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Impact of Foreign Language Learning on Children's Language Competence*

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The impact of foreign languages (mainly English) learning on children's language development has always been a hot issue in China. There is still no consensus on the idea whether the earlier children learn a foreign language, the better their language competence will be. Some scholars even worry about that early English language learning for Chinese young children will lead to a series of problems: the absence of mother tongue, the crisis of cultural identity, the lack of study motive, the lost of study desire, the increase of frustration, and the poor learning effect, etc. This paper studies the impact of foreign language learning on children's language competence from the five elements of metalinguistic awareness: phonological awareness, orthographic awareness, word awareness, syntactic awareness, and pragmatic awareness, including the promotion function, the interpretation mechanism, and the positive influence on basic language abilities, so as to find out the impact factors for foreign language learning and provide valuable reference for the establishment of foreign language educational policy and system in China.

Keywords: foreign language learning, children's language competence, metalinguistic awareness, promotion function, interpretation mechanism

Introduction

Metalinguistic awareness refers to the ability to manipulate and control the structure of a language, namely the ability to attend to, and reflect upon, the properties and functions of a language. Metalinguistic awareness is a kind of intuition and implicit knowledge, which can promote the development of basic language skills.

As for the foreign language (mainly English) teaching in China, its impact on children's language development has always been a hot issue. GUI (1992), a famous Chinese linguist and foreign language educator, once questioned the views of "children should begin to learn a foreign language while in elementary school" and "the earlier children begins to learn a foreign language, the better their language competence will be". He further put forward that there should be rational regression of the age when Chinese children begin to learn a foreign language (GUI, 2012). However, GUI's viewpoints are based on the actual environment of foreign language

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learning and teaching in China, but in terms of children's language development itself, the general impacts of the age and English learning should not be ignored.

The present study is to analyze the performance of children's phonological awareness, orthographic awareness, word awareness, syntactic awareness and pragmatic awareness, the interpretation mechanism of metalinguistic awareness improvement, and the impact of foreign language learning on children's basic language competence, aiming to shed light on the significance of Chinese children's English learning.

Phonological Awareness

The Performance of Phonological Awareness

Phonological awareness, one aspect of metalinguistic awareness, refers to the ability to divide speech into smaller units (syllable, onset and rime, and phoneme), distinguish and manipulate these sound units. Phonological awareness will be affected by both a particular sound structure and the grapheme-phoneme correspondence rules of a writing system (Treiman & Zukowski, 1996). That is why different language groups show specifically systematic characteristics in their linguistic structures.

First of all, the phonological awareness of monolingual children partly reflects the phonological characteristics of the language input. For example, Italian children have stronger syllabic and phonemic awareness than English children (Cossu, Shankweiler, Liberman, Katz, & Tola, 1988); while Czech children have stronger phonemic awareness than English children, but the former's onset and rime awareness is less comparable to that of the latter (Caravolas & Bruck, 1993). The studies on cross-language relations and transfer also show that bilingual children who speak two alphabetic languages can introduce their phonological awareness acquired from their native language to a second language (Cisero & Royer, 1995). In addition, comparative studies between bilingual and monolingual children show that bilinguals respond strongly to the salient phonological units in both languages. For example, English-French bilingual children will outperform English monolinguals in syllabic awareness, onset and rime awareness tasks, for the syllables in French are more salient than those in English (Cutler, Mehler, Norris, & Segui, 1986), and the onset and rime in English are distinct (Caravolas & Bruck, 1993).

Bialystok and Martin (2003) hold that, even if the two languages belong to two unrelated writing systems, the early experience of learning two different phonological systems can also promote the follow-up phonological learning. After Chinese children learn English, on the one hand, the Chinese phonetic transfer occurs. For example, the experience of Chinese Pinyin learning will lay a foundation for English phonetic learning (ZHANG & LIN, 2002); the children's Chinese phonological awareness can predict the development of their English phonological awareness (TAO, HUANG, & LI, 2005). On the other hand, there will be a phonetic transfer from English to Chinese. For example, learning the names of English letters and the sounds of English words can arouse children's particular interests in phoneme (Anthony & Francis, 2005), so as to facilitate children's Chinese Pinyin learning and improve their Chinese phonological awareness (LI, CHEN, & MAO, 2008).

Interpretation Mechanism of Phonological Awareness Promotion

Although the development of children's phonological awareness may be affected by many factors, but the promotion mechanism is consistent. As for bilingual children, their strong phonological awareness shown in the early ages cannot be attributed to their stronger reasoning ability or language competence. Bruck and Genesee

(1995) did not find reasoning ability difference between bilingual and monolingual nonverbal intelligence in Raven's Progressive Matrices test; nor did they find the difference in the overall language ability of French-English bilinguals and English-speaking children according to the Peabody Picture Vocabulary Test. Actually, the phonological awareness difference between monolinguals and bilinguals cannot be attributed to the difference of their reading ability, because their phonological awareness advantage mainly appeared before literacy learning (Bruck & Genesee, 1995; Min, 2009), which means bilinguals' strong phonological awareness is fading, or gradually turns into stronger lexical awareness, syntactic awareness after literacy learning.

In fact, an infant has been equipped with the basic ability of acquiring sound information at its pre-lingual stage. Ramus, Hauser, Miller, Morris, and Mehler (2000) found in their high amplitude test and habituation/dishabituation design that newborns were accustomed to the sentences spoken by two persons in the same language, but not in different languages; in addition, when the language type changed, the newborns' sucking frequency and intensity increased rapidly. Heinlein, Burns, and Werker (2010) proved the result in a high amplitude sucking-preference study. They found that the prenatal bilingual experience even could affect newborns language preference. In their study, the newborns born in English environment were less interested in Tagalog than in English, but those born in English-Tagalog bilingual environment were equally interested in both languages. More interestingly, as both Chinese and Tagalog are syllable-timing languages, Chinese-English bilingual newborns even showed secondary preference on Tagalo. This suggests that the bilingual babies are sensitive to the internal differences in the languages sharing a same rhythm. Newborn' ability of recognizing sounds mainly comes from the rhythm of speech signal itself or speech distribution features, as well as the adjustment to the originally stored sounds caused by the complex language later input.

Hence, it is reasonable to point out that the phonological awareness promotion of bilingual children comes from their early experience of bilingualism, as the early experience of two phonological systems can facilitate new phonological information acquiring. Children's ability to analyze the language input can be strengthened by detecting two different kinds of sound symbols, so bilingual children can encode unfamiliar sounds more effectively than monolingual children. They can perceive the systematical co-occurrence of some characteristics in a language input, and the obviously inconsistent or divergent forms in sound signals, and they will consciously store them respectively. When putting different sentences into different files, they may find some hints of inconsistent rhythms, or regular replacement of changeable sound forms. It is the perception of those hints and changeable forms that gradually improves children's ability of phonological recognition and advances their maturity of speech recognition ability.

The phonological awareness promotion of Chinese-English bilingual children results from the differences between the two sound patterns. English and Chinese contain almost the same number of consonants (English 24, Chinese 23), but there are only four possibilities for Chinese syllabic structure, and nine consonants for Chinese consonant cluster. While English sound patterns are more complex, and there is a variety of onset clusters and rime clusters. In addition, there are a lot of open syllables in Chinese sound, only two possible final consonants, and no consonant clusters. Therefore, the clear Chinese syllabic border may strengthen children's syllable awareness, and English consonant clusters will result in children's stronger phonemic awareness (Anthony & Francis, 2005). Moreover, children should spend more effort in sound analysis in English literacy education, so the early exposure to written English can help children be more sensitive to phonemes. At the same time, owing

to the similar structures of English and Chinese Pinyin, and the relativity between the visual memory ability for English sound and Chinese phonological awareness, English sound learning can facilitate children's Chinese Pinyin learning (LI, CHEN, & MAO, 2008).

The Functions of Phonological Awareness Promotion

Facilitating novel words learning. As vocabulary learning is a procedure of information processing, namely, it is a process that phonetic messages are coded, stored, and extracted, and bilingual children have a more inclusive phonetic system, it is natural for bilingual children being ready to decode unfamiliar sound information effectively, and learning novel words easily.

It can be verified further. First, the exposure to two phonetic systems at early childhood can delay the start of a specific sound system adjust (Bosch & Sebastián-Gallés, 2001). Generally at one-year-old or so, children's phonetic ability begins to be language-specialized. But Bijeljac-Babic (2009) found that even the limited exposure to another language can also delay sound specialization, so 20-month-old bilingual children still have the flexibility of learning vocabulary. Kaushanskaya (2009) proved that the universal advantage of bilinguals' word learning in the comparative study between different language types, the starting time of bilingualism and bilingual environment.

Secondly, bilingual children have a stronger short-term phonological memory, especially a stronger working memory capacity, which comes from a higher cognitive requirement for acquiring foreign words. The tests of short-term phonological memory and novel words learning show that bilinguals usually try to represent lexical items by using a limited number of ordinary phonemes instead of representing each phonetic structure respectively, as the former way is far more efficient (Metsala & Walley, 1998). In other words, children's phonetic memory capacity is enhanced by the requirement of accurate encoding ability and rich phonetic information for bilingual novel words learning. However, some argue that bilinguals' advantage in words learning comes from their previously existing vocabulary knowledge. It is because bilinguals have more alternative terms than monolinguals that they can select and produce phonological structures similar to that of the novel words effectively (Gathercole, Willis, & Baddeley, 1991).

In essence, short-term phonological memory capacity interacts with the novel words learning. In the process of vocabulary development, there is a short-term phonological memory system for restoring the representations of novel words, and for creating long-term representation for novel words (Gathercole, 2006). The quality of short-term phonological representation determines the formation of a stable, long-term phonological representation (Burgess & Hitch, 2005). The comparative study on novel words learning capacity in young children, teenagers and Down Syndrome patients found that Down Syndrome patients have impaired short-term language memory, and their language forms are also damaged, which proved that the accurate phonological representation in short-term memory is the premise of novel words learning (Jarrold, 2009). In other words, the stronger the learners'' phonological short-term memory ability, the more efficient novel words learning is. At the same time, the increasing number of novel words will lead to word reconstruction, thereby promoting the phonological awareness development (Bowey, 1996).

Predicting reading ability. As written language coding is usually associated with phonological awareness, it is no wonder that phonological awareness can effectively predict children's reading ability. Although Chinese

characters, as an ideogram, are not directly represent sound, there are still quite a few studies finding that Chinese children's reading ability is also associated with phonological awareness (McBride-Chang & Kail, 2002; Shu, Peng, & McBride-Chang, 2008; Goswami, Wang, Cruz, Fosker, Mead, & Huss, 2010).

Actually, grapheme-phoneme correspondence in Chinese characters has been confirmed by the neural physiological experiments. First of all, fMRI (functional magnetic resonance imaging) technology experiment finds that neural mechanism needs to pay more efforts in dealing with Chinese characters with inconsistent phonetic radicals (Lee, Huang, Kuo, Tsai, & Tzeng, 2010); and the involved brain regions are quite close to that of alphabetic languages (Mechelli, Gorno-Tempini, & Price, 2003; Siok, Perfetti, Jin, & Tan, 2004). Eye movement studies also confirm the effectiveness of phonetic radical consistency facilitating Chinese characters recognition (Tsai, Lee, Tzeng, Hung, & Yen, 2004). Based on ERPs (event-related potentials) technology, N400 semantic priming indicators further verify the semantic priming phenomenon in phonetic radicals of Chinese characters. The studies support that the meaning of a single-radical Chinese character can be primed in a very short time; the retention time of regular Chinese characters is longer than that of irregular Chinese characters (Lee, Tsai, Huang, Hung, & Tzeng, 2006). Electrophysiological studies also find that three other ERP components, namely N170, P200, and N400 are related to grapheme-phoneme correspondence in the process of Chinese literacy respectively (Hsu, Tsai, Lee, & Tzeng, 2009; Lee, Tsai, Chiu, Tzeng, & Hung, 2006; Lee, Tsai, Chan, Hsu, Hung, & Tzeng, 2007). The sound consistency of phonetic radicals has been introduced in the early stage of perceptual, and the large electrical physiological reaction caused by inconsistent picot-phonetic characters is identical to what Lee and others found in their fMRI study.

Moreover, phonemic awareness is the only factor which can predict Chinese children's reading ability. Although in terms of phonological granularity of Chinese character recognition, the phonological cues are at levels of syllable or onset and rime; and there seems almost not any relationship between phonemic awareness and Chinese reading (McBride-Chang et al., 2008). In addition, phonemic awareness difference has not been found in the comparative study on dyslexia children and non-dyslexia children (McBride-Chang Shu, Wu, & Liu, 2006). However, in the longitudinal experiment on relationship of different levels of phonological information units and reading ability, Newman, Tardif, HUANG, and SHU (2011) found that both Chinese and English oral characteristics supported phonemic processing, which was helpful to beginners' language understanding. In reading different types of languages, the function of phonological awareness is widespread. But phonological awareness is an integral structure which is involving in reading at different levels respectively. Phonemic awareness even can be the only predictor for Chinese children's reading ability. Perfetti, Liu, and Tan (2005) also confirmed that sound was a component of any words in different languages, and words recognition inevitably involved in sound, so the functional difference of sounds across languages only lies in the phonological information timing in words extraction or reading.

Orthographic Awareness

Orthographic awareness refers to the mastery of writing or spelling rules (Yuen-Ching & Connie Suk-Han, 2009). Because English and Chinese belong to different writing systems, the meaning of orthographic awareness differs in Chinese and English. Orthographic awareness of Chinese refers to the awareness of the combination rules of Chinese characters, while orthographic awareness in English refers to the awareness of spelling rules of

English words. Orthographic difference in English and Chinese has been confirmed by neuroimaging technology (Tan et al., 2003) and ERP technology (Liu & Perfetti, 2003).

Since the orthographic awareness transfer is restricted within the same writing systems, the orthographic awareness of Chinese will not help develop English orthographic awareness, and vice versa. Therefore, there is not significant orthographic awareness transfer between Chinese and English, but negative transfer in literal reading. Two reasons are involved. Firstly, Chinese orthographic features and depth are different from those of English. Based on granularity and transparency hypothesis (Wydell & Butterworth, 1999), if a language belongs to printed word-sound mapping relationship, namely high transparency, there is less chance of dyslexia; if word-sound mapping at a larger granularity level, there is even more less chance of dyslexia. Chinese orthographic knowledge involves a large amount of radicals, the frequency of radical position (left and right, up and down), functions of phonetic and semantic clues, correct visual-space combinations of radicals, and so on. While English word patterns are simpler in vision and in more continuous integration. In other words, Chinese orthography is deeper than that of English. Secondly, the ways of word processing in Chinese and English are different, because orthographic depth can affect readers' processing and decoding strategies. Readers will adopt the surface phonemic strategy for the language with shallow orthography, and a visual code for the language with deep orthography. Thus, the visual-spatial skills young children acquired in Chinese character recognition will not help their memory of English alphabet sequence; and the decoding strategy at phonemic level of English is not helpful to Chinese character decoding at syllabic level (WANG, 2005). In view of the mapping principles of English and Chinese writing systems, and the visual differences, Chinese orthography cannot predict children's English reading ability. If children are trying to facilitate English literacy by the help of Chinese orthographic knowledge, it even may cause interference (negative transfer) for the development of English reading (Yuen-Ching & Connie Suk-Han, 2009).

Word Awareness

Word awareness, also known as printed character concept (Bowey, 2005), refers to the ability to know that the word is the major semantic unit in linguistic construction, and the nature of words. To be specific, word awareness contains three levels of meaning: (1) flowing of speech is composed of isolated units - words; (2) word is the semantic units of a language; and (3) the relationship between a word and its signified is arbitrary.

The Performance of Word Awareness Promotion

The evidence about bilingual children's word awareness advantage first came from Piaget's "sun and moon problem" task. This task is used to test whether bilingual children know that a word does not refer to the inherent features of its signified, and the relationship between words and the signified is arbitrary. Later, Ben Zeev (1977) found in the same task that 5–8 years old English-Hebrew bilinguals performed better than English or Hebrew monolinguals. This conclusion was later repeated in many studies with different language groups and evaluation methods, such as in the tasks of word segmentation (word count) and word judgment. Yelland (1993) found that even English children aged five to seven, after studying Italian one hour a week lasting for six months, performed better than English monolinguals in the tasks of word segmentation and words judgment, which was confirmed by Min's study (2009).

However, due to the diversity of research methods or insufficient control of the independent variables,

bilingual children do not always show advantages in word awareness tasks. Nicoladis and Genesee (1996) did not find significant bilingual advantages in completely homogeneous groups aged four, including bilinguals, partial bilinguals, and monolinguals, by controlling the independent variables of age, reading level, fluency, nonverbal intelligence, and the ability of executing counterfactual tasks. Accordingly, they denied the facilitation of language acquisition itself to four-year-old children's word awareness development. A lot of researches (Homer Simpson, & Olson, 1999; Karmiloff-Smith, Grant, Sims, Jones, & Cuckle, 1996), however, seem to suggest that children usually get word awareness at six. Hence, whether children have acquired word awareness at age four, as well as how old children can acquire word awareness, should also be taken as important variables. Thus, Nicoladis and Genesee's study actually cannot deny the bilingualism facilitating children's word awareness improvement.

In addition, the bilingual children's stronger word awareness is shown by enhanced analysis ability of words. In the task of "sun-moon problem", when asked why the name of an object can be changed, bilingual children like to verify their choice by communicative or experimental environment (for example, suggesting that the others will be confused by the change of name), but the monolingual children prefer the characteristics of object itself (for example, adhering to the specific name of an object coming from its surface state) (Cummins, 1978, 1987). This shows that bilinguals focus more on the context of communication after learning a second language, so they can better understand the arbitrary relationship between words and the signified, namely having stronger word awareness.

Interpretation Mechanism of Word Awareness Promotion

In representing a same set of concepts, the coexistence cognition of two different language systems promotes bilingual children's word awareness (Min, 2009). Bialystok (1988) ensured bilingual children's advantages in word awareness, phonological awareness, and syntactic awareness actually attribute to their advantage in processing control, and bilingual children's control ability forms earlier than that of monolingual children (Bialystok, 2001a).

On the one hand, bilingualism benefits children a lot, including more intuitively and clearly understanding the features of the language structure, realizing that spoken sentences can be divided into discrete units—words, knowing that words do not represent the inherent features, but the physical features (such as length, number of syllables, pitch, etc.), independent of the features of the signified , namely the arbitrary nature between words and the signified (Yelland, 1993).

On the other hand, in bilingual learning, the representation of a new language will activate the prefrontal cortex, so as to promote the development of related frontal lobe (Bialystok, 2001b; Costra, Hernández, & Sebastián-Gallés, 2008), and cognitive control ability is associated with the slow maturation of the frontal cortex (Rodriguez-Fornell, Balaguer, & Munte, 2006), so bilingualism can improve children's cognitive control ability (Hu & Bai, 2008). Targeted development of children's executive function, in turn, will promote the normal development of the frontal cortex (SHEN, 2006). Hence, there will be a language control system in bilingual's mind, which can suppress the non-target language (Dijkstra & van Heuven, 1998), also known as inhibitory control, it is one aspect of cognitive control (Green, 1998).

The Functions of Word Awareness Promotion

Facilitating phonological awareness development. Word awareness and phonological awareness closely correlate to each other, so the development of word awareness can promote the development of phonological awareness. The reasons are as following: First, both phonological and word awareness show the ability to reflect upon and deal with the sub-units in spoken language (word, syllable, and phoneme) (Fox & Routh, 1975). Secondly, phonological awareness is essentially an extension of word awareness (Tunmer, 1989).

Generally speaking, the components of phonological awareness rank from the biggest to the smallest: syllable, rhyme, onset, and phoneme. But "word" is also taken as the biggest unit of phonological awareness in some studies (Treiman & Zukowski, 1991). With the growth of the age, children will gradually become more and more sensitive to these units smaller than word, forming different levels of awareness: word - syllable - onset/rhyme - phoneme (Carroll, Snowling, Hulme, & Stevenson, 2003; Anthony & Francis, 2005). Therefore, in essence, word awareness develops first among children's metalinguistic abilities; while children's phonological awareness results from the development of word awareness, particularly from the awareness of word—the signified distinction (Tunmer, 1989). If learning a second language can advance the normal developing course of children's word awareness (Yelland, Pollard, & Mercuri, 1993), accordingly, it can also advance the development of children' phonological awareness.

Promoting reading development. Word awareness indirectly promotes the development of reading ability through the process of phonological awareness. Perhaps because of this, the impact of phonological awareness on reading development has been widely discussed, while the role of word awareness is ignored by the researchers.

Word awareness can help children realize that a spoken word has its own physical features, thus they are likely to find those phonological compositions, such as syllable, secondary syllable, and secondary units of speech sound. In other words, word awareness is the premise of phonological awareness. Learning a second language is similar to getting an indirect metalinguistic word awareness training, so bilinguals have a better performance in the task of word recognition than those children without such training. Yelland, Pollard, and Mercuri (1993) found that, if children learned a second language before learning reading, their ability of word recognition would be obviously stronger than that of monolinguals. It is inferred that it is word awareness that is contributed to the development of reading ability. The emergence of children's phonological awareness is almost synchronous with reading teaching, which suggests that the development of word awareness is the requirement of phonological awareness.

Whereas, a question occurs: Is phonological awareness the predictor of reading acquisition, the outcome of reading acquisition or an unnecessary stimulus? Phonological awareness and reading acquisition maybe are related to other variable—word awareness. Nevertheless, word awareness is a critical factor to the development of phonological awareness and reading ability.

Syntactic Awareness

Syntactic awareness is also known as grammatical awareness. Taken together, syntactic awareness refers to the ability to reflect upon and dominate the inner grammatical structure of a sentence and syntactic rules (Chiappe, Siegel, & Wade-Woolley, 2002). Syntactic awareness can help children organize the decoded words into meaningful sentences, and reflect on the errors in the sentences, therefore, syntactic awareness essentially

represents children's attentional control ability.

The Performance of Syntactic Awareness Promotion

Although the number of studies on syntactic awareness is far less than that of phonological awareness, all of them support that bilingual children have syntactic awareness advantage (Davidson, Raschke, & Pervez, 2010). Galambos and Meadow (1990) found that bilingual children had better performance than monolingual children in the tasks of syntactic judgment, syntactic error correction, and interpreting syntactic errors. Bialystok (1986) proved in a series of comparative tests among five to nine years old bilinguals and monolinguals that bilingualism is especially beneficial to children judging and correcting unreasonable syntactic errors.

But there are also studies questioning the absolute point of view. First of all, it is suggested to take dynamic view on the role of the syntactic awareness. Galambos and Goldin-Meadow (1990) held that bilingualism can only impact on syntactic awareness development at the early stage. That is why bilingual children can only perform better than monolingual children in the tasks of grammatical errors identification and correction, but not in the higher level of syntactic awareness tasks later, such as interpreting the grammatical errors. Secondly, the role of bilingual proficiency in syntactic awareness has gained more attention. Cromdal (1999) found that, six to seven years old Swedish-English proficient bilinguals performed better than non-proficient bilinguals in grammar correction task. Bialystok (1988, 1989) also proved that proficient English-French bilingual children performed significantly better than the monolingual and non-proficient bilinguals in syntactic correction task. Davidson (2010) found in syntactic errors judgment task that five to six years old English-Urdu balanced bilinguals performed significantly better than English monolinguals.

Interpretation Mechanism of Syntactic Awareness Promotion

The syntactic awareness advantage of bilingual children contributes to the complex cognitive process of distinguishing two languages into different syntactic systems. In essence, compared with phonological awareness, the impact of bilingualism on children's syntactic awareness is even more prominent.

First, it is more necessary for bilinguals to consciously focus on linguistic form and features than monolingual children, and to attend to whether some grammatical structure in one language also exists in another language (Galambos & Goldin-Meadow, 1990). It is the cognitive process that improves children's metalinguisitc ability to discover and correct mistakes in sentences. Bialystok (1994) made a more detailed and reasonable explanation for children's different performances in various tasks of syntactic awareness by using two-component model. She holds that bilingual advantage of syntactic awareness mainly benefits from their stronger ability of control processing, which ensures them to be more preferably focused on syntactic structures rather than the meaning of sentences, so bilinguals' performance in tasks of syntactic judgment and syntactic error correction is better than that of monolinguals. While in syntactic awareness tasks related to language knowledge analysis, such as grammatical errors explanation, only those bilinguals who are proficient in both languages perform better.

In addition, the grammatical diversity between native language and second language will also determine the differences of bilinguals' syntactic awareness. Davidson, Raschke, and Pervez (2010) found in a comparative study that, as there are masculine or feminine nouns in Urdu but not in English, Urdu-English bilingual children performed much better than English monolingual children in the most difficult sentence errors tests concerning

gender. It can be inferred that Chinese-English learning will promote the development of children's syntactic awareness, especially to push children to pay attention to the great differences in syntax between two languages, for example, formal signs and morphological changes in English.

At the same time, the morphological rules children acquired from the second language can help the application of the similar rules to their first language. Bindman (2004) once found that there was a reversed transfer from English to Hebrew when Hebrew-English bilingual children learning morphological rules. It is suggested that cross-language transfer is not necessarily from the first language to the second language, it could also be bidirectional. Meanwhile, there are many similarities in syntactic rules of Chinese and English, such as sentence constituents, parts of speech and grammatical functions, basic structures and principles of complex sentences, etc., so English learning may consolidate children understanding and applying Chinese syntax.

The Functions of Syntactic Awareness Promotion

The major function of syntactic awareness promotion shows up in predicting the development of children's reading ability. But compared with the studies on the relationship between phonological awareness and reading development, there are relatively fewer studies on the relationship between syntactic awareness and reading development. One of the reasons is that it is difficult to control the interference of semantic process and the load of working memory in syntactic awareness test, especially in children's syntactic awareness test. On the other hand, syntactic awareness is more important for high-level reading, including discourse or paragraph reading (Muter, 2004), so many studies on syntactic awareness are conducted among elementary or junior high school students who have acquired certain ability of reading. It is unnecessary for the young children who just start literacy to the understand sentences or discourses, because their reading is generally confined to unfamiliar words recognition through combining their imperfect phonetic knowledge and context clues (Tunmer, 1989).

Studies both in China and in other countries verify that syntactic awareness can predict reading in all languages. Bowey (1996) found that five to six graded children's performance in syntactic awareness tasks was correlated to the development of all-level reading comprehension and monitoring measurement. There is even a sustainable development of syntactic awareness from grade one to grade three, which is certainly related to reading skills (Willows & Ryan, 1986). Compared with normal children, those with dyslexia or low reading level, are significantly lagged behind in syntactic awareness (Nation & Snowling, 2004; Bajaj, Hodsonb, & Schommer-Aikins, 2004). This suggests that the syntactic awareness may be one of the reasons for dyslexia and low reading level (GONG & PENG, 2005).

Syntactic awareness can facilitate children's reading in two ways: One is to help children check the meaning of new words by reference to the context (Muter & Snowling, 1998); the other is to promote the acquisition of decoding skills (Bryant & Nunes, 2004), for instance, learning more spelling combinations with the help of context, as well as a variety of spelling forms about homonyms. In conclusion, the morphological knowledge (or a semantic unit of a language) and grammar rules acquired by children will help beginners judge uncertainties in reading.

Pragmatic Awareness

There is not an accepted and fixed definition of pragmatic awareness in academic field so far. Schauer (2006) only pointed out the research scope of pragmatic awareness. While HU (2007), by referring to the definitions of

linguistic awareness and pragmatic competence, defined pragmatic awareness as "the understanding and sensitivity to the appropriateness of language use determined by the features of specific communicative context" (p. 65). To facilitate the understanding, pragmatic awareness in this paper is defined as young children's insight and sensitivity to communicative information.

The Performance of Pragmatic Awareness Promotion

The promotion of bilingual children's pragmatic awareness mainly manifests on mixture of code and timely language adjustment.

Mixture of code in bilingual children is reflected by using the shared elements of both languages, including phonemes, words, and syntactic structures in one sentence or a conversation. Bilingual children often mix function words, the inflectional forms from their more proficient language, with their unfamiliar content words, but the opposite case happens rarely (Lanza, 1997). In the mixture of syntactic forms, they often put the syntactic structures from the dominant language into the less proficient ones (Gawlitzek-Maiwald & Tracy, 1996). However, the mixture of code is often restricted by grammars, so children usually mix codes where the two grammars are consistent, and rarely at inconsistent places (Sauve & Genesee, 2000; Lanza, 1997; Allen, Genesee, Fish, & Crago, 2002).

Bilingual children's ability to adjust the language timely is reflected by their sensitivity to the language spoken by the speakers. First, Comeau and Genesee (2001) found that English-French bilingual children around the age of three knew when a certain language to be used, when to mix codes, and how much the mixing ratio of codes is, even while they were having a conversation with strangers. They could easily identify the interrupts caused by the inappropriate language use in the communication, and knew the strategy for fixing these interrupts. Secondly, they could select appropriate language according to different speakers. Even talking to unfamiliar speakers, bilingual young children could select appropriate language to keep consistent with the speakers' language based on verbal possibility strategy, according to speakers' feedback or implicit hints (Comeau, Genesee, & Lapaquette, 2003).

Interpretation Mechanism of Pragmatic Awareness Promotion

The mixture of code happens in the sentences or conversations of bilingual adults due to different communicative purposes, which reflects the pragmatic competence of bilingual adults, such as to establish interpersonal relationship or distance, to show the social role and identity (Myers-Scotton, 1993). But the mixture of code in bilingual children may be interpreted as the deficiency of language competence (Volterra & Taeschner, 1978), or the grammar and functional features being dominated by some rules, namely the performance of the pragmatic competence (Meisel, 1994).

Hence, the mixture of code in bilingual children is not purely because children cannot distinguish the two languages, but rather reflects the variety of functional features. According to the theory of Filling Vocabulary and Grammar Development Vacancy, the mixture of code manifests that when the bilingual children do not have a good command of some language, they will express themselves by using all linguistic resources. In other words, when they have not learnt how to use words in language Y, they will mix these words with those in language X. Many studies (Genesee, Boivin, & Nicoladis, 1996; Lanvers, 2001) confirmed that when bilingual children were using less proficient language, there would be more mixtures of codes, so were the older children with proficient

language. The reason is that there is less equivalent lexical knowledge in the two languages they acquired. Of course, another reason is the impact of the linguistic environment. Bilingual parents usually habitually communicate with their children in different languages, so children can speak to their parents distinctively and appropriately at single-word and two-word stages (Nicoladis & Genesee, 1996). This ability can even extend to the conversation with a stranger.

The Functions of Pragmatic Awareness Promotion

Bilingual children's strong awareness and sensitivity to pragmatic principles promote the growth of their pragmatic competence directly.

Bilingualism first can promote children's ability to access to and application of words and morphological-syntactic resources in two languages. The impact of bilingual children's pragmatic awareness on the pragmatic competence development especially represents the sensitivity to the variable of interlocutors. Bilingual children can choose appropriate language according to different interlocutors, which embodies their unique bilingual communication skills. In addition, bilingual children can respond the feedback about their language appropriateness made by interlocutors.

Conclusion

To sum up, bilingualism can improve children's abilities to analyze language, including phonological, word, syntactic, and pragmatic awareness. The promotion of the metalingualistic awareness manifests in the improvement of novel word learning ability and reading ability, the development of pragmatic competence. Although the above conclusions are not completely drawn from the empirical study of Chinese-English bilingual children, but it provides a reference for children's English learning in China. At the same time, the subjects in above studies mentioned are mostly less than seven years old, which seems there is not a rational age range for second language learning, and second language learning is mainly subject to the learning environment and conditions.

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