

The relationship between Imageability and acquisition of nouns and verbs in Korean young children

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Abstract. The purpose of this study is to investigate the relationship between the imageability of words and the early word acquisition in Korean. This study first collected the imageability data from 180 Korean-speaking adults in Busan. The words were 84 nouns and 84 verbs appearing in infants' vocabularies, and 84 nouns and 84 verbs in adults. We analyzed correlation between the grades of imageability and the ratings of word acquisition by SPSS 18.0. The major findings are as follows. First, the ratings of verbs acquisition were significantly correlated to the imageability of all verbs, and the imageability of verbs appearing in infants' vocabularies. Second, the ratings of nouns acquisition were significantly correlated to the imageability of all nouns, and the imageability of nouns appearing in infants' vocabularies. The results show that imageability is a reliable predictor of early words acquisition in Korean.

Keywords: early word acquisition, imageability of words, nouns and verbs

1 Background and Aims

Nouns are generally produced before verbs in language acquisition of young children. The number of verbs in young children's vocabularies is smaller than the number of nouns in many languages, that is English(e.g., Fenson, Dale, Reznick, Bates, Thal, & Pethick, 1994), Spanish, Dutch, French, Hebrew, Italian, Korean, and American English(Bornstein, Cote, Maital, Painter, Park, Pascual, Pêcheux, Ruel, Venuti, & Vyt, 2004).

The current study reveals three significant results. Using an established vocabulary instrument; CDI(Communicative Development Inventories), standard imageability ratings were a reliable predictor of age of acquisition across languages(Ma, Golinkoff, Sun, Brandone, Hirsh-Pasek, & Song, 2007).

The imageability of a word is the degree to which its referent can be perceived through the senses (Paivio, 1986). For example, 'tree' is a highly imageable word in

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that its meaning is associated with many sensory properties(size, shape, color, et al.) whereas ‘think’ is low in imageability.

However, there has not been studied the early word acquisition in Korean in the aspects of imageability of words. The purpose of this study is to investigate the relationship between the imageability of words and the early word acquisition in Korean.

Question 1. How is the the corelationship between imageanility scores of adults and acquisition rates of nouns in young children?

Question 2. How is the corelationship between imageanility scores of adults and acquisition rates of verbs in young children?

2 Methods

2-1. Subjects

This study first collected the imageability data from 180 Korean-speaking adults in Busan, Korea.

2-2. Materials

Measurement of imageability was consisted of words appearing in infants’ vocabularies from 18 to 30 months and frequently used words in adults which don’t appear in infants’ vocabularies. That is, words appearing in infants’ vocabularies are 84 nouns and 84 verbs, and words in adults are 84 nouns and 84 verbs. Also it was measured by not, moderately, and highly imageable grade, from 1 to 7 scales. The ratings of word acquisition according to each age were ratings of verbs acquisition(Lee, 1999) and nouns acquisition(Choi, 2000) witch each mother was asked to record on the checklist given the inflected words her child has produced.

2-3. Procedures

Statistical methods used for the data analysis are the frequencies, means, standard deviation, and Pearson correlation between the grades of imageability and the ratings of word acquisition by SPSS 18.0.

2-4. analysis

Statistical methods used for the data analysis are the frequencies, means, standard deviation, and Pearson correlation between the grades of imageability and the ratings of word acquisition by SPSS 18.0.

3 Key Results

3-1. The relationship between Imageability and acquisition of nouns

Table 1 showed the corelationship between imageanility scores of adults and acquisition rates of young children in total nouns.

Table 1. The corelationship between imageanility scores and acquisition rates of total nouns ($n=168$)

	18- months	21- months	24- months	27- months	30- months	Imageability scores
18-months	1					
21-months	.88***	1				
24-months	.77***	.95***	1			
27-months	.72***	.91***	.87***	1		
30-months	.61***	.82***	.92***	.96***	1	
Imageability scores	.57***	.77***	.87***	.91***	.96***	1

*** $p<.001$

As table 1, the imageability scores of total nouns were significantly correlated to the ratings of nouns acquisition; as 18 months($r=.57, p<.001$), 21 months($r=.77, p<.001$), 24 months($r=.87, p<.001$), 27 months($r=.91, p<.001$), and 30 months($r=.96, p<.001$).

Table 2 showed the corelationship between imageanility scores of adults and acquisition rates of young children in nouns appearing in infants' vocabularies.

Table 2. The corelationship between imageanility scores and acquisition rates of total nouns appearing in infants' vocabularies($n=84$)

	18- months	21- months	24- months	27- months	30- months	Imageability scores
18-months	1					
21-months	.85***	1				
24-months	.72***	.90***	1			
27-months	.66***	.83***	.91***	1		
30-months	.51***	.67***	.75***	.79***	1	
Imageability scores	.43***	.56***	.56***	.59***	.52***	1

*** $p<.001$

As table 2, the imageability scores of nouns appearing in infants' vocabularies were significantly correlated to the ratings of nouns acquisition; as 18 months($r=.43$, $p<.001$), 21 months($r=.56$, $p<.001$), 24 months($r=.56$, $p<.001$), 27 months($r=.59$, $p<.001$), 30 months($r=.52$, $p<.001$).

3-2. The relationship between Imageability and acquisition of verbs

Table 3 showed the corelationship between imageanility scores of adults and acquisition rates of young children in total verbs.

Table 3. The corelationship between imageanility scores and acquisition rates of total verbs($n=168$)

	18- months	24- months	30- months	Imageability scores
18-months	1			
24-months	.91***	1		
30-months	.84***	.93***	1	
Imageability scores	.68***	.72***	.77***	1

*** $p<.001$

As table 3, the imageability scores of total verbs were significantly correlated to the ratings of verbs acquisition; as 18 months($r=.68$, $p<.001$), 24 months($r=.72$, $p<.001$), and 30 months($r=.77$, $p<.001$).

Table 4 showed the corelationship between imageanility scores of adults and acquisition rates of young children in verbs appearing in infants' vocabularies.

Table 4. The corelationship between imageanility scores and acquisition rates of verbs appearing in infants' vocabularies($n=84$)

	18- months	24- months	30- months	Imageability scores
18-months	1			
24-months	.77***	1		
30-months	.71***	.80***	1	
Imageability scores	.36**	.31**	.25*	1

* $p<.05$, ** $p<.01$, *** $p<.001$

As table 4, the imageability scores of verbs appearing in infants' vocabularies were significantly correlated to the ratings of verbs acquisition; as 18 months($r=.36, p<.01$), 24 months($r=.31, p<.01$), 30 months($r=.25, p<.05$).

4 Conclusions

The results show that imageability is a reliable predictor of early words acquisition in Korean as well as English(e.g., Bird et al., 2002; Masterson et al., 1998; McDonough et al., 2006) and Chinese(e.g., Ma et al., 2007). The imageability of a word could be a general factor having influence on word acquisition across grammatical system such as word order and languages.

These findings provide constraints on the development of the representations of the meanings of abstract words, and the availability of semantic information for processes of word recognition.

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