

Phonological Awareness of Persian Monolingual Children and Kurdish-Persian Bilingual Children

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Abstract

Given the importance of phonological awareness in development of literacy skills, it is essential to consider the possible differences of phonological awareness (PA) among pre-school children to plan for training programs in these courses. For this purpose, two groups of pre-school children at the ages of 5- to 6- years old who were Kurdish-Persian bilinguals and Persian monolinguals were selected in order to investigate the possible differences among pre-school bilinguals and the monolinguals in terms of phonological awareness. Soleymani and Dastjerdi's (2002) Phonological Awareness Test was used as the instrument. Furthermore, application of the independent samples t-tests indicated a higher ability of Kurdish-Persian compared to the Persian monolingual pre-school children regarding some aspects of phonological awareness. Findings of the study could have implications for children second learning language, second language teachers and teacher trainers, task designers and curriculum developers to be more familiar with the factors influencing the phonological achievement.

Keywords: Phonological awareness, literacy, bilingual children, monolingual children

1. Introduction

Learning to read is expected to happen when various types of linguistic abilities have already been developed to form the basis of literacy. Phonological Awareness (PA) is one of these abilities (Morais, 1991). These abilities are indispensable for learning to read and write. In the case that children do not sufficiently develop these abilities, there is a strong possibility that they will experience difficulty in acquiring literacy skills.

One of these abilities is phonological awareness. Phonological awareness refers to the processing ability to distinguish and manipulate single phonological units in words (Torgesen & Mathes, 2000). As written language is the printed representation of spoken language, in order for literacy acquisition to begin, it is first required to understand the relationship between sounds and letters. Therefore, young learners or children require having an understanding of sound composition. Phonological Awareness enables children to distinguish individual sounds of a word. Phonological awareness is, in fact, one aspect of metalinguistic awareness which is the ability to reflect on and manipulate the structural aspects of a language. At the pre-literal stage, children are engaged in verbal communication and so they focus on meaning rather than structure to comprehend linguistics messages. However, awareness of language structure is essential for learning to read (Hundberg & Hoien, 1991). In fact, phonological awareness is one of the four metalinguistic abilities which develops following basic speaking and listening skills and in fact as a separate ability (Tunmer & Herriman, 1984).

The ability of children to understand and attend the sound structure or phonology of a language is found to be related to literacy development and thus enhances literacy skill acquisition, including acquisition of reading skill (Bradley & Bryant, 1983). Decoding grapheme-phoneme correspondences is critical for achievement and becoming proficient reader (Francis, D. J.,

Shaywitz, S. E., Stuebing, K. K., Shaywitz, B. A., & Fletcher, J. M., 1996) since without this knowledge, children may have difficulties in acquisition of basic reading skills (Manis & Morrison, 1985). These small difficulties at early stages of learning to read may develop to great difficulties at later stages (Stanovich, 1986). According to Vygotsky (1962), bilingualism helps the development of the metalinguistic awareness among children. Various studies have been conducted since then on the issue, the majority of which found advantages for bilingual children (Slobin, 1978). Furthermore, as phonological awareness is an indispensable aspect in development of literacy skills, it is important to study the possible differences among bilingual and monolingual preschool children to plan curriculums based effective in this regard. Therefore, there may be some advantages of phonological awareness and bilingualism for development of early literacy.

2. Literature Review

Phonological awareness (PA) is defined as the ability to estimate and manipulate the phonemic parts of speech. There is a rich background of comparing phonological awareness among bilingual and monolingual children. Verhoeven (2007) showed that the phonological processing of bilingual children is different from that of monolingual children and this difference was advantageous. That is, bilingual children had higher levels of phonological awareness. Studies also found that this advantage is also significant in different tasks (Yelland, G. W., Pollard, J., & Mercuri, A., 1993).

Yelland et al (1993) examined the effect of limited exposure to a second language (Italian) at early stages of bilingualism among English-speaking children and found that children's judgment of the sound structure of words is done through determination of whether simple pictures illustrate an object with a short or a long name. However, this advantage was observed at preschool and disappeared at grade one. The superiority of bilinguals over monolinguals was also found at word recognition.

Caravolas and Bruck (1993) compared in a study 4 to 6-year-old Czech speaking children with English-speaking children. Results of the study indicated that Czech speaking children had better and sooner awareness of phonemes, the components of an onset unit than the English-speaking children, although the children in both groups showed awareness of the whole onset unit around the same age. The developmental differences were found to be due to differences in the structure of complex onsets between those languages. In English, a phoneme can be exclusively combined with specific phonemes in order to form a complex onset. There were more variations among complex onsets in Czech than in English. As a result, Czech-speaking children need to focus on individual phonemes, while the English-speaking children only need to recognize individual complex onsets to distinguish one complex onset from the others. Thus, Czech speaking children were phonologically aware earlier than English-speaking children.

Ho and Bryant (1997) examined 3- to 8-year old Chinese speaking children in Hong Kong and compared them with the English-speaking counterparts. It was found that English-speaking children developed rhyme awareness earlier compared to Chinese speaking children. Chinese is a language with syllables as the basic speech unit. However, Chinese syllables can be divided into two parts: the initial segments and the final segments. The initial segments correspond to onsets, and the final segments correspond to rhymes. The ending consonants in the rhymes of English words are usually more auditorily noticeable than those in Chinese because the ending consonants in the rhymes of Chinese do not have any audible release. Therefore, it would be easier for English-speaking children to tell the similarity of the ending consonants of rhymes in two English words than for Chinese speaking children to do it with two Chinese words. That is why English-speaking children could acquire the skill to manipulate rhyme units earlier than Chinese speaking children.

Durgunoglu and Öney (1999) compared the phonological awareness of 5- to 7-year-old Turkish-speaking children with English speaking children. They found that the Turkish speaking children began to manipulate syllables and final phonemes earlier than the English-speaking children. In Turkish, the number of syllable types is less, and the forms are simpler than English. Therefore, the syllable boundaries of Turkish are more obvious compared to English. Therefore, Turkish speaking children developed the syllable units' awareness earlier than English-speaking children. Furthermore, Turkish suffixes act as grammatical elements to mark person, number, tense,

negation, and so on. Addition of a suffix affects the form so that it must follow other grammatical rules as well. Similarly, the end of a word changes its form according to English grammatical rules. However, Turkish words are much more inflected than those of English. Consequently, Turkish speaking children are required to pay more attention to final phonemes of words in order to inflect them grammatically than English speaking children. Therefore, Turkish speaking children develop the awareness of final phonemes earlier than English speaking children.

Mumtaz and Humphreys (2001) examined the phonological awareness of 7-year-old bilingual Urdu-English and monolingual English children. It was found that bilingual children had superior phonological awareness compared to monolingual ones.

Ziegler and Goswami (2005) conducted a review of varied cross-language studies on development of phonological awareness and found that children develop phonological awareness in the same sequence in any alphabetic language. That is all children who speak alphabetic languages develop phonological awareness from a larger unit to a smaller unit.

Kang (2010) examined the possible bilingual advantages in terms of phonological awareness (PA) for 5- to 6-year-old Korean-English bilingual and Korean monolingual children acquiring two phonologically and orthographically different alphabetic languages and investigated the emergent literacy factors that explain variances in their PA. It was found that the bilingual children had a bilingual advantage in PA tasks in both L1 and L2.

Souza and Leite (2014) compared the performance of phonological awareness skills in male and female bilingual and monolingual students. The study presented an observational, cross-sectional descriptive study conducted with 17 students from the 3rd grade, aged between seven years and 8 years and 11 months, with similar socioeconomic level, from two private schools, being one a monolingual school, and the other a bilingual one. Children at risk for auditory deprivation of any degree, those with learning difficulties, and children enrolled in the school less than two years were excluded from the research. A total of nine bilingual and eight monolingual students was tested using the Phonological Awareness Profile test. Results showed that 64.7% of the 17 students tested reached the performance expected for their age, and 35.3% performed above expectation, being 83.3% of the latter bilingual students. The bilingual children presented better performance in the sequential rhyme skill and in the total test score, and the male bilingual children presented better performance in the phoneme addition skill. There was no statistically significant difference when comparing the performance of bilingual and monolingual female students.

Ahmadian, M., Bahrami, L., and Aminin S., M. (2016) conducted a study comparing the phonological awareness of pre-school Turkish-Persian bilingual and Persian monolingual pre-school children. They found the advantage of pre-school Turkish-Persian over Persian monolingual children in some aspects of phonological awareness.

Review of the related literature indicated mixed results found in studies on the effect of bilingualism on phonological awareness attributed to the nature of languages under study. In addition, there have been a few studies comparing bilingualism and monolingualism in terms of phonological awareness. Given the lack of sufficient studies on the possible advantage of bilingual children over monolingual children in terms of phonological awareness and consequently literacy in Iran as a country with various bilingual communities, present study tries to compare the differences between Persian-Kurdish bilingual and Persian monolingual preschool children.

3. Research Question and Hypothesis

According to what mentioned before, this study intended to answer the following question and examine the related hypothesis:

Q: Do Kurdish-Persian bilingual preschool children show any advantages in phonological awareness over their Persian monolingual counterparts?

H0: Kurdish-Persian bilingual pre-school children show no advantages in phonological awareness over their Persian monolingual counterparts.

4. Methodology

4.1. Participants

Participants of the study included 30 Persian monolinguals and 30 Kurdish-Persian bilingual pre-school children from different pre-schools in Iran in 2016. The 5-6-year-old female participants were chosen based on availability sampling to control the possible effect of gender on findings. In addition, the participants were homogenized in terms of general intelligence regarding their scores on IQ tests taken at pre-school, family background, and socioeconomic status and also lack of any impairment or hearing loss problems.

4.2. Research Instrument

Soleymani and Dastjerdi's Phonological Awareness Test (2002), in Persian, was used to measure the phonological awareness of bilingual and monolingual pre-school children in this study. This is a visual test including 10 subtests measuring one area of phonological awareness including syllable segmentation, alliteration recognition, rhyme recognition, phoneme combination, recognition of words with the same initial phoneme, recognition of words with the same final phoneme, phoneme segmentation, final phoneme naming and deletion, middle phoneme deletion, and initial phoneme naming and deletion. Each subtest had 10 items containing several pictures based on the purpose of each subtest. Soleymani and Dastjerdi (2005) reported a reliability of 0.84 to 0.96 and a validity of 0.84 to 0.96 for the subscales of the test.

4.3. Procedure

Phonological awareness is developed in a sequence including awareness of syllables, onsets, and rhymes which develop before an awareness of phonemes (Goswami & Bryant, 1990). According to the study of Soleymani and Dastjerdi (2002), there are specific subtests for different age groups and also ANOVA and Tukey test confirm the ability of Phonological Awareness Test (2002) to differentiate between age groups. Therefore, this study also followed the same pattern of dividing subtests based on the study age group of 5-6 years old where subtests of 2,3,4,5, and 6 were applied for. These subtests included subtests of alliteration recognition, rhyme recognition, phoneme combination, recognition of words with the same initial phoneme, and recognition of words with the same final phoneme. For each subtest, each participant was first directed through guiding pictures, then they took the main test. It took about 30 minutes for each participant. The participants' performance was then recorded on the test score sheet; each correct item scored 1. Then, the total score and the score of each subtest were summed up for each group. Recorded data were then analyzed using SPSS16. Independent samples t-tests were also used to compare the two groups in terms of phonological awareness.

5. Results

As it was stated, this study aimed to compare the phonological awareness of Kurdish-Persian bilingual and Persian monolingual pre-school children. Independent samples t-tests were used to analyze the data taken from Kurdish-Persian bilingual and Persian monolingual pre-school groups. The subtests of alliteration recognition, rhyme recognition, phoneme combination, recognition of words with the same initial phoneme, and recognition of words with the same final phoneme were labeled 2, 3, 4, 5, and 6, respectively. Tables 1 and 2 present group statistics and the results of the data analysis, respectively.

Table 1 compares the performances of 30 Kurdish-Persian bilinguals and 30 Persian monolingual pre-school children in the phonological awareness subtests. As it is shown, the mean scores of the participants at Kurdish-Persian bilingual group are higher than those of the Persian monolingual group in each subtest of phonological awareness. That is, the bilingual group's mean

scores in all the phonological awareness subtests are higher than the mean scores of the monolingual group.

Table 1. Comparison of Group Statistics in Phonological Awareness Subtest

Subtests	Groups	N	Mean	Std.	Std. Error Mean
2	Kurdish-Persian	30	7.50	1.060	0.176
	Persian		7.32	0.648	0.122
3	Kurdish-Persian	30	7.50	0.654	0.113
	Persian		7.26	0.732	0.132
4	Kurdish-Persian	30	8.86	0.241	0.034
	Persian		8.34	0.465	0.103
5	Kurdish-Persian	30	8.76	0.476	0.103
	Persian		8.12	0.434	0.076
6	Kurdish-Persian	30	7.34	0.447	0.098
	Persian		7.16	0.578	0.102

In order to measure whether the differences in the means of the two groups are significant and to test out the research hypothesis, the statistical analyses of independent samples t-tests are required. Table 2, which is the tabular form of statistical analyses of independent samples t-tests, compares the equality of the variances and mean scores of the two independent groups to reveal the significance of their differences.

Table 2. Comparison of Variance and Mean Scores of Study Groups

Subtests		Levene's Test		t-test					95% Confidence	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference		
									Lower	Upper
2	Equal Variance	5.778	0.11	0.698	48	0.376	0.156	0.234	-0.205	0.540
	Non-equal variance			0.698	47	0.376	0.156	0.234	-0.203	0.541
3	Equal Variance	0.213	0.546	0.6870	48	0.375	0.123	0.176	-0.243	0.412
	Non-equal variance			687	46.3	0.375	0.123	0.176	-0.243	0.412
4	Equal Variance	54.187	0.000	3.078	48	0.000	0.345	0.112	0.198	0.594
	Non-equal variance			3.078	30.05	0.000	0.345	0.112	0.196	0.592
5	Equal Variance	1.324	0.245	1.156	46	0.135	0.146	0.133	-0.116	0.441
	Non-equal variance			1.156	43.62	0.135	0.146	0.133	-0.116	0.441
6	Equal Variance	0.287	0.476	1.144	48	0.115	0.98	0.153	-0.123	0.432
	Non-equal variance			1.144	45.21	0.115	0.98	0.153	-0.124	0.431

As shown in Table 2, given the results of Levene's test, the observed p-value for the second subtest is .011 ($p < 0.05$), so the null of Levene's test is rejected and it was concluded that the variance in phonological awareness of Kurdish-Persian bilinguals is significantly different from that of Persian monolingual pre-school children. The observed p-values for the third, fifth, and sixth subtests are .546, .245, and .476 ($p > 0.05$), respectively; therefore, the variances in phonological awareness of Kurdish-Persian bilinguals are not significantly different from that of Persian monolingual pre-school children. In the fourth subtest, $p < 0.001$ shows the significant difference between Kurdish-Persian and Persian pre-school children in phonological awareness.

Just the p-value of t-test in the fourth phonological awareness subtest is less than $\alpha = 0.05$ ($p < 0.05$) and the p-values of t-test in the phonological awareness subtests of 2, 3, 5, and 6 are $p > 0.05$; thus, there is statistically significant difference between the two means just in terms of the fourth phonological awareness subtest.

6. Discussion

Review of the related literature indicated the advantageous phonological processing of bilingual children compared to monolingual children (Verhoeven, 2007) attributed to the nature of languages under study. A few studies compared bilingualism and monolingualism in terms of

phonological awareness in Iran as a country with various bilingual communities. Given the lack of sufficient studies in this regard, present study tries to compare the differences between Persian-Kurdish bilingual and Persian monolingual preschool children.

The results of the analysis showed that Kurdish-Persian preschool children outperformed in phonological awareness subtests of 2 and 4. Subtest 2 refers to the alliteration recognition where the child is shown two pictures which have the same initial syllable. Subtest 4 deals with the phoneme combination test, where the examiner expresses each phoneme separately for each picture then the child shows the matching picture. The performance of the two groups was not statistically significant in the subtests of rhyme recognition (3), recognition of words with the same initial phoneme (5), and recognition of words with the same final phoneme (6); thus, the participants performed nearly indifferently in these three subtests of phonological awareness. The possible explanation for the difference in the performance of the two groups may be the linguistic background knowledge of bilingual participants who can comprehend and produce at least two languages. More specifically, better performance of bilinguals on subtests of phonological awareness can also be related to their better executive control routinely resulted from the constant requirement to focus attentional process to two activated languages at the same time, as also mentioned by Bialystok (2001).

The findings of the present study are in line with the findings of Bialystok (2002), and Verhoeven (2007) and reveal that the phonological processing of bilingual children is different from that of monolingual children and the bilingual children are presumed to build up higher levels of phonological awareness. The present study may confirm their findings that bilingual children take advantage of higher levels of phonological awareness regarding the alliteration recognition and phoneme combination in comparison with their monolingual counterparts.

Findings of the present study support the results of some previous studies (Bruck and Genesee, 1995; Campbell and Sais, 1995; Canbay, 2011; Rubin & Turner, 1989;), which have compared phonological awareness in monolinguals and bilinguals and reported the superiority of bilinguals over monolinguals concerning phonological awareness. It seems literally acceptable that bilingualism may smooth the progress of children's metalinguistic development, especially their phonological awareness (Clark, 1978; Slobin, 1978; Vygotsky, 1962;).

However, the results of the present study contrast with the findings of Chiappe and Siegel (1999) and Bialystok, Majumder, and Michelle (2003). Chiappe and Siegel (1999) found no significant difference in phonological awareness between English-speaking monolingual children and Punjabi-English bilingual children. The possible explanation for such differences in the findings can be due to the differences in the contexts of these studies, the instruments and tasks used to obtain data, and the nature and kind of the bilingual language of the participants (i.e. Chinese, French, Turkish, or Hindi as the second language of the bilingual group may be influential in the findings of previous studies). Bialystok et al. (2003) reported negative effects of bilingualism on phonological awareness and concluded that different groups of children assessed by different tasks could demonstrate no clear and consistent effect of bilingualism on the acquisition of phonological awareness.

Although the present study showed the advantage of pre-school bilinguals over monolinguals concerning phonological awareness, it should not be overestimated because pre-school bilingual children showed more phonological awareness than their monolingual counterparts only in the alliteration recognition and phoneme combination subtests and nearly all the participants performed equally in the other phonological awareness subtests. It is assumed that bilinguals process language in higher levels than monolinguals (Bialystok, 2001; 2002; Verhoeven, 2007) that can be mentioned as one of the reasons for the differences in the phonological awareness of them.

Phonological awareness is a complex process that may be influenced by various elements; for instance, the use of different tests or tasks, or the similarities and differences between the two languages may affect participants' phonological processing in the language being studied (Tunmer & Rohl, 1991). Since the outcomes of the studies conducted on phonological awareness of bilinguals and monolinguals have been muddled up, as Bialystok et al. (2003) reveal, the

generalizability of claims relating bilingualism to the development of phonological awareness needs to be limited and literacy instruction needs to be more individualized depending on linguistic background. However, further research is required for to examine more varied groups of pre-school children to include more variables of phonological awareness and processing.

Findings of the study could have implications for children second learning language, second language teachers and teacher trainers, task designers and curriculum developers. The findings would make these groups of audiences more familiar with the factors influencing the phonological achievement. The learners' capability to concentrate on the phonological or sound structure of language which is shown to be directly influenced by the escalation of literacy and may promote the acquisition of literacy skills and academic achievement (Bradley & Bryant, 1983; Stanovich, 1986). Therefore, knowing children's phonological abilities and disabilities would help teachers and related practitioners to find tasks proper for preparing learners for achieving higher levels of phonological processing. In turn, more phonologically aware children would have higher chance and probability of successful language learning.

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