to the comprehension passage orally. Each correct response received one score in this section. The participants’ voices were recorded during the reading session to be evaluated later in terms of errors. The various errors, which consisted of substitution, hesitation, wrong pronunciation, addition or omission of words, syllables or letters, self-correction, and replacement were investigated and finally, the reading accuracy scores were calculated. The reading accuracy scores ranged from 0-20 and deductions were made based on the number of errors.

Statistical analysis was carried out employing Statistical Package for Social Sciences (SPSS) software, version 15.0 for Windows. After ensuring normality of data distribution using the Kolmogorov-Smirnov test, a parametric independent samples t-test was used to compare the mean scores between groups.

A 95% confidence interval (P<0.05) was considered statistically significant.

Results

According to the information obtained from the questionnaires, the main characteristic of parents, number of children and parent’s educational level were investigated. The frequency of parent’s education level (estimated in year) and number of children in monolingual and bilingual families are presented in Table 1.

Table 2 shows the statistical results of reading comprehension scores in monolinguals and bilinguals, as well as the total samples stratified by gender. Monolingual students had higher reading comprehension skills than the bilinguals based on the total samples (P=0.000) and gender segregation (P=0.000 in girls and P=0.031 in boys).

Monolingual participants at least responded to 25 percent of the reading comprehension questions (minimum score of 1), while the bilingual participants could not even answer one of the comprehension questions at their lowest level (minimum score of zero). This observation was the same according gender segregation.

Reading accuracy skills include total reading errors. The reading accuracy scores are shown in Table 3 and 4, respectively. In this regard, monolinguals had significantly less reading errors than bilingual peers (P=0.001). According to gender segregation, monolingual girls still had significantly less errors than bilingual girls (P=0.000), but no significant differences were observed between boys in the two groups (P=0.725).

The reading accuracy score ranged between zero and 20. In this section, monolingual students had higher scores in comparison with the bilingual (P=0.000). In terms of gender, monolingual girls had higher scores than the bilingual group (P=0.000), but there were no significant differences between monolingual and bilingual boys (Table 4).

Table 1: Family characteristics of bilingual and monolingual 5th grade students

	Years of Parents Education	Monolingual	Bilingual
Education (years)	0 (illiterate)	1.5%	12%
	1-8	48%	40%
	9-12	40%	30%
	More than 12	11%	3.5%
Number of children	Number of children		
	1	5.6%	1.1%
	2-5	86%	79%
	More than 5	8%	20%

Table 2: Comparison of reading comprehension skills in monolingual & bilingual of 5th grade students (n=324)

Variable	Gender	Language	Mean±SD	Minimum	Maximum	P value
Correct Reading Comprehension Responses	Girls (n=170)	Monolingual (n=79)	3±0.98	1	4	0.000
		Bilingual (n=91)	2.1±1.07	0	4	
	Boys (n=154)	Monolingual (n=80)	2.7±0.83	1	4	0.031
		Bilingual (n=74)	2.4±0.086	0	4	
Total (n=324)		Monolingual (N=159)	2.89±0.922	1	4	0.000
		Bilingual (N=165)	2.27±0.989	0	4	

SD: standard deviation

Table 3: Comparison of total reading errors in monolingual & bilingual 5th grade students (n=324)

Variable	Gender	Language	Mean±SD	Minimum	Maximum	P value
Total Reading Errors	Girls (n=170)	Monolingual (n=79)	2.4±2	0	9.5	0.000
		Bilingual (n=91)	4.4±3.7	0	16.25	
	Boys (n=154)	Monolingual (n=80)	4±2.8	0	12	0.725
		Bilingual (n=74)	4.4±3.75	0	16.5	
Total (n=324)		Monolingual (N=159)	3.27±2.62	0	12	0.001
		Bilingual (N=165)	4.45±3.65	0	16.5	

SD: standard deviation

Table 4: Comparison of reading accuracy skills in monolingual & bilingual 5th grade student (n=324)

Variable	Gender	Language	Mean±SD	Minimum	Maximum	P value
Reading Accuracy Score	Girls (n=170)	Monolingual (n=79)	17.5±2	10.5	20	0.000
		Bilingual (n=91)	15.5±3.6	3.75	20	
	Boys (n=154)	Monolingual (n=80)	15±2.8	8	20	0.694
		Bilingual (n=74)	15.5±3.5	3.5	20	
Total (n=324)		Monolingual (N=159)	16.73±2.61	8	20	0.001
		Bilingual (N=165)	15.56±3.56	3.5	20	

SD: standard deviation

Discussion

Overall, our results showed lower levels of reading comprehension and accuracy skills in bilingual students compared to monolinguals. Our research findings were generally consistent with reports from previous studies on the educational status of bilingual students in other Iranian regions, which mostly revealed poor performance of this group in comparison with monolingual students [14-18].

According to our study, one reason for this lack of compensation may be linked to the environmental and social characteristics of bilingual children. It seems that the education level of parents was mostly higher in monolingual children than bilingual children. For instance, 12 percent of bilingual students' parents were illiterate in comparison with 1.5 percent in monolingual children. With regard to the importance of educational level of parents in some activities such as storytelling to children and being interested in participating in reading activities, it seems that monolingual children were in better educational and environmental conditions for acquiring reading skills [22].

Considering the number of children, bilingual students often lived in larger families. Bilingual families with more than five children were 20 in comparison with 8 of monolingual families with the same number of children. Regarding more behavioral and educational problems among large families' children [23], it seems that the number of children in bilingual families is an efficacious factor for their educational achievement.

Furthermore, based on the overall comparison of our findings with the results of Borzou and Gholamzadeh study (2008) on second grade bilingual children [19], it seems that bilingual students in Ahvaz have lower reading comprehension and accuracy skills than their monolingual peers throughout elementary school years. Although, they are expected to compensate for this insufficiency at the end of the elementary school years.

In Iran, we usually encounter "school bilingualism", where children are not fully exposed to Farsi language

before entering school; therefore, they do not receive proper linguistic stimulation in the period of language development to become skilful enough in this language. In addition, they often have less opportunities to speak the formal language than their monolingual peers. This condition might lead to weaknesses in the prerequisites for reading and writing in Farsi language such as vocabulary knowledge, sentence comprehension and phonological awareness.

Results reported by Hasanati et al., [24] and Jalalipour et al., [25] both indicated poor phonological skills in bilingual Arabic-Farsi students in Ahvaz. Since numerous studies have shown the close relationship between phonological awareness and reading, especially in alphabetic languages such as Farsi [26], poor phonological skills may lead to difficulties in acquisition of reading skills.

As regard reading accuracy skills, we observed that the bilingual and monolingual girls had a significant difference; however, the boys had pretty close mean scores amongst the two groups but the mean scores were not statistically significant. It seems that monolingual boys in comparison to monolingual girls had more reading errors and less accuracy.

Moreover, a number of studies in bilingual provinces have shown that emphasis on improvement of Farsi language skills for bilingual children in preschools can have a direct relationship with enhancement in reading and learning abilities during elementary school years [20, 27]. Since teaching of reading skills to a child who has not reached the necessary communicative competency could increase the risk of reading challenges in future [4], we therefore suggest that education policy makers in bilingual provinces in addition to having a thorough and extensive assessment of the factors affecting academic achievement, should put in a special effort toward implementing preschool courses aimed at reinforcing Farsi language knowledge and enhancing prerequisites for reading and writing skills among the bilingual preschoolers.

Conclusion

Bilingualism phenomenon is a prevalent condition in Iran. It poses challenges for many students, parents and teachers in terms of academic success. If children receive enough stimulation in formal societal language as well as their native language, they might gain and enjoy the benefits of being bilingual. However, it seems that bilingual children in some parts of Iran, like Ahvaz in Khuzestan province, do not have the opportunity to become fluent and competent in all skills of Farsi language before entering elementary school. As a result of this condition, they do not acquire the important skills of comprehension and reading accuracy that is of equal status with their monolingual peers even at the end of elementary school.

Limitations

This study was performed in the city of Ahvaz, in which most of the bilingual population has the propensity to live in the same neighborhood; therefore, majority of the students in this study were exposed to Arabic language most of the times before starting school and during school years. Consequently, the results may have to be generalized cautiously to other bilingual regions in Iran with different bilingualism and social conditions.

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References

- Cain K. Reading development and difficulties: John Wiley & Sons; 2010.
- Naemi A. Psychology of Reading Education. 5 Th edition Ed: Astan Qods Razavi Press; 2004.
- Thomson M. Developmental dyslexia: John Wiley & Sons Incorporated; 1990.
- Bialystok E, Luk G, Kwan E. Bilingualism, biliteracy, and learning to read: Interactions among languages and writing systems. *Scientific studies of reading*. 2005; 9(1):43-61.
- Hoff E, Interpreting the Early Language Trajectories Of Children from Low SES and Language Minority Homes: Implications for Closing Achievement Gaps. *Dev Psychol*.2013; 49(1):4-14.
- Nilipour R. Linguistics and language pathology. First ed. Tehran: HERMES Press; 2001.
- Ainley J, Foreman J, Sheret M. High school factors that influence students to remain in school. *The Journal of Educational Research*. 1991; 85(2):69-80.
- Páez MM, Tabors PO, López LM. Dual language and literacy development of Spanish-speaking preschool children. *J Appl Dev Psychol*. 2007; 85-102 :(2)28.
- Cobo-Lewis AB, Pearson BZ, Eilers RE, Umbel VC. Effects of bilingualism and bilingual education on oral and written Spanish skills: a multifactor study of standardized test outcomes; Inderdependance of Spanish and English knowledge in language and literacy among bilingual English children. *Language And Litracry in Bilingual Children*. 2002; p.64-97.
- Bialystok E, McBride-Chang C, Luk G. Bilingualism, language proficiency, and learning to read in two writing systems. *J. Educ. Psychol*. 2005; 97(4):580.
- Meriuo-Storm T. Development of first language literacy skills in bilingual education. *Education Line Database*, Paper presented at the European Conference on Educational Research, University of Hamburg, and 17-20 September 2003.
- Mumtaz S, Humphreys G. The effects of bilingualism on learning to read English: evidence from the contrast between Urdu-English bilingual and English monolingual children. *Journal of Research in Reading*. 2001; 24(2):113-34.
- Bialystok, E. (2001). *Bilingualism in development: Language, literacy, and cognition*. New York, NY: Cambridge University Press
- Housepian A. Comparison of semantic skills of bilingual & monolingual students at 2 & 5 grade of elementary schools in Tehran city. 14 ed. Tehran: Institute for Humanities and Cultural Studies; 2001.
- Ehteshami T, Mousavi G. To Compare the the academic achievement of students in bilingual with monolingual students in the Isfahan province. *The first National Conference on Bilingualism and Education*; 2009; Tabriz.
- A Comparison in Reading Ability and Achievement between Mono-Lingual and Bilingual Fifth Graders. 2017; 32 (4):67-84
- Mehrjou A, hadian M. Compare the academic achievement of third grade bilingual and monolingual students -in boys- and compare the correlation coefficient between the scores of Farsi with other courses. Ahvaz: Ministry of Education; 1992.
- Dashti F , Mesrabadi J, Taghi Zavvar T, Cluster of Monolingual And Bilingual Students Based on Reading and Writing Problems, *Journal of New Thoghts on Education*, 2017; 13(3) : 187-210.
- Borzou S, Gholamzadeh Z. Study of reading comprehension & accuracy skills in monolingual & bilingual (Arab-Fars) students at grade 2 of elementary school in Ahvaz, Ahvaz: Ahvaz Jundishapoor University of Medical Sciences; 2008
- Shiralipour A, Asadi M, Nazari A, Shakuri Z. A study of meta-analysis of role of pre-school education and bilingualism in education achievement. *Journal of Education*.2013; 20(1):131-154.
- Shafei B, Tavakol S, Alinia L, Maracy M, Sedaghati L, Foroughi R. Developing a screening inventory reading test (IRT) for the Isfahanian students of the first to fifth grade. *Journal of Audiology Mar 2009*; 17(2):53-60.
- Ahmadi DahQotbaddini M, Ahadi H. The effect of motivational-social factors of reading at home and school on reading attitude of fourth and fifth grades of elementary school's student. *Curriculum Planning Knowledge & Research In Educational Sciences*. 2013; 35 (9): 74 - 85.
- Sardarpour S, Derakhshanpour F, sadr S, Yasami M. Behavioral disorders in children of families with a child or several children. *Iranian journal of psychiatry and clinical psychology*. 2003; 9(1):20-6.
- Hasanati F, Jalaipur M, Latifi SM, Gudarz M, Saleh M. Study of Phonological Awareness Skills among Farsi Monolingual and Farsi-Arabic Bilingual Students in the Second Grade in Ahvaz. *Advances in Cognitive Science*. 2012; 14(1):67-74.
- Jalalipour M, Hasanati F, Nazari M, Afshari S, Shams D. Skills of phonological awareness in monolingual Farsi and bilingual Farsi-Arabic speaking in the Ahvaz city's first grade students. *Speech and language pathology*. 2014; 1(2):27-33.
- Ashtari A, shirazi T. Phonological awareness: its development and role in reading. *Speech and language pathology*. 2014; 1(2):66-77.
- Karimi A, Kabiri M, editors. Comparison of reading performance of bilingual and monolingual fourth grade students based on international studies PIRLS reading literacy development. *Bilingualism Conference 1389*; Tabriz