Language and Reading comprehension and cognitive skills among urban and rural children in Korea:
A 1-year longitudinal study

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Abstract: This study tested 98 and 95 kindergartners (ages 4-5) living in rural and urban communities, respectively, for one year to examine the contributions of semantic knowledge at a word level (vocabulary knowledge) and at a morpheme level (morphological construction awareness) to listening and reading comprehension in Korean. Results showed that children living in urban community performed better than those living in rural area at Time 1 in many tasks such as word reading, CV (consonant + vowel) Gulja reading, coda deletion, number naming speed, whereas the differences were not found at Time 2. Regression analyses showed that morphological awareness and CV Gulja reading at Time 1 uniquely explained listening comprehension at Time 2, and vocabulary and Gulja reading at Time 1 explained reading comprehension at Time 2. Results suggest that vocabulary and morphological awareness contribute to reading and listening comprehension over and above phonological awareness and cognitive-linguistic skills.

Keywords: reading comprehension, listening comprehension, morphological awareness, vocabulary

1 Introduction

1.1 Need for the Study

Simple view of reading suggests that word reading and oral language comprehension is fundamental components of reading comprehension [1], [2]. Language comprehension process includes automatic semantic activation and conscious prediction processes [3] and morphological, semantic, and syntactic processes [4], [5]. Recent studies emphasize reading and language comprehension and semantic knowledge in English and other alphabetic languages. Little research has been done with Korean language. In particular, Korean language has rich systems of derivational, inflectional and compounding morphology. Lexical compounding and homophones are salient as well in Korean language. More than half of the Korean vocabulary consists of Sino-Korean words [6]. According to the literacy acquisition literature, morphological awareness (MA) was important in reading of Hangul [7] as
in Chinese [8]. This study examined the contributions of semantic knowledge at a word level (vocabulary knowledge) and at a morpheme level (morphological construction awareness) to listening and reading comprehension in Korean among Korean urban and rural children for one year longitudinally.

1.2 Purposes

First, do urban and rural children in Korea differ in mother education, literacy, language and cognitive skills at T1 and T2?

Second, are semantic knowledge and cognitive skills at T1 related to listening and reading comprehension longitudinally at T2 among Korean children?

2 Methods

2.1 Participants

This study tested 48 4-year and 50 5-year old kindergartners living in urban community and 43 4-year and 52 5-year old children living in rural community. Both groups were from middle income families. They were tested at Time 1 and at Time 2 after one year.

2.2 Measures

Hangul word recognition, CV Gulja reading, vocabulary, phonological awareness (syllable, onset, and coda awareness), number naming speed, and morphological awareness task were used at Time 1. Listening comprehension, and reading comprehension were measured at Time 2. In addition, mother education was included from parents’ questionnaire.

• Literacy Task
  ① CV Gulja reading at T1: It included 19 CV (consonant + vowel) Gulja that does not have a final consonant. Gulja is a written form of syllable in Korean.
  ② Korean word reading at T1 and T2: This task consists of 90 questions. One point was allotted if children correctly read a word. Ninety points are the full mark.
  ③ Reading comprehension task at T2: Children read one or two sentences and chose a correct picture representing the sentence(s) among 4 pictures. This task consists of 30 questions.

• Language Task
  ① Vocabulary task at T1 was used from a subtest of K-WISC test [9].
Listening comprehension at T2: Children heard one or two sentences and chose a correct picture representing the sentence(s) among 4 pictures. In total 34 items were used.

Phonological awareness tasks
1. Syllable deletion task: Children were to delete a syllable from an orally presented item consisting of 3 or 4 syllables. In total 18 items were included.
2. Onset phoneme deletion tasks: Children were to delete an onset phoneme from an orally presented item consisting of one-syllable word or nonword. In total 18 items were included.
3. Coda phoneme deletion tasks: Children were to delete a coda phoneme from an orally presented item consisting of one-syllable word or nonword. In total 18 items were included.

Morphological awareness task of compounding construction: Children were to make a new compounding word after listening to 2-3 sentences. For example, “We call it Kimchi refrigerator if a refrigerator keeps Kimchi in it. What would you call it if a refrigerator keeps flower in it?” Answer: “Flower refrigerator”

Naming Speed Task: Children were to name 25 numbers of five rows with five numbers as accurately and as fast as possible. Naming time was measured.

3 Methods

3.1 Comparisons of literacy and cognitive skills between two community groups

There was no difference in mother education between to community groups. However, urban 4-year old children outperformed rural counterparts in most tasks including word reading, CV (consonant + vowel) Gulja reading, coda deletion, number naming speed except vocabulary. The performance differences between two community groups became smaller in 5-year olds. In particular, rural children outperformed urban children in listening and reading comprehension at T2.

3.2 Predictor Variables of Reading and Listening Comprehension

Regression analyses from longitudinal data showed that morphological awareness($B=2.28, p<.05$) and CV syllable reading($B=2.21, p<.05$) at T1 explained unique variance of listening comprehension at T2. Regression analyses from longitudinal data showed that vocabulary ($B=2.17, p<.05$) and CV syllable reading($B=2.99, p<.01$) at T1 explained unique variance of reading comprehension at T2.
4 Conclusions

First, children living in urban community performed better than those living in rural area at Time 1 in many tasks such as word reading, CV (consonant + vowel) Gulja reading, coda deletion, number naming speed, whereas the differences were not found at Time 2.

Second, vocabulary and morphological awareness contributed to reading and listening comprehension, respectively, over and above phonological awareness and reading skills. The results suggest the contributions of semantic knowledge at a morpheme level (morphological construction awareness) and a word level (vocabulary knowledge) to listening and reading comprehension, respectively, in Korean as in English [10].

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References