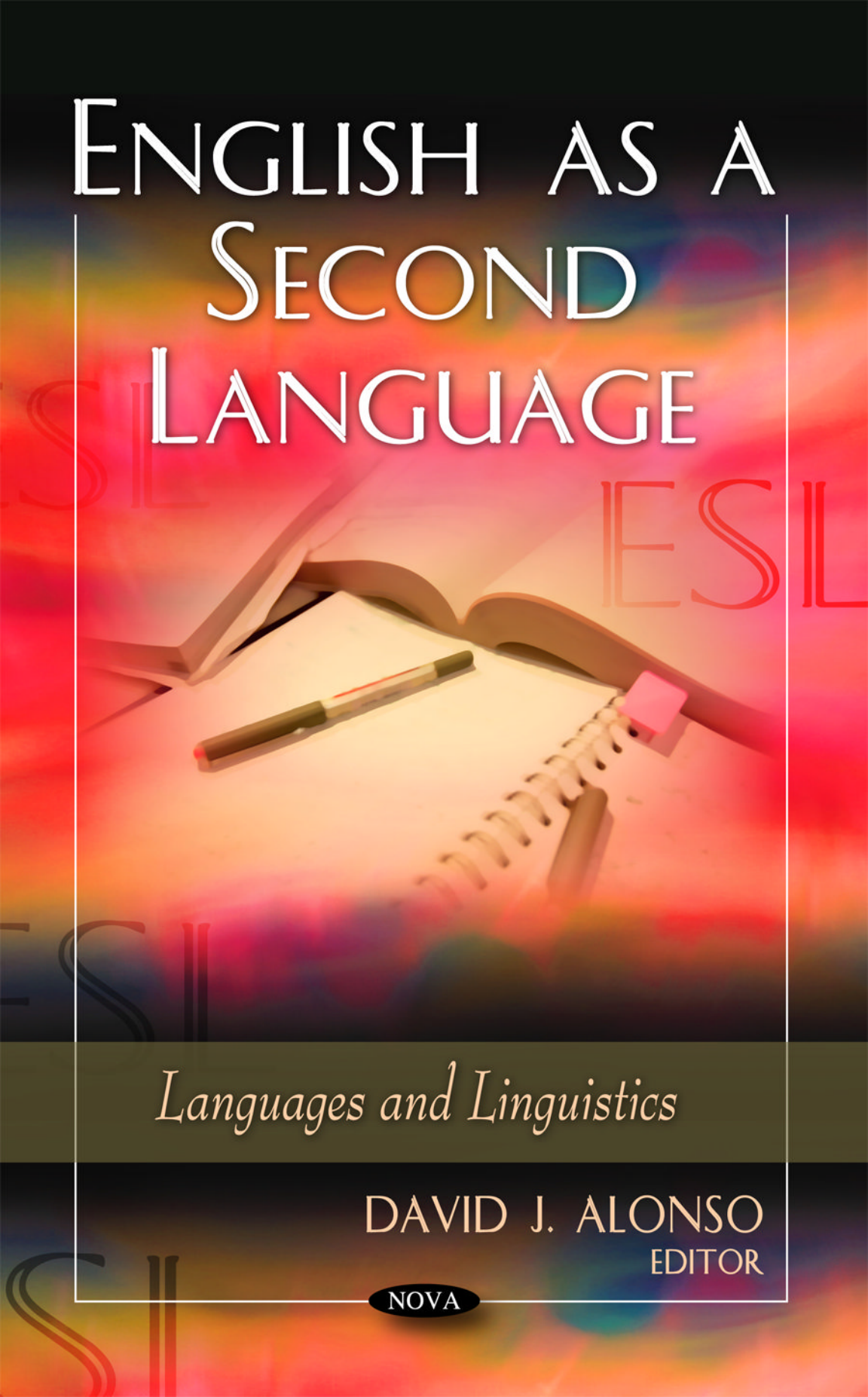


ENGLISH AS A SECOND LANGUAGE



Languages and Linguistics

DAVID J. ALONSO
EDITOR

NOVA

LANGUAGES AND LINGUISTICS

ENGLISH AS A SECOND LANGUAGE

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DAVID J. ALONSO
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PREFACE

English as a Second Language (ESL) education has gained an increasingly important role in career development in science, business, and industry on the global stage. Language teaching practice often assumes that most of the difficulties that learners face in the study of English are a consequence of the degree to which their native language differs from English. One great challenge for adult ESL learners is to reduce or eliminate "foreign accent" in their English pronunciation. This book presents current research in the study of ESL, including brain plasticity and phonetic training in ESL; using authentic newspaper texts in teaching intermediate vocabulary in ESL learners; EFL/ESL teaching in China; and improving reading skills for ESL learners using SoundSpel.

Chapter 1 - English as a second language (ESL) education has gained an increasingly important role in career development in science, business, and industry on the global stage. One great challenge for adult ESL learners is to reduce or eliminate "foreign accent" in their English pronunciation. Decades of behavioral and brain research have shown that language experience early in life leaves an indelible mark on speech perception and production. There is converging evidence for a self-reinforcing bonding process in the brain in the course of largely implicit learning, leading to a system that is neurally committed to the articulatory, acoustic, and perceptual properties of sounds and sound patterns in the first language. As a consequence, it is often difficult for adults to learn the speech sounds in a second language that do not conform to the phonology of the first language. This chapter examines the underlying causes for the foreign accent problem in second language learning and discusses the approaches to promote brain plasticity through phonetic training. The first section provides a summary of the main research findings to illustrate the role of phonetic knowledge in language learning, the neural mechanisms of

speech perception, and the relationship between perception and production. The second section outlines a theoretical framework of brain plasticity for phonetic learning, featuring quantifiable measures to test relevant hypotheses about second language acquisition in terms of neural sensitivity, neural efficiency, neural specificity, and neural connectivity and their behavioral correlates. The third section introduces a synergistic Speech Assessment and Training (SAT) software program, to overcome first-language interference. The chapter concludes with a discussion of the implications for second-language education and future research.

Chapter 2 - The present study evaluates the relative effectiveness of three types of input-based tasks for teaching polite request forms to Japanese learners of English: single task demand (affective oriented activities alone), dual task demand (referential oriented activities alone), and the combination of single and dual task demand (referential oriented and affective oriented activities). Treatment group performance was compared to control group performance on pre-, post-, and follow-up tests comprising a discourse completion test and an acceptability judgment test. The results reveal that the three treatment groups outperformed the control group significantly and that there was no significant difference among the three treatment groups. The lack of significant difference among the three treatment groups suggests that processing of the target features through the pragmalinguistics-sociopragmatics connections is more important, regardless of the task demand, and that effective learning occurs even with one activity involving the pragmalinguistics-sociopragmatics connections in teaching L2 request downgraders.

Chapter 3 - Interest in the use of literature has increased over the past few decades due to a growing dissatisfaction with a utilitarian approach to reading in which learning to read is perceived as the accumulation of skills, and reading is viewed as a set of discrete skills that can be learned in isolation (Bloome and Nieto, 1991). The lessons, roughly speaking, are organized in a hierarchical manner, from basic and prerequisite skills to more advanced skills, and from easy passages to harder ones. Students must acquire prerequisite skills before proceeding to more advanced ones. As a result, this utilitarian approach to reading has led to the development of "functional literates" and produced readers who meet the basic reading requirements of contemporary society (Freire and Macedo, 1987; Shannon, 1989, 1990). In contrast, previous and current research has shown that literature-based reading instruction can promote higher cognitive thinking skills and academic performance (Morrow, 1992; Morrow, Pressley, and Smith, 1997; Yau, 2007;

Yau and Jiménez, 2003). Students who received literature-based instruction demonstrated the ability to transfer knowledge gained from reading to writing, as well as showed good understanding of story structure such as the identification of story plot, theme, conflict, and resolution (Hancock, 1993; Morrow, Pressley, and Smith, 1997; Yau, 2007). Although there are various definitions, literature-based reading instruction, in general, involves using literature in the teaching of reading (Hiebert and Colt, 1989; Tunnell and Jacobs, 1989; Zarrillo, 1989), and its theoretical base is derived from reader response theories. Five central types of reader response theory along with a literature review on past work in each area will be extensively discussed in the upcoming section.

Chapter 4 - This study was designed to investigate the effectiveness of using authentic newspaper texts in teaching vocabulary to Turkish intermediate level EFL students. Furthermore, the present study was an attempt to have a closer look at foreign language learners' attitudes towards authentic newspaper texts and to examine their changes in attitude and proficiency after vocabulary instruction using such texts in the foreign language classroom.

This quasi-experimental study took place in Uşak Orhan Dengiz Anatolian High School and it comprised two different groups: one experimental and one control group. 54 students from this high school participated in the study. This sample was composed of 10th grade students and their English language level was intermediate. The experimental group learned the words through authentic newspaper texts, whereas, the control group was exposed to traditional vocabulary teaching techniques such as matching, giving definitions, and fill in the blanks.

Three different data collection instruments were employed in this study: a questionnaire on students' language study habits, vocabulary pretest and posttest, and an evaluation questionnaire. The results of data analysis revealed a significant difference between vocabulary pretest and vocabulary posttest scores of the experimental group students receiving vocabulary instruction through authentic newspaper texts when the author compared them to vocabulary pretest and vocabulary posttest scores of the control group students receiving vocabulary instruction through traditional ways.

Based on these findings, the current study suggested that authentic newspaper texts can be more effective teaching aids in teaching vocabulary than traditional vocabulary teaching tools in English Language Teaching (ELT) classrooms.

Chapter 5 - Speaking is no doubt the hardest skill ever among others to be mastered. One could frequently witness language learners constantly complaining about their incompetence in speaking. How come a language learner could improve in reading, writing and listening so well and yet fall far behind in speaking? The author believe the answer to this question is pretty simple, and yet when it comes to devising ways as to improve speaking, many teachers for some understandable reasons, falter, and so do learners. Simply, the language is hardly related to reality, and the most novice learner is able to distinguish between what is real and what is fantasy. Thus, this article focuses on the presentation and utilization of real language as was used in authentic texts covered by British and American newspapers, *The Independent*, *Guardian*, *New York Times* and *Washington Post*, and elaborates step by step on the process of how an English speaking course could be most effective relying on benefits that may be drawn from such newspapers.

Chapter 6 - The teaching of English as a Foreign/Second Language (EFL/ESL) in China has become a nationwide endeavor pursued at all academic levels, from the kindergarten to the University. In the past ten years there has been an explosion in the development of public school English programs and private English language schools throughout China. EFL/ESL has become very big business in China (China Daily, HK Edition, October 9, 2002.) Reports show that ESL has become a 10-billion yuan business in China. Of the 37 billion yuan annual book sales, ESL takes up as much as 25% of the market share. And a few ESL teachers in Shanghai command an hourly rate of 1,000 yuan (US\$120). Even on average, a student pays 10-20 yuan (US\$1.2-2.4) for one hour of ESL training.

This article raises numerous fundamental issues which appear to have been overlooked by China in its exuberance to embrace EFL/ESL teaching as China rushes to join the new world order and partake of its share of the global economic pie. This article establishes a solid and fundamental legitimization for asking the politically incorrect, controversial and sensitive questions but leaves their final resolution to the language teachers, graduate students and linguists who have the inherent fundamental duty to seek the answers.

Chapter 7 - This study examined the effects of using a revised, transparent spelling system SoundSpel, a phonetic reading tool, with learners of English as a Second Language. During 6 training sessions, 12 participants used unaltered material and 12 used SoundSpel texts, in parallel with standard English, when reading American elementary school material. They then answered multiple-choice comprehension questions. Both groups were pre-tested and post-tested

on comprehension tests of similar elementary school material without SoundSpel.

No group differences were found across tests or training (in quiz performance or reading time), suggesting no beneficial or harmful effects from using SoundSpel. A post hoc analysis suggested that SoundSpel would be most beneficial for students who learn to speak English before they learn to read it.

Chapter 1

BRAIN PLASTICITY AND PHONETIC TRAINING FOR ENGLISH-AS-A-SECOND- LANGUAGE LEARNERS

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ABSTRACT

English as a second language (ESL) education has gained an increasingly important role in career development in science, business, and industry on the global stage. One great challenge for adult ESL learners is to reduce or eliminate “foreign accent” in their English pronunciation. Decades of behavioral and brain research have shown that language experience early in life leaves an indelible mark on speech perception and production. There is converging evidence for a self-reinforcing bonding process in the brain in the course of largely implicit learning, leading to a system that is neurally committed to the articulatory, acoustic, and perceptual properties of sounds and sound patterns in the first language. As a consequence, it is often difficult for

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adults to learn the speech sounds in a second language that do not conform to the phonology of the first language. This chapter examines the underlying causes for the foreign accent problem in second language learning and discusses the approaches to promote brain plasticity through phonetic training. The first section provides a summary of the main research findings to illustrate the role of phonetic knowledge in language learning, the neural mechanisms of speech perception, and the relationship between perception and production. The second section outlines a theoretical framework of brain plasticity for phonetic learning, featuring quantifiable measures to test relevant hypotheses about second language acquisition in terms of neural sensitivity, neural efficiency, neural specificity, and neural connectivity and their behavioral correlates. The third section introduces a synergistic Speech Assessment and Training (SAT) software program, to overcome first-language interference. The chapter concludes with a discussion of the implications for second-language education and future research.

Keywords: language acquisition; neural commitment; brain imaging; speech perception; speech production; speech training.

INTRODUCTION

Adult ESL learners face many great challenges in improving their English pronunciation and fluency. Common pronunciation errors include nonnative substitutions of individual consonants and vowels, consonant cluster reduction, and epenthetic vowel insertion. Parallel to the “foreign accent” problem, there is a “foreign listening syndrome” characterized by reduction in accuracy and speed at the perceptual level (Mehler et al., 1994). For instance, many adult Japanese speakers cannot hear the distinction between /r/ and /l/ sounds in English despite years of school education or immigration to an English-speaking country (Takagi, 2002). In contrast, young children, whose linguistic knowledge and perceptual/cognitive systems are presumably not as developed as adults, can acquire native-like performance without sharing the same struggle.

Many researchers have proposed that inaccurate perceptual representations lead to non-native production in second language learners (Polivanov, 1931, Trubetzkoy, 1969, Strange, 1995, Guion et al., 2000). Cross-language perception research starting from the 1960s has provided solid evidence in support of this view (Strange, 1995). Nevertheless, not all the sounds that are

correctly perceived can be correctly produced. In certain cases, accurate production of the L2 sounds may counter-intuitively precede their perception (Goto, 1971). Some bilingual studies have also shown that production of the less proficient language can be more accurate than its perception (Caramazza et al., 1973, Elman, Diehl and Buchwald, 1977).

A proper understanding of the foreign accented speech and foreign listening syndrome requires thorough investigation of how production and perception are linked in developing and mature minds in language acquisition. The perceptual advantage for the native language gains early ground during infancy. Developmental research has documented a clear perceptual transition from “language-general” to “language-specific” within the first year of life (Werker and Tees, 2005). Gains in L1 (first language) is accompanied with losses for L2, which can be behaviorally measured as early as 6 months of age for vowels and 10-12 months of age for consonants (Kuhl and Rivera-Gaxiola, 2008). Studies of bilingualism and perceptual training on adult ESL learners vividly illustrate the profound effects of first-language interference in speech perception. Despite high proficiency in the second language, there is strong evidence of first-language dominance in perception (Pallier, Bosch and Sebastián-Gallés, 1997, Bosch, Costa and Sebastián-Gallés, 2000). Similarly, perceptual training studies and other speech research have shown limited success in improving listeners’ perception and production of the difficult nonnative contrasts (Jamieson and Morosan, 1986, Akahane-Yamada et al., 1997, Tremblay et al., 1997, Bradlow et al., 1999b, Zhang et al., 2000, McCandliss et al., 2002, Wang et al., 2003, Iverson, Hazan and Bannister, 2005, Hazan et al., 2006, Pruitt, Jenkins and Strange, 2006, Zhang et al., 2009).

Advancement in brain imaging techniques has opened a new venue for studying the brain mechanisms in support of speech and language. The online nonnative measures of spatial and temporal dynamics in the brain provide critical information for a better understanding of perceptual and motor processes that mediate speech perception and production. Cognitive brain research has shown accumulating evidence of “memory traces” for language-specific phonemes in adult listeners and its emergence in infants before the age of twelve months (Näätänen et al., 1997, Cheour et al., 1998). The results indicate strong “neural commitment” to the sounds and sound patterns of the native language (Zhang et al., 2005). The Native-Language-Neural-Commitment (NLNC) theory asserts that phonetic learning is an implicit self-reinforcing computational process, which promotes learning patterns that conform to the first language and interferes with those that do not (Kuhl et al.,

2008). Furthermore, the behavioral and neural sensitivity measures for phonetic discrimination are good predictors of the development of higher-level language skills. However, neural commitment is by no means equivalent to irreversible hardware formatting of the computational neural machinery into the phonological structure of the first language. There are a number of issues that remain to be resolved in the NLNC theory. Research has demonstrated the human brain shows substantial neuroplasticity in emergent cortical connections or functional reorganization early in life as well as in adulthood (Neville and Bavelier, 1998, Golestani et al., 2007, Zhang et al., 2009). A number of effective speech training methodologies have been identified with an aim to promote neuroplasticity for second language learning and intervention (Iverson, Hazan and Bannister, 2005, Zhang and Wang, 2007).

This chapter provides an integrated discussion of key empirical and theoretical issues for a proper characterization of neuroplasticity in speech learning as related to ESL. The first section provides a selective review of findings to illustrate the role of phonetic knowledge in language learning, the neural mechanisms of speech perception, and the relationship between perception and production. The second section outlines a theoretical framework of brain plasticity for phonetic learning, featuring quantifiable measures to test relevant hypotheses about second language acquisition in terms of neural sensitivity, neural efficiency, neural specificity, and neural connectivity and their behavioral correlates. The third section introduces a synergistic perceptual training software program to overcome first-language interference. The chapter concludes with a discussion of the limitations of the current approach and its implications for second-language education and future research.

1. NEURAL COMMITMENT: THE PROFOUND EFFECTS OF LANGUAGE EXPERIENCE

Speech perception involves neural coding at the level of peripheral and central auditory processing. At a simple approximation, the peripheral auditory system extracts the acoustic information from speech sounds, and the cortical central system processes language-specific category information for higher-order sound-meaning mapping. Advances in neurophysiological methods have

begun to refine and add to the knowledge of temporal dynamics and functional neuroanatomy for linguistic processing.

1.1. Two Basic Perceptual Phenomena

Behavioral research in the past six decades has demonstrated two basic phenomena in human listeners' organization of phonetic categories. These phenomena characterize the listener's ability to discriminate and categorize speech sounds, and how these abilities change with linguistic experience. The first is "categorical perception"(CP), a phenomenon found when using a synthetic stimulus continuum that embodies acoustic changes from one speech sound to another in equalized steps. In CP, subjects show enhanced discrimination for pairs equally distant in acoustic steps when the stimulus pair crosses the 50% phonetic identification boundary (Liberman, 1957). In other words, CP selectively shows better discrimination sensitivity for between-category stimuli when compared to within-category stimuli. The key component of CP was the limitation of discrimination by identification; listeners' discrimination was "categorical."

The second is known as the "perceptual magnet effect" (PME), a phenomenon based on two findings concerning the structure and relationship of speech sounds within a single phonetic category. First, listeners can consistently judge the category goodness of individual speech tokens and their judgments show that certain sounds are particularly representative of one phonetic category as opposed others (Samuel, 1982, Grieser and Kuhl, 1989, Volaitis and Miller, 1992). Second, category goodness strongly influences human listeners' sensitivities to within-category differences (Grieser and Kuhl, 1989, Kuhl, 1991b, Kuhl, 1992). In demonstrating the PME, subjects show reduced sensitivity to acoustic differences near the best instances (prototypes) and increased sensitivity in the vicinity of poor exemplars. Kuhl (1991) referred to the perceptual effects of speech prototypes as a "warping" of phonetic perception that was based on linguistic experience.

While both categorical perception and the perceptual magnet effect predict poor within-category discrimination and good between-category discrimination, there are fundamental theoretical differences. The two critical aspects of categorical perception are (a) the innate existence of phonetic boundaries and (b) the functional equivalence of sounds within a phonetic category produced by reliance on an innate articulatory representation of phonetic units that can be altered by learning experience. In contrast, the two

critical aspects of the perceptual magnet effect are (a) a learned internal structure of phonetic categories based on statistical analyses of the input and (b) a “warping” of perception that results from “neural commitment” to a particular kind of acoustic analysis. Categorical perception does not address the issue of internal organization of a phonetic category because it treats within-category discrimination as one unitary phenomenon as against cross-category discrimination. Computational modeling for CP and PME indicate that speech perception involves a statistical mapping process that weighs the acoustic, psychophysical, and linguistic properties of any input against speech sound target categories and contextual phonological and lexical targets. Data from nonhuman subjects and nonspeech stimuli suggest that the phoneme boundary effect and the perceptual magnet effect could coexist at different levels of phonetic organization, one stemming at birth from basic properties of the auditory system and the other from learning speech categories for language acquisition. For example, while CP was found in humans as well as birds, chinchillas, and monkeys, PME was found only in human infants and adults, not in monkeys. These two phenomena have generated a vast amount of research and controversy (Harnad, 1987, Iverson and Kuhl, 2000, Feldman, Griffiths and Morgan, 2009).

1.2. Effects of Linguistic Experience

Both CP and PME demonstrate that human listeners show discontinuous sensitivity for continuously varying acoustic parameters in speech. We are endowed with innate auditory sensitivities to discriminate speech sounds. Infants younger than 6 months of age (including newborns as young as 4 days old) are able to discriminate native as well as nonnative phonemes categorically (Eimas et al., 1971). Infants between 10-12 months old have been shown to exhibit adult-like perception with poor discrimination at nonnative contrasts, especially those whose shared features have close resemblance to a single native phonetic category (Werker and Tees, 1984, Best, 1994). Consistent with developmental data, numerous studies indicate that human adults show categorical perception for phonetic units in their native language but not for units from a nonnative language.

Phonemic relevance, phonetic familiarity, acoustic and psychophysical factors all contribute to perceptual changes that take place in the course of language learning (Polka, 1991; Werker and Tees, 1984). Behavioral data suggest that the language-specific pattern of perception appears to result from

selective attentional mechanisms and not a change in basic auditory sensitivities. Foreexample, Miyawaki et al.(1975) and Zhang et al. (2005) found that the American subjects showed typical CP for the /ra-la/ phonetic continuum whereas Japanese subjects did not. However, the two subject groups had nearly identical discrimination performance on the stimuli based on the acoustic component of third formant, which was critical to the /r-l/ distinction. Cross-language studies of the perceptual magnet effect provide further evidence that the PME is specific to native language categories (Iverson and Kuhl, 1996, Bosch et al., 2000). Multidimensional scaling analysis showed that the perception of English /r/ and /l/ in Japanese, German, and American adult listeners was strongly influenced by the native language magnets for the speakers of each language (Figure 1).

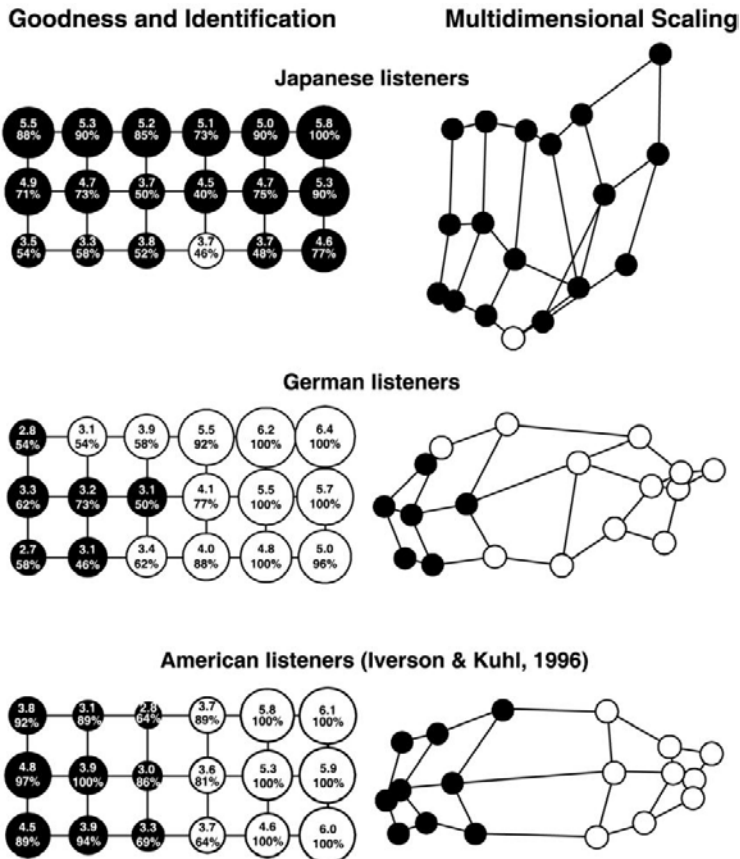


Figure 1.

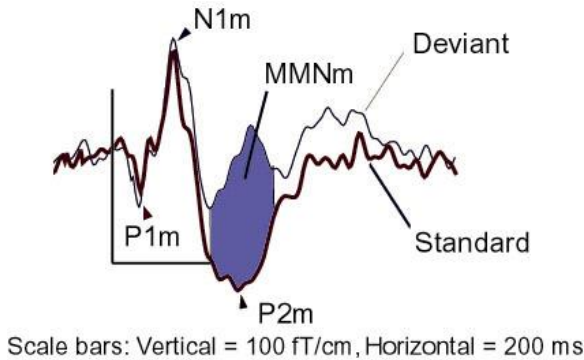


Figure 2.

In particular, Japanese adults showed high sensitivity to an acoustic cue, F2, which is irrelevant to the English /r/-/l/ categorization. German adults were similar to American adults, who were highly sensitive to the critical acoustic cue of F3 transition. Despite the similarity in the American and German adults, there were also noticeable differences in their perceptual warping maps for the /r/ and /l/ tokens.

In cognitive brain research, Näätänen et al. (1997) provided strong evidence for the existence of language-specific phoneme representations in the auditory cortex. The study used the well-known MMN (mismatch negativity) paradigm, in which repeated presentations of the same sound was occasionally replaced with a different sound. The MMN response peaks at 100-250 ms after the onset of a change in the stimulus, and the MMN magnitude provides an objective measure of neural sensitivity, independent of attentional processing, to perceived acoustic change with good correlation with psychophysical discrimination (Näätänen, 2007). Despite the fact that the acoustic difference in the nonnative contrast was larger than that of the native contrast, stronger language-specific MMN activity for native vowel discrimination was found in the left auditory cortex. Cheour et al. (1998) used exactly the same stimuli and paradigm on infants to determine the age at which the language-specific memory traces of the mother tongue emerge. These MMN results suggest that language-specific representations are developed between 6 and 12 months of age. Similar MMN results have been reported in many other adult studies (Dehaene-Lambertz, 1997, Winkler et al., 1999, Dehaene-Lambertz, Dupoux and Gout, 2000, Rivera-Gaxiola et al., 2000, Sharma and Dorman, 2000, Zhang et al., 2005). The language samples of these studies covered a wide

range, including English, Estonian, Finnish, French, Hindi, Hungarian, Japanese, and Spanish.

Does L2 learning produce permanent neural representations for nonnative speech in the brain? Winkler et al. (1999) found that MMN for the Finnish /e-/æ/ contrast was elicited in Hungarians who could speak fluent Finnish, but not in monolingual Hungarians. Furthermore, the MMN response for the fluent Finnish-speaking Hungarians was almost identical to that shown in the Finnish subjects, suggesting that language learning may lead to long-term changes in neural representations of speech at the preattentive level. Two parallel processes contribute to the MMN response of speech discrimination (Näätänen et al., 1997). One is the process of acoustic change detection with bilateral activation, and the other is phoneme-specific processing, which is lateralized in the left auditory cortex. According to this theory, phonetic learning or training effects would be prominent in the left hemisphere as compared with the right hemisphere. Tremblay et al. (1997, 1998) were able to show more pronounced training effects in MMN over the left frontal cortex than the right. In two recent studies to train Japanese subjects to learn the /l-r/ contrast, Zhang et al. (2005, 2009) found a bilateral activation pattern of MMNm in the auditory cortex with enhanced activity in the left hemisphere relative to the right hemisphere after training. These results suggest that successful training can result in phonetic processing in the left hemisphere.

Taken together, linguistic experience may alter not only higher-level processes but also attentional and pre-attentional processes so that reduction in neural and behavioral sensitivities for non-native phonetic contrasts becomes difficult to reverse in adulthood. This difficulty arises because of changes in perceptual resolution that do not show the same level of sensitivity to critical acoustic variations important for L2 speech contrasts.

1.3. ESL Learning Under the Influence of Native-Language-Neural-Commitment

Cross-linguistic data strongly suggest that adults may become neurally committed to a particular network structure dedicated to L1 analysis. In this perspective, the foreign accented speech and foreign listening syndrome are attributable to self-reinforcing perceptual interference rather than to any age-related biological limitations. This hypothesis was confirmed in recent neuroimaging studies (Zhang et al., 2005; 2009). In particular, the superior temporal and inferior parietal regions in the brain were identified to show

more focal and efficient processing of speech in native speakers than nonnative speakers.

The NLNC theory aims to provide an integrated account for research findings from infants and adults regarding the profound effects of language experience on speech perception (Kuhl et al., 2008). In addition to behavioral measures, innovative imaging techniques and analysis methods have been developed to investigate the experience-driven changes. Four basic principles of NLNC emerge from this body of research, which hold important implications for ESL learning.

- a) Early learning produces neural commitment to the abstract phonetic units and their statistical and combinatorial patterns in the native language (Zhang et al., 2000, Zhang et al., 2005, Kuhl et al., 2008). Specific temporal and parietal regions in the brain become specialized for native language processing with focal and efficient activation.
- b) The effects of *NLNC* are self-reinforcing and bidirectional – it enhances the detection of compatible higher-order linguistic patterns, while at the same time hindering the detection of non-conforming patterns contained in foreign languages, as shown behaviorally (Iverson et al., 2003) and neurally at the preattentive level (Zhang et al., 2006).
- c) Neural commitment is not irreversible – Enriched exposure can induce substantial plasticity in the adult brain for second language learning.
- d) Neural commitment involves the binding of perception and action, which depends on social learning experience early in life (Imada et al., 2006, Kuhl, 2007).

These principles are consistent with the developmental framework that views language acquisition as a computational process to extract the abstract speech categories and higher-order structures.

Admittedly, the NLNC theory remains underdeveloped on a number of important issues. The first issue is to address how talker variability facilitates language learning. Sources of talker variability include age, gender, affect, and dialectal influences, which can be acoustically measured in fundamental frequency (interchangeably referred to as “pitch” in the literature), speaking rates, specific features such as voice onset time, frication noise, formant structures of vowels and consonants (Creel, Aslin and Tanenhaus, 2008). Many behavioral studies have shown data in favor of exemplar-based

representations for speech. Talker variability can affect speech intelligibility for children and adult listeners because talker-specific information is encoded and retained in memory (Nygaard and Pisoni, 1995, Bradlow, Torretta and Pisoni, 1996, Remez, Fellowes and Rubin, 1997, Goldinger, 1998, Nygaard and Pisoni, 1998, Pierrehumbert, 2003, Allen and Miller, 2004, Eisner and McQueen, 2005, Burk et al., 2006, Johnson, 2006, Rosenblum, Miller and Sanchez, 2007). Furthermore, sub-phonemic variations have significant effects in behavioral responses (Andruski, Blumstein and Burton, 1994, McMurray, Tanenhaus and Aslin, 2002). The NLNC model incorporates the statistical learning mechanism computationally grounded in variability (Maye, Werker and Gerken, 2002, Vallabha et al., 2007). However, such an implicit mechanism cannot fully explain the role of social cognitive skills and the potential negative effects of high variability input in language learning (Kuhl, Tsao and Liu, 2003). Vocal variables such as gender and emotion in speech have not been fully addressed in statistical learning models.

In second language acquisition, nonnative speakers may be less affected by speech variability due to their greater exposure to variability in L1 and L2 and the shared phonetic space for the L1 and L2 phonetic categories (Wade, Jongman and Sereno, 2007). At least in the case of difficult L2 vowel distinctions, training with low-variability stimuli may have better results than training with high-variability stimuli. These data suggest that the different sound categories may differentially benefit from the existence of variability in the language input. Thus the NLNC theory needs to take into account category-specific mechanisms concerning how the amount of variability in language input influences learning outcome.

The second issue related to variability is to specify how exaggerated speech facilitates language learning. Enriched exposure such as infant-directed speech (IDS) contains not only exaggerated spectral and temporal cues but also and listener-oriented pitch variations. IDS-based input manipulation can enhance second-language phonetic learning in adulthood (Zhang et al., 2009). This idea is consistent with other speech learning models (Flege, 1995, Pisoni and Lively, 1995, Best, McRoberts and Goodell, 2001, McClelland, 2001, Escudero and Boersma, 2004, Vallabha and McClelland, 2007) and computational neural network models (Guenther and Gjaja, 1996, McClelland, 2001, de Boer and Kuhl, 2003, Kirchoff and Schimmel, 2005b). But not all aspects of IDS facilitate learning. For example, heightened pitch range and contour do not necessarily assist phonetic categorization (Trainor and Desjardins, 2002, Kitamura and Burnham, 2003). Robust statistical computation derived from IDS does not necessarily lead to more accurate or

efficient categorization (Kirchhoff and Schimmel, 2005a). Comparisons between infant-directed, foreigner-directed, animal-directed speech (Burnham, Kitamura and Vollmer-Conna, 2002, Uther, Knoll and Burnham, 2007) and studies on clear vs. conversational speech (Bradlow and Bent, 2002, Ferguson and Kewley-Port, 2007) suggest that linguistic and nonlinguistic modifications contribute differently to speech intelligibility and phonetic learning. Further research is necessary to investigate mechanisms supporting the differential contributions of linguistic, paralinguistic, and nonlinguistic processing in speech perception and production.

The third issue concerns how “prototypical” speech is developed and coded in the brain. The NLNC theory asserts one pivotal concept – the effect of perceptual magnets or phonetic prototypes that easily assimilate within-category variations of speech sounds (Kuhl, 1991a). Non-prototypes such as the difficult speech sounds in a foreign language do not have the same assimilatory power (Iverson et al., 2003). However, other studies did not replicate the effect (Sussman and Lauckner -Morano, 1995, Lively and Pisoni, 1997, Lotto, Kluender and Holt, 1998, Frieda et al., 1999). ERP/MEG studies also did not show uniform support (Aaltonen et al., 1997, Sharma and Dorman, 1998, Zhang, 2002). The operational definition of phonetic prototype did not take into account paralinguistic variations. Paradoxically, one outstanding feature of infant-directed speech, upon which the phonetic prototypes are based for early learning, is prosodic exaggeration in pitch range and level (Fernald and Kuhl, 1987, Fernald, 1993). Prosodic cues not only provide important information for gender discrimination and emotion recognition, but also affect language development, as well as social and musical learning (Murry and Singh, 1980, Fernald, 1989, Trehub et al., 1997, Trainor, Austin and Desjardins, 2000, Reissland, Shepherd and Herrera, 2003, Fu, Chinchilla and Galvin, 2004, Weger et al., 2007, Dara and Pell, 2008). Yet little is known about how paralinguistic processing affects within-category phonetic organization in the brain. Assuming the pivotal role of prototypical speech representation for accurate speech perception and production, it also remains unclear how phonetic prototypes for a second language can be established irrespective of the paralinguistic variations.

The fourth issue is to account for how perceptual-motor binding supports L1 acquisition and phonetic interactions between L1 and L2. Facial and articulatory motion not only provides cues for speech categories but also conveys important social signals such as gender, emotion, social eye gaze, and joint attention. The well-known McGurk effect shows the automaticity of audiovisual fusion in speech (McGurk and MacDonald, 1976). This

phenomenon has been the basis for a great many studies on multisensory integration in speech perception, language learning and modeling (e.g., Rosenblum, Yakel and Green, 2000, Movellan and McClelland, 2001, Massaro, 2004, Skipper, Nusbaum and Small, 2005, Brancazio, Best and Fowler, 2006, Davis et al., 2008, Teinonen et al., 2008, Wilson, Molnar-Szakacs and Iacoboni, 2008). While the NLNC model asserts “socially-gated” language learning (Kuhl, 2007), there is no specification on how social signals may affect audiovisual integration for speech perception. Bimodal speech perception theories have not addressed how multisensory integration in speech processing can be affected by social signal processing in spoken language. Much less is known about how the brain resources for automatic audiovisual processing are employed to support phonetic interactions between L1 and L2.

In summary, speech research has found convincing evidence for neural commitment to sound patterns in L1. The profound effects of language experience on speech perception and production for L2 learning are well established. There are also a number of unresolved issues that require further in-depth investigations. For example, speech research on adopted children and adults has presented a problematic case for the NLNC theory (Pallier, 2003, Ventureyra, Pallier and Yoo, 2004). Behavioral and fMRI data from the participants who were adopted after the age of three indicate that early neural commitment to one’s native language may not be a simple unidirectional path towards L1 dominance. Language use and input in childhood may rewire the neurally committed system and reallocate its resources to reflect changes in behavior. The challenges that adult ESL learners face in overcoming foreign accented speech and perceptual difficulties provide important questions for behavioral and brain imaging research on speech perception and production.

1.4. The Role of Phonetic Learning in Language Acquisition

Theorists and researchers are well aware of the gaps between acoustical properties of linguistic input, measures of speech perception, and data on language acquisition beyond the realm of phonetics. Are there close links among the various levels of linguistic processing? Recent human and computer simulations studies have provided insightful answers to this question.

First, maternal speech clarity, as measured by the degree of acoustic expansion of the vowel space, is significantly correlated with infants’ phonetic discrimination ability (Liu, Kuhl and Tsao, 2003). Second, phonetic learning

as early as 6 months of age is significantly correlated with their later (under the age of 3) language comprehension and production skills in terms of vocabulary and syntax (Tsao, Liu and Kuhl, 2004, Kuhl et al., 2005, Kuhl et al., 2006). Strikingly, an early competitive pattern between native and nonnative phonetic perception can be seen even in infants who are raised in monolingual families. At a group level, infants who showed better native phonetic discrimination at 7 months old months had better performance in their later language skills as assessed by using the MacArthur-Bates Development Communicative Inventory (Fenson et al., 1993). On the contrary, infants who had better nonnative phonetic discrimination at 7 months old demonstrated reduced later language abilities in their first language development during the first three years (Figure 1).

Consistent results were found in MMN measures (Molfese and Molfese, 1985, Molfese and Molfese, 1997, Molfese, 2000, Kuhl et al., 2004), showing that early neural sensitivity to phonetic categories is a reliable predictor of later language skills. These results, though at a different level, are highly compatible with Li and colleague's computational modeling of lexical development in the first and second languages (Li, Zhao and MacWhinney, 2007).

Different underlying mechanisms have been proposed to account for the association between phonetic perception and language learning. Some researchers believe that the association is primarily based on low-level domain-general auditory mechanisms rather than infants' phonetic knowledge (Visto, Cranford and Scudder, 1996, Tallal et al., 1998, Benasich and Tallal, 2002, Ulla et al., 2004, Benasich et al., 2006). Their data show that processing abilities of rapid auditory/visual information for both speech and nonspeech stimuli in early infancy are highly predictive of later language development and literacy including language delay and impairment. More importantly, although individual differences in speech and non-speech discrimination in infancy are both correlated with later linguistic outcome, non-speech perceptual ability – the fine acoustic discrimination of rapid tones – appears to have a stronger predictive role than the discrimination of consonant-vowel pairs. Support for the domain-general auditory learning mechanisms has also been found in some adult speech perception studies (Poldrack et al., 2001, Diehl, Lotto and Holt, 2004, McNealy, Mazziotta and Dapretto, 2006). For example, fMRI activities in the left inferior and middle frontal cortex that index the implicit learning of word boundaries in continuous speech are positively correlated with listeners' rapid auditory processing skills (McNealy et al., 2006).

However, other researchers argue that the early language mapping process is specifically based on statistical, spectro-temporal, phonetic and phonotactic properties of the native language (Saffran, 2003, Kuhl et al., 2005). In particular, the differences in language development associated with early native vs. nonnative speech discrimination abilities could not be explained by the auditory mechanisms – because low-level auditory processing should equally apply to any language. There is also behavioral and neural evidence showing that speech perception can be selectively affected by language experience without a parallel compromise in auditory processing of nonspeech stimuli that simulate the essential spectral properties of speech (Miyawaki et al., 1975, Zhang et al., 2005). Literature review on the rapid auditory processing deficits further suggests that not all people with specific language impairment and dyslexia exhibit auditory deficits. In many cases, there can be little or no relationship between the severity of auditory deficits and language performance (Rosen, 2003). Therefore, the existence of significant statistical correlations between speech and nonspeech deficits as well as those between phonetic perception and language development should not be interpreted as causative or exclusive of cognitive and maturational involvement.

Despite the theoretical debate, both behavioral and neurophysiological data consistently demonstrate the pivotal role of phonetic perception in language learning and the existence of large individual differences. The empirical data provide support for both longitudinal and cross-sectional associations between phonetic perception and language skills. More importantly, speech modifications and acoustic enhancements, which can be found in child-directed speech at the phonetic as well as syntactic and semantic levels, not only facilitates language learning in normal children but also achieves some remarkable success in training second-language learners and treating children with language disabilities.

1.5. Relationship between Speech Perception and Production

L2 research has shown inconsistent results regarding the relationship between perception and production. Most studies indicate that accurate perception is a pre-requisite for good production. There is also some counter evidence that L2 production may surpass perception (Bohn and Flege, 1996, Kluge et al., 2007). Moderate correlations between perception and production have been reported between perception and production (Flege, 1999, Rauber et al., 2005, Cheng and Zhang, 2009). In the course of L2 learning, it could be

the case that perceptual skills improve faster than productive skills or vice versa. A number of factors need to be considered to study the links between perception and production. One confounding factor is that it is difficult to assess measurements in the two domains in a balanced way. Methodological diversity could have led to the diverging patterns obtained in the literature.

It is well-known that certain speech contrasts in English are difficult for ESL learners to perceive and produce. Early bilinguals generally have milder foreign accented speech than late bilinguals. The critical period hypothesis assigns a pivotal role to maturational constraints – the ability to attain native-like perception and production for a second language starts to decline by age 6 and beyond the age of 12, it deteriorates further regardless of the learners' motivational level or opportunities available to practice the L2 sounds (Johnson and Newport, 1989, Long, 1990). Researchers attribute the putative end of critical period at around 12 years of age to decrease in neuroplasticity as a result of neurological maturation (Long, 1990, Birdsong and Molis, 2001). However, Grosjean challenged the conventional notion of age advantages in L2 learning by emphasizing the psychosocial factors that drive L2 learning (Grosjean, 1982). Flege and colleagues demonstrate that while the phonetic systems in adults is still malleable and incremental progress is attainable in L2 perception and production regardless of age limit, L2 learning may proceed nonlinearly at a much faster rate in the initial learning period (Flege, 2007).

Links between age of acquisition and degree of foreign accent may result from phonetic interactions between L1 and L2 in addition to maturational constraints. The notions of common phonological/phonetic space, phonetic/phonological similarity, category assimilation and dissimilation across linguistic systems are crucial to L2 speech theories. Best's Perceptual Assimilation Model focuses on phonological alignment between non-native sounds and native phonological system (Best, 1992). Flege's Speech Learning Model (SLM) emphasizes the acoustic similarities and phonetic differences upon which L2 target categories can be acquired (Flege, 1995). SLM specifically predicts that accurate production of L2 sounds cannot occur unless there is accurate perception. According to SLM, the learning process is marked by gradual experience-dependent changes for second language phonological acquisition rather than a categorical shift known as the "critical period" biologically constrained by age. In this perspective, foreign accent for ESL learners naturally results from the development of the first language phonetic system, which creates a phonological filter that applies equivalence classification by equating similar sounds in L2 with sounds in L1.

Regardless of the theoretical differences, both length of residence/exposure and total language input for ESL learners need to be taken into account in predicting the improvement in terms of foreign accent performance. To better understand the links between perception and production, proper behavioral assessment is also needed to tease apart local improvements in individual speech sounds from global improvements that take place in the prosodic domain in terms of stress, duration, and pitch modulation. One way of addressing this issue directly in second language acquisition is to investigate the effects of training in one domain (either perception or production) on the other domain.

2. NEUROPLASTICITY: THE ABILITY FOR THE BRAIN TO REINVENT ITSELF IN LANGUAGE LEARNING

Neuroplasticity refers to the brain's ability to change throughout life. In addition to genetic factors, the social environment and personal learning experience play an important role. Plasticity applies to processes operative at many levels of our neurocognitive system, an intrinsic property that persists throughout our lives (DeFelipe, 2006, Mahncke et al., 2006). Adaptive changes and reorganizations in structure and function can reflect changes in the neurochemical systems, cell assemblies and connections, brain activation patterns and behavioral performance, which have important implications for psychological development, L1 intervention, L2 education, and neurological rehabilitation. Some changes in the brain are known to be genetically determined and "experience-independent" whereas others are either "experience-expectant" or "experience-dependent", which require the reception of certain input from the external environment (Greenough et al., 1999).

There are two basic facts in studying neuroplasticity associated with speech acquisition and language learning. First, the brain is an intricate and highly specialized neural network with excitatory as well as inhibitory interconnections. Second, language is arguably the most complex human behavior. Insightful discoveries have been found in phonetic training that shed light on the nature of brain plasticity.

2.1. Phonetic Training: Methods, Findings and Remaining Issues

It is an intuitive belief that “practice makes perfect” – the performance of a given task will improve with repetition and training. While perceptual as well as motor learning has been the subject of psychological studies for over a century (Gibson, 1969, Karni, 1996), the study of brain plasticity in speech perception has been a fairly recent phenomenon. Research has shown that adult listeners do not show good discrimination sensitivity for many nonnative speech contrasts. In the ontogeny of development, adults are beyond the “critical period” early in life during which the brain is most sensitive to acquire a language (Grimshaw et al., 1998). Training studies bring up the issue of brain plasticity in adulthood by highlighting the role of experience in changing a listener’s speech perception. Successful training is evidenced by the transfer of learning to untrained stimuli and long-term retention of the improvement. Assuming that behavioral gains reflect experience-dependent changes in the brain, the successes and failures of various training methods may provide us with a better understanding of the underlying perceptual mechanisms and the nature of neural plasticity in the acquisition of new phonetic categories.

A long deliberated issue in cognitive neuroscience of language learning is the extent to which human brain has the capacity to change resulting from learning. Current theories posit that language acquisition patterns are influenced by linguistic experience rather than biological or maturational constraints (Best, 1995, Flege, 1995, Kuhl, 2000, Hernandez, Li and MacWhinney, 2005). Research has consistently shown that language-related cortical responses differ as a function of linguistic experience (Yetkin et al., 1996, Binder, 1999, Gaillard et al., 2000). Bilinguals’ second language (L2) may share the same neural system with the first language (L1) or involve specialized neurocircuitry, depending on such factors as age of L2 learning and proficiency levels (Kim et al., 1997, Perani et al., 1998, Xue et al., 2004, Hernandez and Li, 2007).

Training studies provide the opportunity to examine the interrelationship between perception and production. Many perceptual training studies have shown positive transfer of learning from perception to production (Bradlow et al., 1997, Callan et al., 2003b). Similarly, some studies using production-based training have also reported significant carry-over effects to perceptual skills (Mathews, 1997, Hazan and Sennema, 2007). Mutual facilitation between perception and production is also found in cross-modal analysis of training

effects (Leather, 1990, Gómez Lacabex, 2009). But correlational results do not mean causal effects in terms of interactions between the two domains.

It has been widely accepted that the phonetic categories of the native language acquired early in life, represented in the neural substrate of the brain for speech perception, function like an “assimilator” for perceiving speech sounds in general. By this account, the degree to which listeners fail to detect a foreign-language contrast is closely tied to the mapping relationship between the native and nonnative phonological systems. It remains a question how the phonetic similarity and category goodness of native and nonnative phonemes can be predictive of the learnability of nonnative speech sounds in training (Best, 1994; Flege, 1995). What is not clear is the extent to which measures of auditory processing and phonetic interaction would show equivalence in listeners across cultures for assimilation and dissimilation processes. That is, at preattentive levels, such as that measured by the MMN, do training effects show up at the level of early auditory analysis or do they simply heighten the listeners’ ability to attend to the critical acoustic cues for higher-level phonetic processing?

Neurophysiological data in training provide not only important information of the brain regions specialized in speech perception but also a different perspective regarding anatomical changes and the level of processing that is altered by language experience (Golestani and Zatorre, 2004b). Behavioral studies suggest that the language-specific pattern of perception results from selective attentional mechanisms and not a change in basic auditory sensitivity. As the neurophysiological data are recorded while the subjects are required to attend to a distraction task such as reading a book or watching a movie, it seems reasonable to argue that language experience alters not only higher-level categorization but also lower-level perceptual processes.

Training results have been mixed, and most training studies failed to meet the criterion of excellent generalization to novel contexts and talkers. While it is relatively easier to train listeners to perceive the nonnative contrasts cued by temporal differences (Pisoni et al., 1982, Jamieson and Morosan, 1986, Jamieson and Morosan, 1989, Merzenich et al., 1996), spectrally cued nonnative contrasts present much more difficulty (Pruitt, 1995). The /l-r/ distinction for Japanese listeners is one such example cued by the spectral difference in the third-formant transition. Various training studies of Japanese adults have showed large improvement, small but statistically significant improvement, or little change (Yamada and Tohkura, 1992, Lively, Logan and Pisoni, 1993, Lively et al., 1994, Bradlow et al., 1999, Takagi, 2002). In all the

training studies, the Japanese trainees did not reach the level of perceptual performance of native English speakers.

The most successful training procedure in /r/-/l/ training studies for Japanese adults has used high-variability stimulus sets of natural speech tokens from multi-talkers (e.g., Logan, Lively and Pisoni, 1991). While smaller stimulus sets are easier to learn, the efficacy of the training on adult listeners does not readily extend to novel stimuli (Strange and Dittmann, 1984). Variability in speech tokens is thought to be helpful because it highlights the context in which critical acoustic parameters for nonnative contrasts are embedded and trains the listeners to extract the key acoustic cues and ignore irrelevant variation. Moreover, it has been found that acoustic modification and exaggeration in training tokens can be particularly useful in successful training (e.g., McCandliss et al., 2002; Merzenich et al., 1996; Iverson et al., 2005; Zhang et al., 2009). The exaggerated form of speech, as originally found in infant-directed speech (Kuhl et al., 1997), is helpful because it offers greater separation of the phonetic categories while highlighting the salient acoustic features that must be attended to. Japanese adults, for example, require greater separation between /r/ and /l/ tokens to escape the effects of the perceptual magnet effect around Japanese /r/.

According to the NLNC account, Japanese adult trainees have tremendous difficulty and limited success in /l-r/ training probably because exposure to the natural speech alone is unable to circumvent the strong preattentive filtering that hinders full access to or proper use of the critical acoustic dimension(s) for accurate phonetic categorization in the second language. It may require special enriched exposure analogous to "motherese" to circumvent the perceptual interference of NLNC in order for adults to learn non-native phonetic categories, especially those difficult contrasts that map onto single native categories. The signal enhancement approach was previously found to be effective in treating children with language disabilities in improving their phonetic discrimination and language skills (Tallal et al., 1998). This idea has been tested by developing a training software program that incorporated signal enhancement, visible articulation cues, a large stimulus set with high variability, and self-directed adaptive training (Zhang et al., 2000, Zhang et al., 2001). Approximately 12 hours of training showed over 20% identification improvement with excellent generalization to untrained voices. Training also resulted in a notable enhancement in neural sensitivity to the /r-l/ distinction in the left hemisphere, as measured by preattentive MMN, and increased *neural efficiency* in both hemispheres, as measured by a reduction in the amount of activation spread and duration of activation. The training-induced changes in

behavioral discrimination were significantly correlated with changes in both neural sensitivity and efficiency measures. The results suggest that both neural sensitivity and neural efficiency appear to be good predictors of phonetic learning.

Although learning-induced enhancement in neural sensitivity has been consistently found in many other studies, the construct of neural efficiency as a neural signature of learning appears controversial. Intuitively, higher ability should translate into more efficient use of brain resources. Theoretically, learning can be conceived as an increased differentiation of the activation pattern, so that when performance is more specialized and highly efficient, only mechanisms absolutely necessary for the occurrence of performance are activated (Zhang et al., 2005). More focal activation in efficient neural processing does not necessarily equal smaller and shorter activation. An equally plausible model was based on the principle of Hebbian learning (McCandliss et al., 2002). This model predicts not only training-induced neural sensitivity but also increment in activation as a function of increased neural specificity (Patel et al., 1998, Johnsrude, Penhune and Zatorre, 2000) and connectivity (He et al., 2003, Horwitz and Braun, 2004) in the course of learning. The Hebbian model and the NLNC theory differs in their predictions about whether neural efficiency would lead to stronger or weaker activation in term of activation level and longer or shorter activation in terms of activation duration.

Speech perception involves brain regions for acoustic-phonetic as well as auditory-articulatory mappings (Callan et al., 2003a, Imada et al., 2006). Learning-induced plasticity in speech perception could also be associated with decreases, increases and shifts in brain activation to facilitate the behavioral improvement. At the cortical level, available data on phonetic training suggest that improved behavioral performance does not necessarily involve reduction of brain activities. Rather, reallocation in hemispheric resources (relative dominance of left and right hemispheres, for instance), recruitment of additional brain regions, strengthened anatomical (increased white-matter density) and functional connections (increased coherence among regions) in neural pathways, and increases or decreases in brain activation can all take place in the course of phonetic learning (Golestani, Paus and Zatorre, 2002, Callan et al., 2003a, Wang et al., 2003, Golestani and Zatorre, 2004a). For example, Golestani and Zattore (2004) found that the degree of successful phonetic training was correlated with more efficient processing (faster against slower learner) in temporal-parietal and inferior frontal activation, notably in the left hemisphere. Voxel-based morphometry analysis of MRI data also

indicated that faster phonetic learners had more white matter in parietal regions for more efficient processing, especially in the left hemisphere (Golestani et al., 2002).

The phonetic training studies raise the possibility of progressive cortical changes with increased proficiency, suggesting that cortical representations may be continuously shaped with learning throughout life (van Turennout, Ellmore and Martin, 2000). The results support the view that language learning is not a strictly timed developmental process with rigid cut-off periods (Flege, 1995, Bongaerts et al., 1997, Hakuta, Bialystok and Wiley, 2003). While native speakers have acquired linguistic expertise by automatically focusing at a more abstract (linguistic) level of processing and thus freeing attentional resources, second language learners may rely more on bottom-up processing with varying demands on attention in the course of learning depending on such factors as age and proficiency. In fact, changes in brainactivation may reflect not only interference from prior learning but also continuously updated cognitive and attentional strategies. Therefore, the learning trajectory does not necessarily entail a monotonic increase in neural efficiency (Wang et al., 2003, Werker, Hall and Fais, 2004, Werker and Tees, 2005, Zhang et al., 2005).

One plausible brain activation trajectory in learning would be inverted U-shaped activation as a function of time. Initially, greater attention is required to attend to the task, leading to increased activation in specific brain regions; as the learning process moves toward expertise continues, processing may become more and more automatic so that the activation level gets reduced at certain point. In this perspective, there would be no contradiction between the observations of increased and decreased activations to characterize neural plasticity.

Increased activation takes place at an earlier stage, accompanied by improved neural sensitivity and enhanced neural specificity at the cost of increased bottom-up processing. Decreased activation takes over at a later stage of expertise attainment, requiring the minimal level of activation for the ease of processing under the preemptive dominance of top-down processing. Certainly, this learning trajectory hypothesis needs to be tested against a number of variables, including not only attentional demands but also age, handedness, relative language proficiency levels for the first and second languages, and motivational factors.

2.2. Imaging and Neural Markers of Plasticity

In order to integrate brain research with theories built upon behavioral data and evaluate training-induced changes in the brain, one needs to understand the advantages and challenges of the various techniques. The value of cognitive neuroscience research lies in its ability to determine and validate non-invasive brain-based spatial and temporal markers for understanding human intelligence and complex behavior (Gazzaniga, 2000, Nelson and Luciana, 2001). Among the most commonly used non-invasive techniques are EEG (electroencephalography), MEG (magnetoencephalography), and fMRI (functional Magnetic Resonance Imaging). The EEG and MEG systems measure the variations in scalp voltages or magnetic fields generated by the postsynaptic neuronal activities in the order of milliseconds. Because the critical acoustic features for different speech sounds are only tens of milliseconds long in time or less, a detailed measurement of speech and voice processing requires excellent time resolution. In event-related paradigms, responses time-locked to the presentation of the stimuli are recorded. The event-related potentials (ERPs) or event-related field (ERF) can be taken from subjects when no behavioral response is required. To exploit the neuronal dynamics within specific brain regions, it is important to assess the localizing ability of EEG and MEG inverse solutions. EEG localization is limited by the volume conduction of currents through the tissues of the head and its primary sensitivity to radially oriented neural currents in the gyri, and MEG sensors are limited by their sensitivity to tangential neural currents primarily in the sulci (Hämäläinen et al., 1993, Baillet, Mosher and Leahy, 2001). Modeling and empirical data suggest that a combination of MEG and EEG can take advantage of their complementary sensitivities for more accurate results (Lopes da Silva, Wieringa and Peters, 1991, Liu, Dale and Belliveau, 2002, Pflieger, Greenblatt and Kirkish, 2004, Sharon et al., 2007).

One limitation with EEG/MEG source localization is the poor signal to noise ratio for deep sources due to the distance between the sensors and the deep brain structures that support important functions of attention, memory and emotion. This is not a problem with the fMRI technique, which is known for its high spatial resolution of hemodynamic changes in specific brain regions associated with experimental tasks regardless the depth of the source. But hemodynamic changes take place on a much slower temporal course in the order of seconds. A critical and practical challenge to the integration of EEG/MEG with fMRI lies in the spatial and temporal mismatches between relatively slow fMRI activations and instantaneous electrical source activities.

Advances in MRI- and fMRI-constrained EEG/MEG localization with depth weighting have shown a promising venue for exploring the complementary capability of the methods (Dale and Halgren, 2001, Im, Jung and Fujimaki, 2005, Lin et al., 2006a, Lin et al., 2006b, Liu and He, 2008, Wibrall et al., 2008).

The EEG, MEG and fMRI techniques can be employed to characterize neuroplasticity associated with language learning using the spatial and temporal markers in four categories of measurements: (a) *neural sensitivity*, (b) *neural specificity*, (c) *neural connectivity*, and (d) *neural efficiency* (Zhang and Wang, 2007). Sensitivity can be shown by the latency and amplitude of a change-detection measure called mismatch negativity (MMN). The MMN peaks typically at 100-300 ms after the onset of a change in the stimulus and is considered an “endogenous” component generated by the automatic detection of a stimulus change in auditory sensory memory (Näätänen et al., 2007). The MMN amplitude and latency measures demonstrate good correlations with psychophysical discrimination for various parameters of speech and nonspeech stimuli irrespective of the listener’s attention. Specificity is assessed by the degree to which specific parts of brain region(s) or neural pathway are dedicated to the processed information. Connectivity is structurally measured in grey-matter and white-matter density in regions of interest and functionally in the degree of coherence, synchronization between activated regions or measuring sensors and trial-to-trial analysis of phase locking (Gootjes et al., 2006). Finally, neural efficiency can be considered a derivative of the experience-driven changes in all the three measures, which presumably leads to more focal, faster and shorter activation associated with learned categories as against new or unfamiliar ones (Zhang et al., 2005). Collectively, the operational definitions for these measures need to be tested for a thorough examination of neural commitment and neuroplasticity in spatiotemporal activation patterns. The fMRI data are particularly informative about subcortical involvement, which can be integrated into fMRI-constrained source localization analysis of the ERP and MEG data.

One distinctive advantage of brain imaging is that brain activation provides direct information of relative hemispheric involvement and cortical localization. Although there have been many adult studies reporting left-hemisphere dominance for native speech perception, other data tend to show large individual variability and a bilateral activation pattern even for native speech processing (Zhang et al., 2005). Developmental data do not show a clear maturational pattern of left hemispheric involvement for native speech processing as against nonnative or general acoustic processing. Some imaging

data suggest that the left dominant areas subserving speech processing are similar in infants and in adults (Dehaene-Lambertz, Dehaene and Hertz-Pannier, 2002, Pena et al., 2003). However, the MMNs in infant often show a bilateral temporal maximum with no laterality effect (Čeponienė, Rinne and Näätänen, 2002). The fact that different speech sounds are cued by different spectral and temporal parameters further complicates the interpretation. Some PET and fMRI data show that the left auditory cortex is specialized for processing rapidly changing broad-band stimuli including speech, whereas the right auditory cortex may be good at processing slower narrow-band stimuli such as tonal patterns (Zatorre and Belin, 2001). However, this theory does not provide specific predictions regarding the cortical basis of native vs. nonnative language processing.

Caution must be taken when interpreting results across different speech stimuli in different studies. Various speech sounds are characterized by markedly different temporal and spectral cues. The large differences in temporal and spectral features correspond to differences in voicing, place of articulation, and manner of articulation for consonants and tongue height, tongue backness, and lip rounding for vowels. Due to the time-based nature of EEG and MEG responses, a neural coding pattern for a particular phonetic feature may not be generalizable to other features. It is also important to note that evoked neural responses vary as a function of manipulations of experimental conditions and acoustic properties of the stimuli. For example, the MMN response is sensitive to minor acoustic differences in both intra- and inter- category domains. When the acoustic difference is large between the standard and deviant, the phonetic factor may be subdued by the acoustic factor.

A full account of brain mechanisms of neuroplasticity in language acquisition needs to specify how learning shapes automatic and attentional processes for efficient and accurate perception and production. The neural markers of speech learning need to specify how automatic and attentional processing differentially contributes to the quantifiable measures. Automaticity and attentional control mechanisms are core constructs underpinning theoretical accounts of human intelligence and behavior across research domains (Deacon et al., 1999, Pardo et al., 2000, Fan et al., 2005, Fang and He, 2005, Pulvermuller and Shtyrov, 2006, Jiang, Zhou and He, 2007, MacDonald, 2008). Automaticity is characterized by fast and accurate informational processing involving little or no conscious awareness, which is inherently bound with experience and learning. Automatic processing and attentional mechanisms can be systematically examined by the use of different

paradigms that directly manipulate attentional resources. Specifically, the MMN response for automatic processing of speech can be modified to require different amounts of attention to the distracting modality. Selective listening and priming paradigms can be employed to examine the dissociable neural systems for acoustic, phonetic, phonological, and lexical factors that influence the acquisition of L2 phonology and their interactions. Future studies along these lines will contribute to a better integration of the findings in the literature for more accurate characterization of the temporal markers and neural systems involved in L1 and L2 acquisition.

3. FROM THEORY TO PRACTICE: SOFTWARE SHOWCASE TOWARDS OPTIMIZATION OF PHONETIC TRAINING

3.1. The /R-L/ Training Software

To address the underlying mechanisms of brain plasticity in speech learning, Zhang and colleagues designed a training software program to test its success on adult Japanese ESL learners (Zhang et al., 2000, 2009). The program incorporated features that were motivated by studies of infant-directed speech (IDS) or “motherese” (Fernald and Kuhl, 1987, Kuhl et al., 1997, Burnham et al., 2002, Liu et al., 2003), including adaptive signal enhancement, visible articulation cues, a large stimulus set with high variability, and self-initiated selection. The results indicate that substantial behavioral improvement in second language phonetic learning can be achieved in adulthood and simultaneously reflected by the spatiotemporal markers of neural sensitivity and neural efficiency, resulting in native-like perception and native-like brain activation patterns for learning the difficult speech contrasts in a second language. Furthermore, IDS-motivated training program can help circumvent interference from neural networks that have been shaped by native language experience, yielding significant brain-behavior correlations in both domains of sensitivity and efficiency.

The training software program (Figure 3) incorporated the following key features: 1. *Self-directed listening*. Trainees selected the sounds by clicking on iconic buttons that indicated talkers and vowel/syllabic contexts. 2. *Visible articulation cues*. Photographic facial images and visual animation effects of each talker articulating /r/ or /l/ were provided for each sound presentation. 3.

Large stimulus sets with high variability. A total of 120 different tokens were used for training.



Figure 3.

A message would prompt the participant to select a different icon if one icon had been clicked on for 20 times. 4. *Adaptive scaffolding.* There were 12 training sessions, starting from the most exaggeration sounds with one speaker only. Each session consisted of 10 listening blocks with 50 tokens in each block. Each listening block was followed by an identification quiz of 10 sounds to monitor progress. Difficulty level was increased when the quiz score was 90% or above. The scaffolding system worked by first adding talkers (up to five talkers) and then reducing exaggeration level (down to Level Zero). 5. *Feedback outside of listening blocks for training.* Each correct answer in the quiz accumulated monetary reward of two cents in US currency for the participant. Incorrect answers were prompted with a one-time playback of the sound. No feedback was given during the listening blocks in training or pre-post tests.

The training stimuli were digitally synthesized based on recordings from eight native speakers of American English (4 males, 4 females) producing five vowels (/a/, /i/, /u/, /e/, /o/) in the Consonant-Vowel (CV) and Vowel-

Consonant-Vowel (VCV) contexts. The training sessions used audiovisual /r-l/ stimuli from five talkers (3 males, 2 females) and three of the five vowels (/a/, /e/, /u/) in the two syllabic contexts (CV and VCV). Adaptive training was implemented by using acoustic modification on the training stimuli with four levels of exaggeration on three parameters of the critical F3 transition for the /r-l/ distinction, namely, F3 separation in frequency, F3 bandwidth, and F3 transition duration (Zhang et al., 2000). In the synthesis process, the recorded sounds were submitted to an LPC (linear predictive coding) analysis-resynthesis procedure to exaggerate the formant frequency differences between pairs of /r-l/ tokens, and to reduce the bandwidth of F3. The LPC technique analyzed the speech signal by estimating the formants, removing their effects from the speech signal by inverse filtering, and estimating the intensity and frequency of the residual signal. Temporal exaggeration of the /r-l/ stimuli was made using a time warping technique – pitch synchronous overlap and add (Moulines and Charpentier, 1990).

3.2. SAT (Speech Assessment and Training Program): New Software Development for ESL Learners

The original training program (Zhang et al., 2000) was implemented using Macromedia Authorware on an Apple PowerPC. Zhang et al. (2009) made minor revisions to improve user interface on computer screen for the training sessions. But there are three major limitations. First, the software has very limited use as it was designed specifically for /r-l/ training on adult Japanese speakers. Second, the audiovisual feature in the training program was based on simple animation of two static shots for the articulation of the stimuli at the beginning and at the end. This limitation reflected technical difficulty to create the video clips that included the different amounts of temporal exaggeration for the training stimuli. Third, data collection generated a separate output file for pretest, posttest, and each training session for each subject without implementing a systematic database structure for all the data points. The multiple output files made it difficult for data analysis and online monitoring of progress across training sessions for individual trainees. Fourth, the software did not collect reaction time data for individual button responses.

In order to increase the usability of the software for ESL learners, Zhang took a further step in developing a new software program (Speech Assessment and Training, SAT) to overcome the limitations (Figure 4).

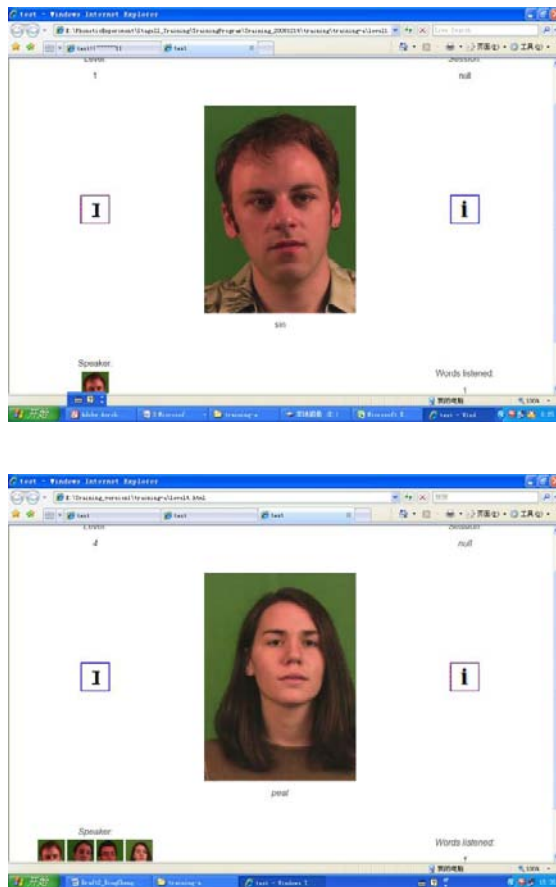


Figure 4.

The essential features for synthesizing the training stimuli are retained in new SAT software. Instead of robotic animations based on two static shots, realistic video clips for the synthetic stimuli are generated using Final Cut Pro 7 (Apple Inc.) for the different versions of slow motion movies synchronized with temporally stretched audio track for all the different speech tokens used in the program. A fully functional database structure is implemented using Microsoft ACCESS program to manage data access, retrieval, report, and analysis for a large number of participants with data from the pre-post tests and all the training sessions. To make it appealing and relevant to ESL learners, the training stimuli used real words in English, and the on-screen selective listening used IPA symbols (International Phonetic Alphabet). In

addition to /r-l/ contrast, three more difficult speech contrasts have been added, including a nasal contrast and two vowel contrasts. Each contrast consists of 30 minimal pairs of words. The program also features an interface that includes login, password, and trainee IDs that allows secure remote training online for large scale training and study.

The prototype of the program has been implemented using the cross-platform Java language and tested on 38 adult ESL learners in Xi'an Jiaotong University, China (Cheng and Zhang, 2009). The initial goal was to conduct general assessment of Chinese ESL learners' speech perception and production from two aspects: (a) Identification of four patterns of relationship between speech perception and production (good perception – good production; poor perception – poor production; good perception – poor production; poor perception – good production.). (b) Investigation of the relationships between phonetic learning and higher levels language proficiency in ESL learners. Intensive phonetic training was conducted on four pairs of most difficult contrasting segments : /ɪ/ - /i/, /ʌ/ - /ɑ/, /n/ - /ŋ/, /r/ - /l/. There were seven training sessions for each speech contrast, each lasting up to four hours over a two-week span. The initial results showed highly positive training effects in short-term improvement of perception and production in all four difficult contrasts. Although immediate posttest results did not show significant advantage of multi-talker training over single-talker training, the retention results after 6 months of training showed benefits of multi-talker training. Moreover, retention effects were significant for improved perception but not for production. Large individual differences were observed among the trainees, and significant differences in training effects were also found for the different speech contrasts.

The SAT software program allows more research options and practical applications for ESL learners. The vision in software design is to make it customizable and available not only as a research tool but also for online speech training. Control options are built in to allow flexibility in the use of the major features. For instance, training can be done in contrastive manners to tease apart how various features contribute to the learning processes: multi-talkers versus single talker, auditory versus audiovisual, formant exaggeration versus no exaggeration, temporal exaggeration versus no exaggeration, and feedback versus no feedback for short quizzes after each training session. The program can also be easily modified to include new speech contrasts for research or teaching purposes. More rigorous research and educational plans are currently being developed with research collaborators and English teachers to improve the software design. The new research studies aim to test

neuroplasticity by including EEG and fMRI measures in the pre- and post-tests. The ultimate goal is to find optimal training procedures for different ESL learners by providing objective and comprehensive assessment of their skills and customized training programs by integrating the various features that have been found to promote brain plasticity for ESL learning in adulthood.

4. IMPLICATIONS AND FUTURE DIRECTIONS FOR RESEARCH AND ESL EDUCATION

With all the empirical evidence showing the effects of early language experience and neuroplasticity for L2 learning, some basic questions remain to be further explored. As discussed in the previous three sections, a number of important issues remain to be resolved for the NLNC theory. Language learning is not equivalent over the lifespan; there are at least four perspectives in studying neuroplasticity for language: the initial state of the infant, developmental changes, the mature state of the adult listener, and factors that facilitate speech perception and production training in infancy, childhood and adulthood.

Research has shown strong associations between the characteristics of language input and the development of speech perception in parallel with the strong associations between phonetic perception and other language skills. The implicit learning mechanisms that operate on the probabilistic transitions and statistical distributions of the language input are fundamental to language acquisition early in life (Kuhl et al., 2001, Saffran, 2003), second language acquisition (Zhang et al., 2000, Mueller et al., 2005) and artificial grammar learning (Lieberman et al., 2004, McNealy et al., 2006). Details of phonetic interactions between L1 and L2 and links between perception and production and transfer of learning across the two domains await further research for various speech sound categories as a function of age of acquisition, input content, and length of exposure. Future imaging studies will continue to refine the operational definitions of neural sensitivity, neural efficiency, neural specificity and neural connectivity and how these measures are affected by automatic and attentional processes, multimodal speech processing, and experimental manipulations on subject, stimulus, and task characteristics.

Phonetic training studies have shown promising approaches to promote neuroplasticity and overcome the NLNC constraints for L2 acquisition. Manipulations to the language input and delivery mechanisms, as

shown in the SAT training software illustrated in this chapter, can effectively enhance L2 processing at the pre-attentive level and thus influence the efficiency of the developing brain in social, cognitive and linguistic domains. Such procedures have been previously shown to be effective and helpful in acquiring novel phonetic categories from brief exposures and improving literacy skills in children with reading problems. Further research and development using computer-assisted training technology holds the promise of delivering optimal tools for ESL learners.

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REFERENCES

- Aaltonen, O., Eerola, O., Hellstrom, A., Uusipaikka, E. and Lang, A. H. (1997). Perceptual magnet effect in the light of behavioral and psychophysiological data. *J. Acoust. Soc. Am.*, 101 (2), 1090-105.
- Allen, J. S. and Miller, J. L. (2004). Listener sensitivity to individual talker differences in voice-onset-time. *J. Acoust. Soc. Am.*, 115 (6), 3171-83.
- Andruski, J., Blumstein, S. and Burton, M. (1994). The effect of subphonetic differences on lexical access. *Cognition*, 52, 163-167.
- Baillet, S., Mosher, J. C. and Leahy, R. M. (2001). Electromagnetic brain mapping. *Signal Processing Magazine, IEEE*, 18 (6), 14-30.
- Benasich, A. A., Choudhury, N., Friedman, J. T., Realpe-Bonilla, T., Chojnowska, C. and Gou, Z. (2006). The infant as a prelinguistic model

- for language learning impairments: predicting from event-related potentials to behavior. *Neuropsychologia*, 44 (3), 396-411.
- Benasich, A. A. and Tallal, P. (2002). Infant discrimination of rapid auditory cues predicts later language impairment. *Behav. Brain Res.*, 136 (1), 31-49.
- Best, C. T. (1994). *The emergence of native-language phonological influences in infants: A perceptual assimilation model*. Cambridge, MA: MIT Press.
- Best, C. T. (1995). A direct realist view of cross-language speech perception. In W. Strange (ed.), *Speech perception and linguistic experience: Issues in cross-language research*, pp. 171-204. Baltimore: York Press.
- Best, C. T., McRoberts, G. W. and Goodell, E. (2001). Discrimination of non-native consonant contrasts varying in perceptual assimilation to the listeners' native phonological system. *J. Acoust. Soc. Am.*, 109, 775-794.
- Binder, J. R. (1999). Functional MRI of the language system. In C. T. W. Mooner and P. A. Bandettini (eds.), *Functional MRI*, pp. 407-419. Berlin: Springer-Verlag.
- Birdsong, D. and Molis, M. (2001). On the evidence for maturational constraints in second-language acquisition. *J. Mem. Lang.*, 44, 235-249.
- Bohn, O.-S. and Flege, J. E. (1996). Perception and production of a new vowelcategory by adult second language learners. In A. James and J. H. Leather (eds.), *Second-language speech. Structure and Process*, pp. 53-73. New York: Mouton de Gruyter.
- Bongaerts, T., van Summeren, C., Planken, B. and Schils, E. (1997). Age and ultimate attainment in the pronunciation of a foreign language. *Stud. Sec. Lang. Acq.*, 19, 447-465.
- Bosch, L., Costa, A. and Sebastián-Gallés, N. (2000). First and second language vowel perception in early bilinguals. *European Journal of Cognitive Psychology*, 12, 189-221.
- Bradlow, A. R., Akahane-Yamada, R., Pisoni, D. B. and Tohkura, Y. (1999). Training Japanese listeners to identify English /r/ and /l/: long-term retention of learning in perception and production. *Percept. Psychophys.*, 61 (5), 977-85.
- Bradlow, A. R. and Bent, T. (2002). The clear speech effect for non-native listeners. *The Journal of the Acoustical Society of America*, 112 (1), 272-284.
- Bradlow, A. R., Pisoni, D. B., Akahane-Yamada, R. and Tohkura, Y. (1997). Training Japanese listeners to identify English /r/ and /l/: IV. Some effects of perceptual learning on speech production. *J. Acoust. Soc. Am.*, 101 (4), 2299-310.

- Bradlow, A. R., Torretta, G. M. and Pisoni, D. B. (1996). Intelligibility of normal speech I: Global and fine-grained acoustic-phonetic talker characteristics. *Speech Communication*, 20 (3-4), 255-272.
- Brancazio, L., Best, C. T. and Fowler, C. A. (2006). Visual influences on perception of speech and nonspeech vocal-tract events. *Lang. Speech*, 49 (Pt 1), 21-53.
- Burk, M. H., Humes, L. E., Amos, N. E. and Strauser, L. E. (2006). Effect of training on word-recognition performance in noise for young normal-hearing and older hearing-impaired listeners. *Ear Hear.*, 27 (3), 263-78.
- Burnham, D., Kitamura, C. and Vollmer-Conna, U. (2002). What's new pussycat: On talking to animals and babies. *Science*, 296, 1435.
- Callan, D. E., Tajima, K., Callan, A. M., Kubo, R., Masaki, S. and Akahane-Yamada, R. (2003a). Learning-induced neural plasticity associated with improved identification performance after training of a difficult second-language phonetic contrast. *Neuroimage*, 19 (1), 113-124.
- Callan, D. E., Tajima, K., Callan, A. M., Kubo, R., Masaki, S. and Akahane-Yamada, R. (2003b). Learning-induced neural plasticity associated with improved identification performance after training of a difficult second-language phonetic contrast. *Neuroimage*, 19 (1), 113-24.
- Caramazza, A., Yeni-Komshian, G. H., Zurif, E. B. and Carbone, E. (1973). The acquisition of a new phonological contrast: the case of stop consonants in French-English bilinguals. *J. Acoust. Soc. Am.*, 54 (2), 421-8.
- Čeponienė, R., Rinne, T. and Näätänen, R. (2002). Maturation of cortical sound processing as indexed by event-related potentials. *Clin. Neurophysiol.*, 113 (6), 870-882.
- Cheng, B. and Zhang, Y. (2009). The relationship between speech perception and production in second language learners. *The Journal of the Acoustical Society of America*, 125 (4), 2754.
- Cheour, M., Alho, K., Ceponiene, R., Reinikainen, K., Sainio, K., Pohjavuori, M., Aaltonen, O. and Naatanen, R. (1998). Maturation of mismatch negativity in infants. *Int. J. Psychophysiol.*, 29 (2), 217-26.
- Creel, S. C., Aslin, R. N. and Tanenhaus, M. K. (2008). Heeding the voice of experience: The role of talker variation in lexical access. *Cognition*, 106 (2), 633-664.
- Dale, A. M. and Halgren, E. (2001). Spatiotemporal mapping of brain activity by integration of multiple imaging modalities. *Curr. Opin. Neurobiol.*, 11 (2), 202-8.

- Dara, C. and Pell, M. (2008). Effects of acoustic cue manipulations on emotional prosody recognition. *J. Acoust. Soc. Am.*, 124 (4), 2497.
- Davis, C., Kislyuk, D., Kim, J. and Sams, M. (2008). The effect of viewing speech on auditory speech processing is different in the left and right hemispheres. *Brain Res.*, 1242, 151-61.
- de Boer, B. and Kuhl, P. K. (2003). Investigating the role of infant-directed speech with a computer model. *Acoustics Research Letters Online*, 4 (4), 129-134.
- Deacon, D., Uhm, T. J., Ritter, W., Hewitt, S. and Dynowska, A. (1999). The lifetime of automatic semantic priming effects may exceed two seconds. *Brain Res. Cogn. Brain Res.*, 7 (4), 465-72.
- DeFelipe, J. (2006). Brain plasticity and mental processes: Cajal again. *Nat. Rev. Neurosci.*, 7 (10), 811-817.
- Dehaene-Lambertz, G. (1997). Electrophysiological correlates of categorical phoneme perception in adults. *Neuroreport*, 8 (4), 919-924.
- Dehaene-Lambertz, G., Dehaene, S. and Hertz-Pannier, L. (2002). Functional neuroimaging of speech perception in infants. *Science*, 298, 2013-2015.
- Dehaene-Lambertz, G., Dupoux, E. and Gout, A. (2000). Electrophysiological correlates of phonological processing: a cross-linguistic study. *J. Cogn. Neurosci.*, 12 (4), 635-647.
- Diehl, R. L., Lotto, A. J. and Holt, L. L. (2004). Speech perception. *Annu. Rev. Psychol.*, 55 (1), 149-179.
- Eimas, P. D., Siqueland, E. R., Jusczyk, P. and Vigorito, J. (1971). Speech perception in infants. *Science*, 171 (968), 303-6.
- Eisner, F. and McQueen, J. M. (2005). The specificity of perceptual learning in speech processing. *Percept. Psychophys.*, 67 (2), 224-38.
- Elman, J. L., Diehl, R. L. and Buchwald, S. E. (1977). Perceptual switching in bilinguals. *The Journal of the Acoustical Society of America*, 62, 971-974.
- Escudero, P. and Boersma, P. (2004). Bridging the gap between L2 speech perception research and phonological theory. *Stud. Sec. Lang. Acq.*, 26, 551-585.
- Fan, J., McCandliss, B. D., Fossella, J., Flombaum, J. I. and Posner, M. I. (2005). The activation of attentional networks. *Neuroimage*, 26 (2), 471-9.
- Fang, F. and He, S. (2005). Cortical responses to invisible objects in the human dorsal and ventral pathways. *Nat. Neurosci.*, 8 (10), 1380-5.
- Feldman, N. H., Griffiths, T. L. and Morgan, J. L. (2009). The influence of categories on perception: explaining the perceptual magnet effect as optimal statistical inference. *Psychol. Rev.*, 116 (4), 752-82.

- Fenson, L., Dale, P., Reznick, S., Thal, D., Bates, E., Hartung, J., Pethick, S. and Reilly, J. (1993). *MacArthur communicative development inventories: User's guide and technical manual*. San Diego, CA: Singular Press.
- Ferguson, S. H. and Kewley-Port, D. (2007). Talker differences in clear and conversational speech: Acoustic characteristics of vowels. *J. Speech. Lang. Hear. Res.*, 50 (5), 1241-1255.
- Fernald, A. (1989). Intonation and communicative intent in mothers' speech to infants: is the melody the message? *Child Dev.*, 60 (6), 1497-510.
- Fernald, A. (1993). Approval and disapproval: infant responsiveness to vocal affect in familiar and unfamiliar languages. *Child Dev.*, 64 (3), 657-74.
- Fernald, A. and Kuhl, P. (1987). Acoustic determinants of infant preference for motherese speech. *Infant Behav. Dev.*, 10, 279-293.
- Flege, J. (1995). Second language speech learning: theory, findings, and problems. In W. Strange (ed.), *Speech perception and linguistic experience: Theoretical and methodological issues*, pp. 229-273. Timonium, MD: York Press.
- Flege, J. (1999). The relation between L2 production and perception. In J. Ohala, Y. Hasegawa, M. Granville and A. Bailey (eds.), pp. 1273-1276. Berkely, United States.
- Flege, J. (2007). Language contact in bilingualism: Phonetic system interactions. In J. Cole and J. I. Hualde (eds.), *Laboratory Phonology 9*, pp. 353-382. Berlin Mouton de Gruyter.
- Frieda, E. M., Walley, A. C., Flege, J. E. and Sloane, M. E. (1999). Adults' perception of native and nonnative vowels: implications for the perceptual magnet effect. *Percept. Psychophys.*, 61, 561.
- Fu, Q. J., Chinchilla, S. and Galvin, J. J. (2004). The role of spectral and temporal cues in voice gender discrimination by normal-hearing listeners and cochlear implant users. *J Assoc Res Otolaryngol*, 5 (3), 253-60.
- Gaillard, W. D., Hertz-Pannier, L., Mott, S. H., Barnett, A. S., LeBihan, D. and Theodore, W. H. (2000). Functional anatomy of cognitive development: fMRI of verbal fluency in children and adults. *Neurology*, 54 (1), 180-185.
- Gazzaniga, M. S. (2000). *The new cognitive neurosciences (2nd edition)*. Cambridge, MA: MIT Press.
- Gibson, E. J. (1969). *Principles of Perceptual Learning and Development*. New York: Appleton Century Croft.
- Goldinger, S. D. (1998). Echoes of echoes? An episodic theory of lexical access. *Psychol. Rev.*, 105, 251-279.

- Golestani, N., Molko, N., Dehaene, S., LeBihan, D. and Pallier, C. (2007). Brain structure predicts the learning of foreign speech sounds. *Cereb. Cortex*, 17 (3), 575-82.
- Golestani, N., Paus, T. and Zatorre, R. J. (2002). Anatomical correlates of learning novel speech sounds. *Neuron*, 35 (5), 997-1010.
- Golestani, N. and Zatorre, R. J. (2004a). Learning new sounds of speech: reallocation of neural substrates. *Neuroimage*, 21, 494-506.
- Golestani, N. and Zatorre, R. J. (2004b). Learning new sounds of speech: reallocation of neural substrates. *Neuroimage*, 21 (2), 494-506.
- Gómez Lacabex, E. (2009). Perception and production of vowel reduction in second language acquisition. University of the Basque Country, Spain.
- Gootjes, L., Bouma, A., Van Strien, J. W., Scheltens, P. and Stam, C. J. (2006). Attention modulates hemispheric differences in functional connectivity: evidence from MEG recordings. *Neuroimage*, 30 (1), 245-53.
- Goto, H. (1971). Auditory perception by normal Japanese adults of the sounds "L" and "R". *Neuropsychologia*, 9 (3), 317-323.
- Greenough, W. T., Black, J. E., Klintsova, A., Bates, K. E. and Weiler, I. J. (1999). Experience and plasticity in brain structure: possible implications of basic research findings for developmental disorders. In S. H. Broman and J. M. Fletcher (eds.), *The changing nervous system: Neurobehavioral consequences of early brain disorders*, pp. 57 - 72. New York: Oxford University Press.
- Grieser, D. and Kuhl, P. K. (1989). Categorization of speech by infants - Support for speech-sound prototypes. *Dev. Psychol.*, 25 (4), 577-588.
- Grimshaw, G. M., Adelstein, A., Bryden, M. P. and MacKinnon, G. E. (1998). First-language acquisition in adolescence: Evidence for a critical period for verbal language development. *Brain Lang.*, 63 (2), 237-255.
- Grosjean, F. (1982). *Life with two languages: An introduction to bilingualism*. Cambridge, MA: Harvard University Press.
- Guenther, F. H. and Gjaja, M. N. (1996). The perceptual magnet effect as an emergent property of neural map formation. *J. Acoust. Soc. Am.*, 100 (2, Part 1), 1111-1121.
- Guion, S. G., Flege, J. E., Akahane-Yamada, R. and Pruitt, J. C. (2000). An investigation of current models of second language speech perception: The case of Japanese adults' perception of English consonants. *J. Acoust. Soc. Am.*, 107 (5,PT1), 2711-2724.

- Hakuta, K., Bialystok, E. and Wiley, E., 14, (2003). Critical evidence: a test of the critical-period hypothesis for second-language acquisition. *Psychological Science*, 14, 31-38.
- Hämäläinen, M., Hari, R., Ilmoniemi, R. J., Knuutila, J. and Lounasmaa, O. V. (1993). Magnetoencephalography: Theory, instrumentation, and applications to noninvasive studies of the working human brain. *Reviews of Modern Physics*, 65 (2), 413.
- Harnad, S. (ed.) (1987). *Categorical Perception: The Groundwork of Cognition*. Cambridge University Press.
- Hazan, V. and Sennema, A. (2007). The effect of visual training on the perception of non-native phonetic contrasts. *Proceedings of the XVIth International Congress of Phonetic Sciences*, pp. 1585-1588. Saarbrücken, Germany.
- He, A. G., Tan, L. H., Tang, Y., James, G. A., Wright, P., Eckert, M. A., Fox, P. T. and Liu, Y. (2003). Modulation of neural connectivity during tongue movement and reading. *Hum. Brain Mapp.*, 18 (3), 222-232.
- Hernandez, A. and Li, P. (2007). Age of acquisition: its neural and computational mechanisms. *Psychological Bulletin (In press)*.
- Hernandez, A., Li, P. and MacWhinney, B. (2005). The emergence of competing modules in bilingualism. *Trends Cogn. Sci.*, 9, 220-225.
- Horwitz, B. and Braun, A. R. (2004). Brain network interactions in auditory, visual and linguistic processing. *Brain Lang.*, 89 (2), 377-384.
- Im, C. H., Jung, H. K. and Fujimaki, N. (2005). fMRI-constrained MEG source imaging and consideration of fMRI invisible sources. *Hum. Brain Mapp.*, 26 (2), 110-8.
- Imada, T., Zhang, Y., Cheour, M., Taulu, S., Ahonen, A. and Kuhl, P. K. (2006). Infant speech perception activates Broca's area: a developmental magnetoencephalography study. *Neuroreport*, 17, 957-962.
- Iverson, P. and Kuhl, P. K. (1996). Influences of phonetic identification and category goodness on American listeners' perception of r and l. *J. Acoust. Soc. Am.*, 99 (2), 1130-1140.
- Iverson, P. and Kuhl, P. K. (2000). Perceptual magnet and phoneme boundary effects in speech perception: Do they arise from a common mechanism? *PandP*, 62 (4), 874-886.
- Iverson, P., Kuhl, P. K., Akahane-Yamada, R., Diesch, E., Tohkura, Y., Kettermann, A. and Siebert, C. (2003). A perceptual interference account of acquisition difficulties for non-native phonemes. *Cognition*, 87 (1), B47-B57.

- Jamieson, D. G. and Morosan, D. E. (1986). Training non-native speech contrasts in adults: acquisition of the English /delta-/theta/ contrast by francophones. *Percept. Psychophys.*, 40 (4), 205-15.
- Jamieson, D. G. and Morosan, D. E. (1989). Training new, nonnative speech contrasts: a comparison of the prototype and perceptual fading techniques. *Can. J. Psychol.*, 43 (1), 88-96.
- Jiang, Y., Zhou, K. and He, S. (2007). Human visual cortex responds to invisible chromatic flicker. *Nat. Neurosci.*, 10 (5), 657-62.
- Johnson, J. and Newport, E. (1989). Critical period effects in second language learning: the influence of maturation state on the acquisition of English as a second language. *Cognit. Psychol.*, 21, 60-99.
- Johnson, K. (2006). Resonance in an exemplar-based lexicon: The emergence of social identity and phonology. *J. Phon.*, 34 (4), 485-499.
- Johnsrude, I. S., Penhune, V. B. and Zatorre, R. J. (2000). Functional specificity in the right human auditory cortex for perceiving pitch direction. *Brain*, 123, 155-163.
- Karni, A. (1996). The acquisition of perceptual and motor skills: A memory system in the adult human cortex. *Cog. Brain Res.*, 5 (1-2), 39-48.
- Kim, K. H. S., Relkin, N. R., Lee, K. M. and Hirsch, J. (1997). Distinct cortical areas associated with native and second languages. *Nature*, 388 (6638), 171-174.
- Kirchhoff, K. and Schimmel, S. (2005a). Statistical properties of infant-directed versus adult-directed speech: insights from speech recognition. *Journal of Acoustical Society of America*, 117 (4 Pt 1), 2238-46.
- Kirchhoff, K. and Schimmel, S. (2005b). Statistical properties of infant-directed versus adult-directed speech: insights from speech recognition. *J. Acoust. Soc. Am.*, 117 (4 Pt 1), 2238-46.
- Kitamura, C. and Burnham, D. (2003). Pitch and communicative intent in mother's speech: Adjustments for age and sex in the first year. *Infancy*, 4 (1), 85-110.
- Kluge, D. C., Rauber, A. S., Reis, M. S. and Bion, R. A. H. (2007). The relationship between the perception and production of English nasal codas by Brazilian learners of English. *Proceedings of Interspeech 2007*, pp. 2297-2300. Antwerp, Belgium.
- Kuhl, P. and Rivera-Gaxiola, M. (2008). Neural substrates of language acquisition. *Annu. Rev. Neurosci.*, 31, 511-34.
- Kuhl, P. K. (1991a). Human adults and human infants show a "perceptual magnet effect" for the prototypes of speech categories, monkeys do not. *PandP*, 50 (2), 93-107.

- Kuhl, P. K. (1991b). Perception, cognition, and the ontogenetic and phylogenetic emergence of human speech. In S. E. Brauth, W. S. Hall and R. J. Dooling (eds.), *Plasticity of Development* pp. 73-106. Cambridge, MA: MIT Press.
- Kuhl, P. K. (1992). Psychoacoustics and speech perception: Internal standards, perceptual anchors, and prototypes. In L. A. Werner and E. W. Rubel (eds.), *Developmental Psychoacoustics*, Washington, DC: American Psychological Association.
- Kuhl, P. K. (2000). A new view of language acquisition. *Proc. Natl. Acad. Sci. U. S. A.*, 97, 11850-11857.
- Kuhl, P. K. (2007). Is speech learning 'gated' by the social brain? *Dev. Sci.* 10 (1), 110-120.
- Kuhl, P. K., Andruski, J. E., Chistovich, I. A., Chistovich, L. A., Kozhevnikova, E. V., Ryskina, V. L., Stolyarova, E. I., Sundberg, U. and Lacerda, F. (1997). Cross-language analysis of phonetic units in language addressed to infants. *Science*, 277, 684-686.
- Kuhl, P. K., Coffey-Corina, S., Padden, D. M. and Dawson, G. (2004). Links between social and linguistic processing of speech in preschool children with autism: behavioral and electrophysiological measures. *Dev. Sci.* 7, 19-30.
- Kuhl, P. K., Conboy, B. T., Coffey-Corina, S., Padden, D., Rivera-Gaxiola, M. and Nelson, T. (2008). Phonetic learning as a pathway to language: new data and native language magnet theory expanded (NLM-e). *Philosophical Transactions of the Royal Society B: Biological Sciences*, 363 (1493), 979-1000.
- Kuhl, P. K., Conboy, B. T., Padden, D., Nelson, T. and Pruitt, J. (2005). Early speech perception and later language development: implications for the "Critical Period". *Lang. Learn. Dev.* 1, 237-264.
- Kuhl, P. K., Stevens, E., Hayashi, A., Deguchi, T., Kiritani, S. and Iverson, P. (2006). Infants show a facilitation effect for native language phonetic perception between 6 and 12 months. *Dev. Sci.* 9 (2), F13-F21.
- Kuhl, P. K., Tsao, F. M., Liu, H. M., Zhang, Y. and De Boer, B. (2001). Language/culture/mind/brain: progress at the margins between disciplines. *Ann. N. Y. Acad. Sci.*, 935, 136-174.
- Leather, J. H. (1990). Perceptual and productive learning of Chinese lexical tone by Dutch and English speakers. *New Sounds 90: Proceedings of the 1990 Amsterdam Symposium on the Acquisition of Second Language Speech*, pp. 72-89. Amsterdam: University of Amsterdam.

- Li, P., Zhao, X. and MacWhinney, B. (2007). Dynamic self-organization and early lexical development in children. *Cognitive Science*, in press.
- Lieberman, A. M. (1957). Some results of research on speech perception. *J. Acoust. Soc. Am.*, 29, 117.
- Lieberman, M. D., Chang, G. Y., Chiao, J., Bookheimer, S. Y. and Knowlton, B. J. (2004). An event-related fMRI study of artificial grammar learning in a balanced chunk strength design. *J. Cogn. Neurosci.*, 16 (3), 427-438.
- Lin, F. H., Belliveau, J. W., Dale, A. M. and Hamalainen, M. S. (2006a). Distributed current estimates using cortical orientation constraints. *Hum. Brain Mapp.*, 27 (1), 1-13.
- Lin, F. H., Witzel, T., Ahlfors, S. P., Stufflebeam, S. M., Belliveau, J. W. and Hamalainen, M. S. (2006b). Assessing and improving the spatial accuracy in MEG source localization by depth-weighted minimum-norm estimates. *Neuroimage*, 31 (1), 160-71.
- Liu, A. K., Dale, A. M. and Belliveau, J. W. (2002). Monte Carlo simulation studies of EEG and MEG localization accuracy. *Hum. Brain Mapp.*, 16 (1), 47-62.
- Liu, H. M., Kuhl, P. K. and Tsao, F. M. (2003). An association between mothers' speech clarity and infants' speech discrimination skills. *Dev. Sci*, 6, F1-F10.
- Liu, Z. and He, B. (2008). fMRI-EEG integrated cortical source imaging by use of time-variant spatial constraints. *Neuroimage*, 39 (3), 1198-214.
- Lively, S. E., Logan, J. S. and Pisoni, D. B. (1993). Training Japanese listeners to identify English /r/ and /l/. II: The role of phonetic environment and talker variability in learning new perceptual categories. *J. Acoust. Soc. Am.*, 94, 1242-1255.
- Lively, S. E. and Pisoni, D. B. (1997). On prototypes and phonetic categories: a critical assessment of the perceptual magnet effect in speech perception. *J. Exp. Psychol.: Hum. Percept. Perform.*, 23, 1665.
- Lively, S. E., Pisoni, D. B., Yamada, R. A. and Tohkura, Y. (1994). Training Japanese listeners to identify English /r/ and /l/. III: Long-term retention of new phonetic categories. *J. Acoust. Soc. Am.*, 96, 2976-2087.
- Logan, J. S., Lively, S. E. and Pisoni, D. B. (1991). Training Japanese listeners to identify English /r/ and /l/: a first report. *Journal of the Acoustical Society of America*, 89 (2), 874-86.
- Long, M. (1990). Maturational constraints on language development. *Stud. Second Lang. Acquis.*, 12, 251-285.
- Lopes da Silva, F. H., Wieringa, H. J. and Peters, M. J. (1991). Source localization of EEG versus MEG: empirical comparison using visually

- evoked responses and theoretical considerations. *Brain Topogr.*, 4 (2), 133-42.
- Lotto, A. J., Kluender, K. R. and Holt, L. L. (1998). The perceptual magnet effect depolarized. *J. Acoust. Soc. Am.*, 103, 3648.
- MacDonald, K. B. (2008). Effortful control, explicit processing, and the regulation of human evolved predispositions. *Psychol. Rev.*, 115 (4), 1012-31.
- Mahncke, H. W., Bronstone, A., Merzenich, M. M. and Aage, R. M. (2006). Brain plasticity and functional losses in the aged: scientific bases for a novel intervention. *Prog. Brain Res.*, 157, 81-109.
- Massaro, D. W. (2004). From multisensory integration to Talking Heads and language learning. In G. Calvert, C. Spence and B. E. Stein (eds.), *Handbook of Multisensory Processes*, pp. 153-176. Massachusetts: MIT Press.
- Mathews, J. (1997). Influence of pronunciation training on the perception of second language contrasts. In J. H. Leather and A. James (eds.), *New Sounds 97: Proceedings of the 1997 Amsterdam Symposium on the Acquisition of Second Language Speech*, pp. 223-230. Amsterdam: University of Amsterdam.
- Maye, J., Werker, J. F. and Gerken, L. (2002). Infant sensitivity to distributional information can affect phonetic discrimination. *Cognition*, 82 (3), B101-B111.
- McCandliss, B. D., Fiez, J. A., Protopapas, A., Conway, M. and McClelland, J. L. (2002). Success and failure in teaching the [r]-[l] contrast to Japanese adults: tests of a Hebbian model of plasticity and stabilization in spoken language perception. *Cogn. Aff. Behav. Neurosci.*, 2 (2), 89-108.
- McClelland, J. L. (2001). Failures to learn and their remediation: a Hebbian account. In J. L. McClelland and R. S. Siegler (eds.), *Mechanisms of Cognitive Development*, pp. 97-121. Mahwah, NJ: Erlbaum.
- McGurk, H. and MacDonald, J. (1976). Hearing lips and seeing voices. *Nature*, 264, 746.
- McMurray, B., Tanenhaus, M. K. and Aslin, R. N. (2002). Gradient effects of within-category phonetic variation on lexical access. *Cognition*, 86, B33-B42.
- McNealy, K., Mazziotta, J. C. and Dapretto, M. (2006). Cracking the language code: neural mechanisms underlying speech parsing. *J. Neurosci.*, 26 (29), 7629-7639.

- Mehler, J., Dupoux, E., Pallier, C. and Dehaene-Lambertz, G. (1994). Cross-linguistic approaches to speech processing. *Curr. Opin. Neurobiol.*, 4, 171-176.
- Merzenich, M. M., Jenkins, W. M., Johnston, P., Schreiner, C., Miller, S. L. and Tallal, P. (1996). Temporal processing deficits of language-learning impaired children ameliorated by training. *Science*, 271 (5245), 77-81.
- Miyawaki, K., Strange, W., Verbrugge, R., Liberman, A., Jenkins, J. and Fujimura, O. (1975). An effect of linguistic experience: the discrimination of [r] and [l] by native speakers of Japanese and English. *PandP*, 18, 331-340.
- Molfese, D. (2000). Predicting dyslexia at 8 years of age using neonatal brain responses. *Brain Lang.*, 72, 238-245.
- Molfese, D. and Molfese, V. (1985). Electrophysiological indices of auditory discrimination in newborn infants: the bases for predicting later language development? *Infant Behavior and Development*, 8, 197-211.
- Molfese, D. and Molfese, V. (1997). Discrimination of language skills at five years of age using event-related potentials recorded at birth. *Developmental Neuropsychology*, 13, 135-156.
- Moulines, E. and Charpentier, F. (1990). Pitch-synchronous waveform processing techniques for text-to-speech synthesis using diphones. *Speech Commun.*, 9, 453-467.
- Movellan, J. R. and McClelland, J. L. (2001). The Morton-Massaro law of information integration: implications for models of perception. *Psychol. Rev.*, 108 (1), 113-48.
- Mueller, J. L., Hahne, A., Fujii, Y. and Friederici, A. D. (2005). Native and Nonnative Speakers' Processing of a Miniature Version of Japanese as Revealed by ERPs. *J. Cogn. Neurosci.*, 17 (8), 1229-1244.
- Murry, T. and Singh, S. (1980). Multidimensional analysis of male and female voices. *J. Acoust. Soc. Am.*, 68 (5), 1294-300.
- Näätänen, R., Lehtokoski, A., Lennes, M., Cheour, M., Huottilainen, M., Iivonen, A., Vainio, M., Alku, P., Ilmoniemi, R. J., Luuk, A., Allik, J., Sinkkonen, J. and Alho, K. (1997). Language-specific phoneme representations revealed by electric and magnetic brain responses. *Nature*, 385 (6615), 432-434.
- Näätänen, R., Paavilainen, P., Rinne, T. and Alho, K. (2007). The mismatch negativity (MMN) in basic research of central auditory processing: A review. *Clin. Neurophysiol.*, 118 (12), 2544-2590.
- Nelson, C. A. and Luciana, M. (2001). *Handbook of developmental cognitive neuroscience*. Cambridge, MA: MIT Press.

- Neville, H. J. and Bavelier, D. (1998). Neural organization and plasticity of language. *Curr. Opin. Neurobiol.*, 8 (2), 254-8.
- Nygaard, L. C. and Pisoni, D. B. (1995). Speech perception: New directions in research and theory. In J. L. Miller and P. D. Eimas (eds.), *Speech, Language and Communication*, pp. 63-96. San Diego, CA: Academic Press.
- Nygaard, L. C. and Pisoni, D. B. (1998). Talker-specific learning in speech perception. *Percept. Psychophys.*, 60 (3), 355-76.
- Pallier, C. (2003). Brain imaging of language plasticity in adopted adults: can a second language replace the first? *Cereb. Cortex*, 13, 155-161.
- Pallier, C., Bosch, L. and Sebastian-Gallés, N. (1997). A limit on behavioral plasticity in speech perception. *Cognition*, 64, B9-17.
- Pardo, P. J., Knesevich, M. A., Vogler, G. P., Pardo, J. V., Towne, B., Cloninger, C. R. and Posner, M. I. (2000). Genetic and state variables of neurocognitive dysfunction in schizophrenia: a twin study. *Schizophr. Bull.*, 26 (2), 459-77.
- Patel, A. D., Gibson, E., Ratner, J., Besson, M. and Holcomb, P. J. (1998). Processing syntactic relations in language and music: an event-related potential study. *J. Cogn. Neurosci.*, 10 (6), 717-733.
- Pena, M., Maki, A., Kovacic, D., Dehaene-Lambertz, G., Koizumi, H., Bouquet, F. and Mehler, J. (2003). Sounds and silence: an optical topography study of language recognition at birth. *Proc. Natl. Acad. Sci. U. S. A.*, 100 (20), 11702-11705.
- Perani, D., Paulesu, E., Galles, N. S., Dupoux, E., Dehaene, S., Bettinardi, V., Cappa, S. F., Fazio, F. and Mehler, J. (1998). The bilingual brain. Proficiency and age of acquisition of the second language. *Brain*, 121 (10), 1841-1852.
- Pflierger, M. E., Greenblatt, R. E. and Kirkish, J. (2004). Regional resolving power of combined MEG/EEG. *Neurol Clin Neurophysiol*, 2004, 79.
- Pierrehumbert, J. B. (2003). Phonetic diversity, statistical learning, and acquisition of phonology. *Lang. Speech*, 46, 115-154.
- Pisoni, D. and Lively, S. (1995). Variability and invariance in speech perception: a new look at some old problems in perceptual learning. In W. Strange (ed.), *Speech perception and linguistic experience: Theoretical and methodological issues*, pp. 433-459. Timonium, MD: York Press.
- Pisoni, D. B., Aslin, R. N., Perey, A. J. and Hennessy, B. L. (1982). Some effects of laboratory training on identification and discrimination of voicing contrasts in stop consonants. *J. Exp. Psychol. Hum. Percept. Perform.*, 8 (2), 297-314.

- Poldrack, R. A., Temple, E., Protopapas, A., Nagarajan, S., Tallal, P., Merzenich, M. and Gabrieli, J. D. E. (2001). Relations between the neural bases of dynamic auditory processing and phonological processing: evidence from fMRI. *J. Cogn. Neurosci.*, 13 (5), 687-697.
- Polivanov, E. (1931). La perception des sons d'une langue e'trange're. *Travaux du Cercle Linguistique de Prague* 4, 79-96.
- Pruitt, J. (1995). The Perception of Hindi Dental and Retroflex Stop Consonants by Native Speakers of Japanese and American English. *Unpublished doctoral Dissertation*: University of South Florida.
- Pulvermuller, F. and Shtyrov, Y. (2006). Language outside the focus of attention: the mismatch negativity as a tool for studying higher cognitive processes. *Prog. Neurobiol.*, 79 (1), 49-71.
- Rauber, A., Escudero, P., Bion, R. A. H. and Baptista, B., O (2005). The interrelation of Perception and Production of English Vowels by Native Speakers of Brazilian Portuguese. *Proceedings of Interspeech 2005*, pp. 2913-2916. Lisbon, Portugal.
- Reissland, N., Shepherd, J. and Herrera, E. (2003). The pitch of maternal voice: a comparison of mothers suffering from depressed mood and non-depressed mothers reading books to their infants. *J. Child Psychol. Psychiatry*, 44 (2), 255-61.
- Remez, R. E., Fellowes, J. M. and Rubin, P. E. (1997). Talker identification based on phonetic information. *J. Exp. Psychol. Hum. Percept. Perform.*, 23 (3), 651-66.
- Rivera-Gaxiola, M., Csibra, G., Johnson, M. H. and Karmiloff-Smith, A. (2000). Electrophysiological correlates of cross-linguistic speech perception in native English speakers. *Behav. Brain Res.*, 111 (1-2), 13-23.
- Rosen, S. (2003). Auditory processing in dyslexia and specific language impairment: is there a deficit? What is its nature? Does it explain anything? *J. Phon.*, 31, 509-527.
- Rosenblum, L. D., Miller, R. M. and Sanchez, K. (2007). Lip-read me now, hear me better later: cross-modal transfer of talker-familiarity effects. *Psychol Sci*, 18 (5), 392-6.
- Rosenblum, L. D., Yakel, D. A. and Green, K. P. (2000). Face and mouth inversion effects on visual and audiovisual speech perception. *J. Exp. Psychol. Hum. Percept. Perform.*, 26 (2), 806-19.
- Saffran, J. R. (2003). Statistical language learning: mechanisms and constraints. *Current Directions in Psychological Science*, 12 (4), 110-114.

- Samuel, A. G. (1982). Phonetic prototypes. *Percept. Psychophys.*, 31 (4), 307-14.
- Sharma, A. and Dorman, M. F. (1998). Exploration of the perceptual magnet effect using the mismatch negativity auditory evoked potential. *J. Acoust. Soc. Am.*, 104 (1), 511-7.
- Sharma, A. and Dorman, M. F. (2000). Neurophysiologic correlates of cross-language phonetic perception. *The Journal of the Acoustical Society of America*, 107 (5), 2697-2703.
- Sharon, D., Hamalainen, M. S., Tootell, R. B., Halgren, E. and Belliveau, J. W. (2007). The advantage of combining MEG and EEG: comparison to fMRI in focally stimulated visual cortex. *Neuroimage*, 36 (4), 1225-35.
- Skipper, J. I., Nusbaum, H. C. and Small, S. L. (2005). Listening to talking faces: motor cortical activation during speech perception. *Neuroimage*, 25 (1), 76-89.
- Strange, W. (ed.) (1995). *Speech perception and linguistic experience: Issues in cross-language research*. Baltimore: York Press.
- Strange, W. and Dittmann, S. (1984). Effects of discrimination training on the perception of /r-l/ by Japanese adults learning English. *Perception and Psychophysics*, 36 (2), 131-45.
- Sussman, J. E. and Lauckner -Morano, V. J. (1995). Further tests of the "perceptual magnet effect" in the perception of [i]: identification and change-no-change discrimination. *J. Acoust. Soc. Am.*, 97, 539.
- Takagi, N. (2002). The limits of training Japanese listeners to identify English /r/ and /l/: eight case studies. *J. Acoust. Soc. Am.*, 111, 2887-2896.
- Tallal, P., Merzenich, M. M., Miller, S. and Jenkins, W. (1998). Language learning impairments: integrating basic science, technology, and remediation. *Exp. Brain Res.*, 123, 210-219.
- Teinonen, T., Aslin, R. N., Alku, P. and Csibra, G. (2008). Visual speech contributes to phonetic learning in 6-month-old infants. *Cognition*, 108 (3), 850-5.
- Trainor, L. J., Austin, C. M. and Desjardins, R. N. (2000). Is infant-directed speech prosody a result of the vocal expression of emotion? *Psychol Sci*, 11 (3), 188-95.
- Trainor, L. J. and Desjardins, R. N. (2002). Pitch characteristics of infant-directed speech affect infants ability to discriminate vowels. *Psychonomic Bulletin and Review*, 9, 335-340.
- Trehub, S. E., Unyk, A. M., Kamenetsky, S. B., Hill, D. S., Trainor, L. J., Henderson, J. L. and Saraza, M. (1997). Mothers' and fathers' singing to infants. *Dev. Psychol.*, 33 (3), 500-7.

- Trubetzkoy, N. S. (1969). *Principles of Phonology*. Berkeley, CA: University of California.
- Tsao, F. M., Liu, H. M. and Kuhl, P. K. (2004). Speech perception in infancy predicts language development in the second year of life: a longitudinal study. *Child Dev.*, 75, 1067–1084.
- Ulla, R., Jennifer, M. T., Sophie, K. S. and Usha, G. (2004). Auditory processing skills and phonological representation in Dyslexic children. *Dyslexia*, 10, 215–233.
- Uther, M., Knoll, M. A. and Burnham, D. (2007). Do you speak E-NG-L-I-SH? A comparison of foreigner- and infant-directed speech. *Speech communication*, 49 (1), 2–7.
- Vallabha, G. K. and McClelland, J. L. (2007). Success and failure of new speech category learning in adulthood: consequences of learned Hebbian attractors in topographic maps. *Cogn. Aff. Behav. Neurosci.*, 7 (1), 53–73.
- Vallabha, G. K., McClelland, J. L., Pons, F., Werker, J. F. and Amano, S. (2007). Unsupervised learning of vowel categories from infant-directed speech. *Proc. Natl. Acad. Sci. U. S. A.*, 104 (33), 13273–8.
- van Turenhout, M., Ellmore, T. and Martin, A. (2000). Long-lasting cortical plasticity in the object naming system. *Nat. Neurosci.*, 3 (12), 1329–1334.
- Ventureyra, V., Pallier, C. and Yoo, H. Y. (2004). The loss of first language phonetic perception in adopted Koreans. *Journal of Neurolinguistics*, 17, 79–91.
- Visto, J. C., Cranford, J. L. and Scudder, R. (1996). Dynamic temporal processing of nonspeech acoustic information by children with specific language impairment. *J. Speech Hear. Res.*, 39 (3), 510–517.
- Volaitis, L. E. and Miller, J. L. (1992). Phonetic prototypes - Influence of place of articulation and speaking rate on the internal structure of voicing categories. *J. Acoust. Soc. Am.*, 92 (2), 723–735.
- Wade, T., Jongman, A. and Sereno, J. (2007). Effects of acoustic variability in the perceptual learning of non-native-accented speech sounds. *Phonetica*, 64 (2–3), 122–144.
- Wang, Y., Sereno, J. A., Jongman, A. and Hirsch, J. (2003). fMRI evidence for cortical modification during learning of mandarin lexical tone. *J. Cogn. Neurosci.*, 15 (7), 1019–1027.
- Weger, U. W., Meier, B. P., Robinson, M. D. and Inhoff, A. W. (2007). Things are sounding up: affective influences on auditory tone perception. *Psychon Bull Rev*, 14 (3), 517–21.
- Werker, J. F., Hall, D. G. and Fais, L. (2004). Reconstructing U-shaped functions. *Journal of Cognition and Development*, 5 (1), 147–151.

- Werker, J. F. and Tees, R. C. (1984). Cross-language speech perception: Evidence for perceptual reorganization during the first year of life. *Infant Behavior and Development*, 7 (1), 49-63.
- Werker, J. F. and Tees, R. C. (2005). Speech perception as a window for understanding plasticity and commitment in language systems of the brain. *Dev. Psychobiol.*, 46 (3), 233-251.
- Wibral, M., Turi, G., Linden, D. E., Kaiser, J. and Bledowski, C. (2008). Decomposition of working memory-related scalp ERPs: crossvalidation of fMRI-constrained source analysis and ICA. *Int. J. Psychophysiol.*, 67 (3), 200-11.
- Wilson, S. M., Molnar-Szakacs, I. and Iacoboni, M. (2008). Beyond superior temporal cortex: intersubject correlations in narrative speech comprehension. *Cereb. Cortex*, 18 (1), 230-42.
- Winkler, I., Kujala, T., Tiitinen, H., Sivonen, P., Alku, P., Lehtokoski, A., Czigler, I., Csepe, V., Ilmoniemi, R. J. and Naatanen, R. (1999). Brain responses reveal the learning of foreign language phonemes. *Psychophysiology*, 36 (5), 638-642.
- Xue, G., Dong, Q., Jin, Z., Zhang, L. and Wang, Y. (2004). An fMRI study with semantic access in low proficiency second language learners. *Neuroreport*, 15, 791-796.
- Yamada, R. A. and Tohkura, Y. (1992). The effects of experimental variables on the perception of American English /r/ and /l/ by Japanese listeners. *Percept. Psychophys.*, 52 (4), 376-92.
- Yetkin, O., Yetkin, F. Z., Haughton, V. M. and Cox, R. W. (1996). Use of functional MR to map language in multilingual volunteers. *American Journal of Neuroradiology*, 17, 473-477.
- Zatorre, R. J. and Belin, P. (2001). Spectral and temporal processing in human auditory cortex. *Cereb. Cortex*, 11 (10), 946-953.
- Zhang, Y. (2002). The effects of linguistic experience as revealed by behavioral and neuromagnetic measures: A cross-language study of phonetic perception by normal adult Japanese and American listeners. Doctoral dissertation, University of Washington, Seattle.
- Zhang, Y., Kuhl, P., Imada, T. and Kawakatsu, M. (2006). Neural coding of perceptual interference at the preattentive level. *J. Acoust. Soc. Am.*, 120 (5), 3292-3292.
- Zhang, Y., Kuhl, P. K., Imada, T., Iverson, P., Pruitt, J., Stevens, E., Kawakatsu, M., Tohkura, Y. and Nemoto, I. (2009). Neural signatures of phonetic learning in adulthood: A magnetoencephalography study. *Neuroimage*, 46, 226-240

-
- Zhang, Y., Kuhl, P. K., Imada, T., Iverson, P., Pruitt, J., Stevens, E., Kotani, M. and Tohkura, Y. (2000). Neural plasticity revealed in perceptual training of a Japanese adult listener to learn American /l-r/ contrast: a whole-head magnetoencephalography study. *Proceedings of the 6th International Conference on Spoken Language Processing*, 3, 953-956.
- Zhang, Y., Kuhl, P. K., Imada, T., Kotani, M. and Pruitt, J. (2001). Brain plasticity in behavioral and neuromagnetic measures: A perceptual training study. *Journal of the Acoustical Society of America*, 110, 2687.
- Zhang, Y., Kuhl, P. K., Imada, T., Kotani, M. and Tohkura, Y. (2005). Effects of language experience: neural commitment to language-specific auditory patterns. *Neuroimage*, 26 (3), 703-720.
- Zhang, Y. and Wang, Y. (2007). Neural plasticity in speech learning and acquisition. *Biling. Lang. Cogn.*, 10 (2), 147-160.

Chapter 2

EXPLORING THE EFFECTS OF SIMILAR AND SAME TASK REPETITION ON LEARNERS' SECOND LANGUAGE PRAGMATIC PROFICIENCY

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ABSTRACT

The present study evaluates the relative effectiveness of three types of input-based tasks for teaching polite request forms to Japanese learners of English: single task demand (affective oriented activities alone), dual task demand (referential oriented activities alone), and the combination of single and dual task demand (referential oriented and affective oriented activities). Treatment group performance was compared to control group performance on pre-, post-, and follow-up tests comprising a discourse completion test and an acceptability judgment test. The results reveal that the three treatment groups outperformed the control group significantly and that there was no significant difference among the three treatment groups. The lack of significant difference among the three treatment groups suggests that processing of the target features through the pragmalinguistics-sociopragmatics connections is more important, regardless of the task demand, and that effective learning occurs even with one activity involving the pragmalinguistics-sociopragmatics connections in teaching L2 request downgraders.

Keywords: structured input task, referential oriented activity, affective oriented activity, pragmatic proficiency.

INTRODUCTION

One of the key issues in teaching second language (L2) pragmatics is the question of how L2 pragmatics should be taught. Jeon and Kaya's (2006) quantitative meta-analysis of research on the role of instruction in the development of L2 pragmatics showed that explicit instruction is more effective than implicit instruction (for explicit instruction, see Fukuya & Clark, 1999; Lyster, 1994; Tateyama, 2001; Witten, 2000; for implicit instruction, see Fukuya & Zhang, 2002; Rose & Ng, 2001). Due to limited available data, however, Jeon and Kaya (2006) noted that the seemingly superior effects of explicit pragmatic instruction should not be taken as definitive but only as indicative of hypotheses to be examined in future studies. Some of the intervention studies in pragmatics teaching indicated that pragmatic features can be taught accompanied by some sort of input enhancement activities. These studies were largely motivated by theories and frameworks built for grammar teaching and took place through analysis of participants' language behaviour and sample conversation recording in House (1996), film in Fukuya and Clark (1999), Tateyama (2001), and Tateyama, Kasper, Mui, Tay, & Thananart (1997), analysis of native speakers' output in a spoken or written form in Rose and Ng (2001), structured input task and problem-solving task in Takimoto (2007) and comparison of participants' output and native speakers' output, comparison of non-native speakers' output and native speakers' output, and comprehension questions about native speakers' role-plays in Takahashi (2001, 2005).

As mentioned above, there is empirical evidence that input-based approaches do assist L2 pragmatic development. VanPatten and Cadierno (1993) argued that instruction that changes the way input is perceived and processed by learners is more likely to lead to intake. Similarly, Ellis (1997) proposed that the manipulation of input rather than output is more likely to result in the integration of intake into learners' implicit declarative knowledge. Finally, later work by Ellis (2003) and Takimoto (2007) suggested that one type of input-based approach, the structured input task, can be best used in teaching grammar and that structured input tasks are effective in teaching L2 pragmatics. The present study investigates the effectiveness of the structured input tasks from the task demand and the task variety perspective.

STRUCTURED INPUT TASK

Structured input task take on an important role in processing instruction. According to VanPatten (1996), processing instruction entails three basic features:“(1) explanation of the relationship between a given form and the meaning it can convey, (2) information about processing strategies, showing learners how natural processing strategies may not work to their benefit, and (3) structured input activities in which learners are given the opportunity to process form in the input in a controlled situation so that better form-meaning connections might happen compared with what might happen in less controlled situations” (p.60). In recent years, a number of grammar teaching studies have provided empirical evidence that structural input tasks themselves, without explicit instruction, are effective in improving learners’ grammar proficiency (e.g., VanPatten & Oikennon, 1996).

Similarly, Ellis (1997) argued that structured input tasks need to be designed in such a way that the target forms are frequent, the meaning of the target form is clear, and the comprehension of target forms is essential for comprehending the whole text. The present study draws on the framework of structured input tasks proposed by Ellis (1997). Some general principles for the design of structured input tasks follow below:

1. An interpretation activity consists of a stimulus to which learners must respond in some way.
2. The stimulus can take the form of spoken or written input.
3. The response can take various forms (e.g., true/false, check a box, select the correct picture, draw a diagram, perform an action), but in each case the response will be either completely non-verbal or minimally verbal.
4. The activities in the task can be sequenced to require attention to meaning first, followed by noticing the form and function of the grammatical structure and finally identifying the error.
5. Structured input tasks should elicit a personal response from the learners (i.e., learners will relate the input to their own lives) as well as a referential response (pp. 155-159).

Both VanPatten (1996) and Ellis (1997) suggested that structured input tasks should include a mixture of referential oriented activities, that is, relating the input to other person(s), and affective oriented activities, that is, relating the input to one’s own life. The referential oriented activities promote noticing

the target features, and the affective oriented activities enhance the intake, helping learners compare what they noticed in another person's situation with what they currently notice in their own context. According to Wong (2004), the purpose of affective oriented activities is to reinforce form-meaning connections by providing learners with more opportunities to see or hear the form in a meaningful context. However, to teach pragmatics, instruction should aim not only at learners' conscious noticing of pragmalinguistic factors (the strategies for realizing speech intentions and linguistic items used to express these intentions), but also sociopragmatic factors (the social conditions governing language use). In the present study, therefore, the referential oriented activities in the structured input task are sequenced to require attention to sociopragmatic factors first, followed by attention to the pragmalinguistic factors relating to target structures and finally to make the connection between pragmalinguistic-sociopragmatic resources. The affective oriented activities are included to reinforce the connection of pragmalinguistic and sociopragmatic resources by providing learners with the opportunity to notice and compare situations relating to other persons to situations in their own lives. A key issue here is whether either the referential oriented activities or the affective oriented activities alone are sufficient to enhance intake and improve learners' pragmatic proficiency. Rosenshine (1971) argued that teachers should prepare a variety of activities and tasks to maintain learners' attention to what they are learning. In other words, it suggests that the combination of referential and affective oriented activities is more effective in enhancing intake and improving learners' pragmatic proficiency than either referential oriented activities or affective oriented activities alone. Closely related to referential and affective oriented designs is the notion of task demand, which the following section addresses.

TASK DEMAND

Of the theories related to task demand, the interface position (Ellis, 1995) supports a role for awareness and attention to form in L2 acquisition. Interface proponents have argued that learners' direct attention to L2 forms through L2 classroom activities indirectly contributes to the development of the underlying L2 system. This position holds that awareness-oriented activities contribute significantly to L2 acquisition. Two important aspects of the interface model are the concepts of noticing and noticing-the-gap, phenomena that take place when learners notice the difference between a

new feature in the input and their existing interlanguage representation. Noticing-the-gap requires that learners compare what is present in the input to what they do in their output. This notion is closely related to the noticing hypothesis (Schmidt, 1995), a hypothesis which states that acquisition of certain features takes place when learners continue to notice a feature in subsequent communicative input. Supported by research in a self-diary study and theories from psychological research, Schmidt extended his noticing hypothesis to the intake of pragmatic information, arguing that learning without awareness is not possible. Schmidt (1994) claimed that "all demonstrations of detection without conscious registration (blind-sight, subliminal perception) demonstrate only the processing of what is already known, not learning" (p. 17). Schmidt (1990) listed five factors which influence the noticeability of L2 features: expectations, frequency, perceptual salience, skill level, and task demand. Of the five, the present study focuses on task demand in teaching L2 pragmatics.

According to Robinson (2001), increasing the cognitive demands of tasks increasingly engages the learner's resources, resulting in more attention to and incorporation and rehearsal of target features in working memory, necessary processes for interlanguage development. Instances of increased task demand include either removing planning time (–planning), adding a second task draining resources from the first task completion (dual task demand), or removing or preventing prior knowledge (–prior knowledge). Robinson (2001) cited Robinson and Lim's (1993) study that compared a task which required participants to describe a marked route on a map with a task that required participants to describe an unmarked route on a map. Robinson argued that the first task involved only single task demand, whereas the second task involved dual task demand because the participants had to both invent the route and describe it. The results indicated that participants were more fluent when engaging in the single task demand task, but no effect for accuracy or complexity was found. In his 2001 study, Robinson compared a task that required speakers to give directions from point A to point B using a map that covered a small, familiar area (+ prior knowledge) with a task that required speakers to give directions using with a map that covered a larger, unfamiliar area (- prior knowledge). Results showed that the task with the higher cognitive demand produced more lexically varied language whereas the task with the lower cognitive demand generated more fluent language. No effect was found for accuracy and complexity. Based on his results, Robinson (2001) argued that the greater amount of interaction between speaker and hearer in the complex task reduced the fluency and complexity of speaker production

relative to performance on the simple task. Furthermore, Robinson suggested that the findings for greater lexical variety on the complex task reflected the additional demands of referring to and distinguishing between a greater number of elements in an unfamiliar area, such as streets, buildings, and other landmarks. The results of Robinson and Lim's (1993) study and Robinson's (2001) study were not in line with Robinson's (2001) argument that increasing the cognitive demands of task results in more attention to, and incorporation and rehearsal of target features, which will improve learners' accuracy, complexity, and fluency.

Yet another seminal study, Skehan and Foster's (1999) study, examined the task demands of single task demand / dual task demand and +/- prior knowledge. In their study, Skehan and Foster (1999) provided four different kinds of task conditions: (1) a simultaneous watch-and-tell; (2) a provided story-line followed by a simultaneous watch-and-tell; (3) a watch first followed by a simultaneous watch-and-tell; and finally (4) a watch-then-tell. The task conditions (1), (2), and (3) were categorized as dual task demands because the participants had to describe the story on the video as they watched it. Task condition (4), in contrast, was characterized as a single task demand because the participants watched the video first and then retold the story in their own time. In addition, the participants chose two video stories, a relatively structured narrative ("restaurant") with a predictable sequence of the action and a relatively unstructured narrative ("golf") with an unpredictable sequence of events. The results showed that the more structured narrative generated more fluent language from the participants while the degree of task demand influenced complexity of language, with the watch-then-tell condition producing more complex language. The study also found that accuracy appeared to depend on the interaction between task structure and degree of task demand. For example, the interaction of the more structured task and the less cognitively demanding task conditions produced greater accuracy. As in Robinson's (2001) study, this finding can be explained in light of how much contextual support the participants received in the task. Differences in the complexity scores for the watch-and-tell and the watch-then-tell conditions, according to Ellis (2003), reflect differences between the discourse modes that the task conditions elicit. The watch-and-tell condition typically leads to a descriptive commentary style while the watch-then-tell condition leads to a narrative style with greater use of subordinating constructions than the descriptive commentary style. Also, it is very difficult to pinpoint the exact factor responsible for a particular effect because often a number of factors, taken together, are related to the effect under investigation. Given the unclear

findings for accuracy, complexity, and fluency, further research is needed to explore the effects of different factors, not only in L2 acquisition, but also in L2 pragmatics. The present study focuses on the relationship between the task demand in terms of the number of tasks and the complexity of the target pragmatic features.

INPUT-BASED INTERVENTION STUDIES OF L2 PRAGMATICS ACQUISITION

As noted in the prior section, a number of intervention studies have employed input-based approaches in teaching L2 pragmatics (e.g., House, 1996; Rose & Ng, 2001; Takahashi 2001, 2005; Tateyama, Kasper, Mui, Tay, & Thananart, 1997). Studies on the extreme of explicit instruction include teacher-fronted explicit explanation. For example, House (1996) examined how German university students with high-intermediate to advanced EFL proficiency improved their ability to initiate and respond to speech acts and conversational routines in a communications course. In the explicit single task demand group, students received teacher-fronted explicit metapragmatic information about the sociopragmatic conditions governing the use of telephone talk routines and their pragmatic functions. Students in the implicit single task demand group, in contrast, did not receive any explicit metapragmatic information about the target features. Students in both groups listened to tapes of their own language behavior and samples of tape-recorded conversations at various stages of the course. Results indicated that both groups improved over the 14-week instruction period but that the explicit group outperformed the implicit group.

Another study with advanced EFL learners was conducted by Rose and Ng (2001) and they investigated the effectiveness of explicit and implicit approaches to teaching compliments and compliment responses using single task demand design. Implicit and explicit experimental groups followed the same procedure with one exception. The implicit group was exposed to film segments and received additional examples of the structures as well as questions to guide their discovery of the target features. After six 30-minute lessons, the results of three questionnaires (self-assessment questionnaires, discourse completion questionnaires, and metapragmatic questionnaires) showed that both implicit and explicit single task demand groups experienced gains in pragmatic linguistic proficiency. However, only the explicit single task

demand group effectively developed sociopragmatic proficiency. In a later study, Rose (2005) suggested that the similar improvement in pragmalinguistic proficiency for both single task demand groups could be due to the advanced proficiency level of participants or the relative easiness of the targeted pragmalinguistic features.

In contrast to House's (1996) study and Rose and Ng's (2001) study, Tateyama, Kasper, Mui, Tay, and Thananart (1997) investigated how beginner learners of Japanese as a foreign language developed Japanese pragmatic proficiency. The target pragmatic features were the three functions of the routine formula *sumimasen* as an attention getter, apology, and thanking expression. In the explicit single task demand group, students first discussed the different functions of *sumimasen* followed by teacher fronted instruction with further examples to illustrate the different uses of the routine formula. The explicit group also watched short video clips exemplifying the targeted pragmatic routines. The implicit single task demand group did not engage in any explicit metapragmatic activities and simply watched the same video clips as the explicit group. After only 50 minutes of instruction, the quantitative and qualitative results (role-play, multiple-choice task, and self-reports) showed that the explicit single task demand group had an advantage over the implicit single task demand group.

In a separate study of instructional effectiveness, Takahashi (2001) proposed four input enhancement conditions: explicit instruction, form-comparison, form-search, and meaning-focused conditions. The explicit single task demand condition comprised a teacher-fronted metapragmatic explanation of the targeted form: request strategies. In the form-comparison dual task demand condition, learners were instructed to compare their own request strategies with request strategies provided by native speakers of English. In the form-search dual task demand condition, learners were asked to compare request strategies of other Japanese learners of English with request strategies provided by native speakers of English. Finally, in the meaning-focused single task demand condition, learners first listened to and read the input and then answered comprehension questions. The four conditions differed from each other in terms of degree of input enhancement with the explicit instruction exhibiting the greatest degree of input enhancement and the meaning-focused condition the least. After four weeks of instruction with 90 minutes per week, discourse completion tests and self-reports showed that the explicit single task demand group learned all of the request strategies more successfully than the other three experimental groups.

In spite of the general trend in support of explicit instruction, particularly teacher fronted explicit explanation, Takahashi (2001) found that some participants in the explicit group used non-target pragmalinguistic forms in the discourse completion tests because the previous instruction they received was still operative in their restructuring process. Furthermore, some participants in the explicit group also used *I wonder if you could VP* across all situations, regardless of degree of imposition. The tendency to use *I wonder if you could VP* is partially related to limitations in processing control (Bialystok, 1993) which explains why fluent and appropriate conversational responses require a high degree of processing control and why such complex skills may be difficult to develop in short periods of instruction. House (1996) also found that neither the implicit nor explicit groups improved their performance in terms of appropriate routinized responses.

Degree of attainment and lasting effect are two additional concerns in studies on the acquisition of L2 pragmatic proficiency. In her study, Takahashi (2001) found that the degree of attainment and lasting effect of L2 pragmatic proficiency under the explicit single task demand condition was doubtful. Instead, Takahashi found that several learners under form-comparison dual task demand condition used target structures successfully. As a follow-up, Takahashi (2005) conducted an in-depth qualitative analysis of the form-comparison and the form-search dual task demand conditions for teaching request strategies. After four weeks of 90 minutes per week, discourse completion tests and self-reports revealed that learners in the form-comparison condition outperformed learners in the form-search condition on all request strategies. Although Takahashi reconfirmed the effectiveness of the form-comparison condition in her follow-up study, some learners in the form-comparison group were unable to demonstrate their pragmatic performance evenly across different situations. Similar results for some learners in the explicit condition were found in Takahashi's (2001) study, a study which provided no evidence of developing sociopragmatic proficiency, and attested to the necessity of developing both pragmalinguistic and sociopragmatic proficiency. These mixed results contribute to the debate over the degrees and types of task demand that are most effective in helping learners access and integrate sociopragmatic and pragmalinguistic knowledge in an input-based approach to L2 instruction.

THE PRESENT STUDY

The present study focuses on the effects of degree of task demand in terms of the number of tasks and task variety on recognizing and producing L2 request downgraders. Of the two task varieties, the referential oriented activities have dual task demands, directing learners to rate the appropriateness of two underlined requests in situations related to other people and selecting a more appropriate request form. The other task activities, the affective oriented activities, have single task demands and instruct learners to rate the appropriateness of one underlined request in a situation related to their own lives.

To date, no studies have investigated the effectiveness of the degree of task demand and the variety of activities on recognizing and producing L2 request downgraders, and the following research question is investigated in the present study:

What are the relative effects of degree of task demand and the variety of task activities on recognizing and producing L2 request downgraders?

Participants

Participants were solicited through an employment advertisement provided on the Internet in Japan, and all participants were unaware that English lexical and syntactic downgraders were the focus of the study. Each participant was required to submit a Test of English for International Communication (TOEIC) score. After checking TOEIC scores, 60 individuals at the intermediate English proficiency level, defined as TOEIC score of 600, were selected for the study. Participants were randomly assigned to one of four groups comprising three treatment groups and one control group. The three experimental groups received the following instructional treatments: referential oriented and affective oriented activities (IB) ($N = 15$), referential oriented activities alone (IR) ($N = 15$), and affective oriented activities alone (IA) ($N = 15$). The control group also comprised 15 participants. The participants' first language was Japanese, and their average age was 26 years old. Most participants had studied English for 10 years at schools in Japan.

Target Structures

Studies of learners' request strategies have indicated that non-native speakers of English typically lack the L2 knowledge to enable them to mitigate English by means of syntactic and lexical/clausal downgraders (House & Kasper, 1987; Faerch & Kasper, 1989; Hill, 1997; Takahashi, 1998, 2001). For this reason, the current study focused on teaching syntactic and lexical/clausal downgraders in English request forms.

Syntactic downgraders modify the main clause internally by means of mitigating the imposition force of a request through syntactic choices, while lexical/clausal downgraders soften the imposition of a request by means of modifying the main clause internally through lexical/clausal choices (Blum-Kulka, House, & Kasper, 1989). A list of these internal modifiers is shown below in Table 1.

Table 1. A List of Some Internal Modifiers

Some Internal modifiers	Example
INTERNAL SYNTACTIC DOWNGRADERS	
Aspect (durative aspect marker)	<i>I am wondering</i> if you could lend me a book.
Tense	<i>I wanted</i> to ask you to come here.
INTERNAL LEXICAL AND CLAUSAL DOWNGRADERS	
Lexical downgrader	Could you <i>possibly</i> lend me your textbook?
Clausal downgrader	<i>I wonder</i> if you could come here. <i>I'm afraid</i> you are going to have to move your desk.

Instructional Treatments

Four groups of learners participated in four types of English language classes. Each teaching session for the three treatment groups and the control group lasted for 40 minutes, and the instructor gave all directions in Japanese during the instruction. Sessions were conducted twice a week for two weeks at an English conversation school in Japan by the same instructor. The instructor was also the researcher.¹

The three instructional treatments were matched for target pragmatic structures, and all four groups were matched for time on task. The first class for all treatment groups was spent on lexical/clausal downgraders in English requests, the second class on syntactic downgraders, the third class on a repeat of the first class, and the fourth class on a repeat of the second class.

Treatment for the first experimental group (IB) comprised both referential oriented and affective oriented activities (see APPENDIX). Each referential oriented activity lasted for eight minutes while the affective oriented activities lasted for five to six minutes. During instruction, the participants received handouts with three referential oriented activities and three affective oriented activities. In the referential oriented activities, the participants read situations and dialogues related to other people's lives and then rated two underlined request forms and chose the more appropriate form. After choosing the form on their own, learners listened to an oral recording of the dialogue and underlined the actual request. In the affective oriented activities, participants read each dialogue in the handouts and then listened to an oral recording. Participants were then asked to relate the situations to their own lives and rate the level of appropriateness of each underlined request on a five-point Likert scale.

Treatment for the second experimental group (IR) consisted of just one component: engaging in the same referential oriented activities as the first experimental group (IB). Each referential oriented activity lasted for about 13 minutes.

Treatment for the third experimental (IA) group comprised affective oriented activities only with participants engaging in the same affective oriented activities as the first experimental group (IB). As with the second treatment group, each activity for the third treatment group lasted for about 13 minutes.

Lessons for the control group were designed to help participants perform well on the TOEIC; participants in this group engaged in TOEIC reading comprehension exercises. Participants in the control group were not exposed to the target structures during the lessons.

Testing Instruments and Procedures

The present study used a pre-test, post-test, and follow-up test to measure the effectiveness of the instructional treatments. The pre-test was administered two to three days prior to the first instructional treatment, the post-test eight to

nine days after the treatments, and the follow-up test in the fourth week following instruction. Each test consisted of an acceptability judgment test, and a discourse completion test.

Situations in the two testing instruments comprised one speech act, a request, with three sociolinguistic variables: Power (the status of the speaker with respect to the hearer), Speaker Difficulty (the difficulty that the speaker experiences when asking the hearer to perform the request), and Distance (the relationship between the speaker and the hearer). These three variables were chosen because in cross-cultural pragmatics, they are considered to be the three independent and culturally sensitive variables that subsume all other variables and play important roles in speech act behavior. The study focused on situations with a high level of Speaker Difficulty combined with Power and Distance. Situations with a low level of Speaker Difficulty were added as distractors in order to increase the reliability of the instruments. Both the discourse completion test and the acceptability judgment test consisted of 20 situations, a total of 10 High Speaker difficulty items and 10 Low Speaker difficulty items.

The situations with a high level of Speaker Difficulty were modified from items validated by Hill (1997), Hudson, Detmer, and Brown (1992, 1995) and Takahashi (1998, 2001).

Three versions of the discourse completion test and the acceptability judgment test were developed and counterbalanced for order of presentation of the same situations across the pre-tests, post-tests, and follow-up tests. The three different versions were used to minimize the test learning effect.²

Participants had to complete the pre-tests, post-tests, and follow-up tests in the following order: first the discourse completion test then the acceptability judgment test. The acceptability judgment test was administered second to avoid providing participants with models that could be used in the discourse completion test.

Open-ended discourse completion test (DCT). The discourse completion test required participants to read short descriptions of 20 situations in English and write what they would say in the respective situations in English. Participants were given a Japanese translation for reference, if needed. Two native speakers of English who were trained for an hour rated the appropriateness of the request forms on a five-point Likert scale. An answer that reflected the most appropriate use of downgraders in participants' requests was given five points. For example, for the High Speaker difficulty items, 1 point was given to *Please ~*, 2 points to *Can you ~?*, 3 points to *Could you ~?*,

4 points to *Is it possible for you ~ ?*, 5 points to *I was just wondering if you could ~*. As there were 10 High Speaker items on the test, the maximum score was 100 points (50 points $\times$ 2 native speakers). One sample item is shown below.

You are writing a difficult paper for Professor Hill. You need some help with the paper but Professor Hill is away for a month. A friend of yours has suggested you go and see Professor Watson. Although you do not know Professor Watson and Professor Watson is extremely busy, you have decided to ask Professor Watson to look through your long paper before you hand it in the next day. What would you ask Professor Watson? (*based on Takahashi, 1998, 2001*)

Note: speaker difficulty = +; power = -; distance = +

+ = more; - = less; $\pm$ = equal

You:

Acceptability judgment test (AJT). The acceptability judgment test required the participants to read written descriptions of 20 situations in English, accompanied by a Japanese translation. Participants received three isolated requests, one at a time, and they scored each request on an 11-point scale.³ Participants who rated the three requests in line with the acceptability judgments of native English speakers,⁴ were awarded five points. Participants who did not rate all three requests in line with native English speakers were awarded nothing. As there were 10 High Speaker difficulty items on the test, the maximum score was 50 points. A sample example is shown below.

Professor King at your university is a famous psychologist. You are now reading one of Professor King's books and finding it very complicated. You would like to ask Professor King some questions about the book. Professor King does not know you and Professor King is extremely busy. However, you decide to go and ask Professor King to spare you some time for some questions. What would you ask Professor King? (*based on Takahashi, 1998, 2001*)

Note: speaker difficulty = +; power = -; distance = +

+ = more; - = less; $\pm$ = equal

a: I want to ask you some questions.

not appropriate at all 0—1—2—3—4—5—6—7—8—9—10
completely appropriate

b: I was wondering if it would be possible for me to ask you some questions.
not appropriate at all 0—1—2—3—4—5—6—7—8—9—10
completely appropriate

c: Could I possibly ask you some questions ?
not appropriate at all 0—1—2—3—4—5—6—7—8—9—10
completely appropriate

RELIABILITY

Interrater reliability was estimated by calculating the correlation of the two raters’ scores. For the discourse completion test, the resulting correlation coefficient was .998, which was statistically significant ($p < .001$).

Average Cronbach alpha reliability estimates for the three test forms of the discourse completion test and acceptability judgment testwere 0.950 and 0.932 respectively, showing a fairly high internal consistency for two tests.

Validity

To ensure content validity, test items were carefully planned and matched to a theoretical framework based on speaker difficulty, power and distance variables. Table 2 indicates the variable distribution across tests.

Table 2. Distribution of Variables (Version A for the DCT and AJT)

4	6	10	18	2	8	12	14	16	20	1	3	5	11	13	7	9	15	17	19
D																			

Note: S = Situation; SD = Speaker Difficulty; P = Power; D = Distance
+ = More; – = Less; ± = Equal

RESULTS

The following section summarizes the results for each test instrument. The overall alpha level was set at .05with two group comparisons (the discourse

completion test and acceptability judgment test) for one item type (High Speaker difficulty).

Results from the discourse completion test. Results of a two-way ANOVA with repeated-measures showed a significant main effect for Instruction (the IB, IR, and IA), $F(3, 56) = 12.49, p = .000$, a significant main effect for Time (the pre-test, post-test, and follow-up test), $F(3, 56) = 90.56, p = .000$, and a significant interaction effect between Instruction and Time, $F(9, 56) = 5.53, p = .000$. Table 3 summarizes the descriptive statistics.

Results of the one-way ANOVA analysis in Figure 1 indicate that although there were no statistically significant differences among the four groups on the pre-test scores, $F(3, 56) = 2.27, p = .90$, the three treatment groups showed gains from the pre-test to the post-test and the follow-up test and that positive effects for the three treatments between the post-test and the follow-up test were maintained, as revealed by a two-way ANOVA with repeated-measures, $F(2, 42) = .44, p = .649$. Furthermore, the interaction reveals the relative superiority of the three treatment groups over the control group with no crossovers between the three treatment groups and the control group after the treatments. Post-hoc Scheffé tests for the main effect for treatment show the following contrasts: The three treatment groups perform significantly better than the control group, and there were no significant differences among the three treatment groups.

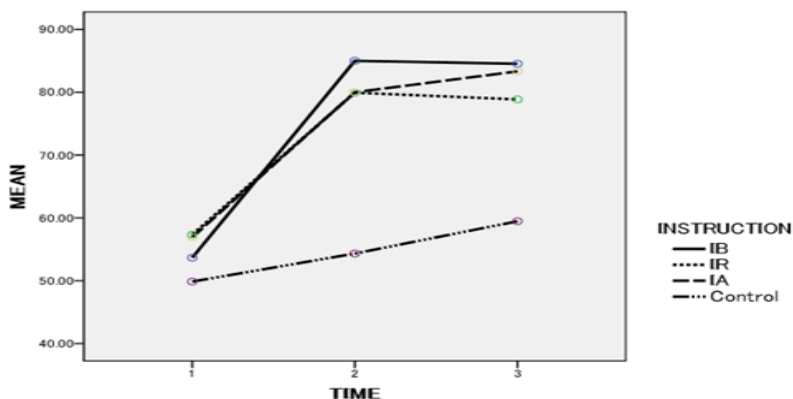


Figure 1. Interaction plot for DCT

Note: IB = Instruction with referential oriented activities and affective oriented activities; IR = Instruction with referential oriented activities alone; IA = Instruction with affective oriented activities alone.

Table 3. Descriptive statistics for the discourse completion test

Test	Instructional Groups							
	referential oriented activities + affective oriented activities (N = 15)		referential oriented activities IR (N = 15)		affective oriented activities IA(N=15)		control (N = 15)	
	M	SD	M	SD	M	SD	M	SD
Pre-test	53.67	11.19	57.33	4.82	56.93	4.27	49.87	12.29
Post-test	85.00	13.33	79.93	19.48	80.00	17.79	54.33	9.55
Follow-up test	84.53	13.82	78.87	18.12	83.33	15.83	59.47	5.00

Note: Maximum score = 100.

Table 4. Descriptive statistics for the acceptability judgment test

Test	Instructional Groups							
	referential oriented activities + affective oriented activities (N = 15)		referential oriented activities IR (N = 15)		affective oriented activities IA(N=15)		control (N = 15)	
	M	SD	M	SD	M	SD	M	SD
Pre-test	27.33	17.10	28.64	16.29	26.67	19.43	23.67	14.33
Post-test	41.67	13.58	42.73	12.12	43.33	9.00	23.60	14.37
Follow-up test	40.00	14.01	42.73	14.72	39.00	16.92	23.53	14.42

Note: Maximum score = 50

Results from Acceptability Judgment Test (AJT). Similar to the discourse completion test, results of a two-way repeated-measures ANOVA for the acceptability judgment test revealed a significant main effect for Instruction, $F(3, 56) = 5.15, p = .003$, a significant main effect for Time, $F(3, 56) = 28.96, p = .000$, and a significant interaction effect between Instruction and Time, $F(9, 56) = 2.36, p = .035$. Table 4 summarizes the descriptive statistics for the acceptability judgment test.

The results displayed in Figure 2 indicate that although there were no statistically significant differences among the four groups in a one-way ANOVA analysis of the pre-test scores, $F(3, 56) = .28, p = .838$. Furthermore, the three treatment groups gained significantly from the pre-test to the post-test and the follow-up test, and positive effects for the three treatments between the post-test and the follow-up test were maintained, as evident by results from a two-way ANOVA with repeated-measures, $F(2, 42) = .37, p = .694$. Such an interaction shows the superior performance of the three treatment groups relative to the control group with no crossovers between the three treatment groups and the control group after the treatment. As with the discourse completion test, post-hoc Scheffé tests for the main effect from treatment on the acceptability judgment test reveal the following contrasts: The three treatment groups performed significantly better than the control group and there were no statistically significant differences among the three treatment groups.

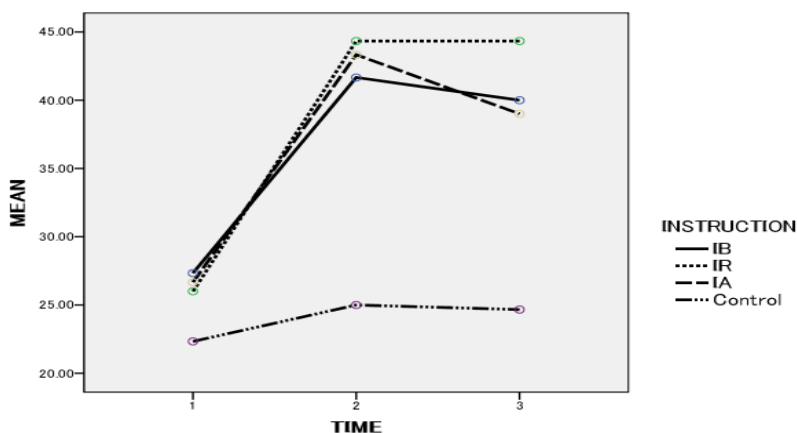


Figure 2. Interaction plot for AJT

Note: IB = Instruction with referential oriented activities and affective oriented activities; IR = Instruction with referential oriented activities alone; IA = Instruction with affective oriented activities alone.

Table 5. Descriptive statistics for task-based performance

Test	Treatment Group									
		referential oriented activities + affective oriented activities (N = 15)		referential oriented activities IR (N = 15)		affective oriented activities IA(N=15)			Total	
		M	SD	M	SD	M	SD	Probability	M	SD
Post-test	Aspect	2.33	3.09	1.27	2.05	3.13	3.38	.220	2.07	2.92
	Tense	1.60	2.35	1.67	2.69	2.93	3.58	.379	2.24	2.93
	Lexical downgrader	3.67	3.24	3.07	3.73	2.00	2.73	.374	2.91	3.26
	Clausal downgrader	6.87	3.31	5.47	4.45	7.20	3.12	.399	6.51	3.67
Follow-up test	Aspect	2.60	3.66	3.07	3.53	2.40	3.18	.864	2.62	3.43
	Tense	1.40	2.47	3.20	3.80	3.27	3.73	.243	2.69	3.40
	Lexical downgrader	2.60	3.07	2.67	3.44	2.93	3.01	.955	2.73	3.11
	Clausal downgrader	7.07	3.13	5.40	4.14	7.27	3.39	.302	6.58	3.60

Task-Based Performance. Participants' performance on the discourse completion task was also assessed for syntactic and lexical/clausal complexity. Syntactic complexity was scored using the number of durative aspect markers and past tense per item while lexical/clausal complexity was scored using the number of lexical and clausal downgraders per item. Table 5 shows no significant difference among the three treatment groups in terms of the syntactic and lexical/clausal complexity scores. Table 5 also indicates that the three treatment groups produced more clausal downgraders than any other element. Thus, it seems that clausal downgraders had a strong impact on the participants, and the participants attended to them throughout the study.

DISCUSSION

The research question in the present study examined the relative effectiveness of dual task demand of referential oriented activities, single task demand of affective oriented activities, and a combination of referential and affective oriented activities to improve Japanese learners' English pragmatic proficiency. The participants in the first treatment group (IB) received both referential oriented and affective oriented activities during the treatment, while the participants in the second (IR) and third (IR) groups received either the referential oriented activities or the affective oriented activities alone. The results indicated that the three treatment groups performed similarly and that all treatment groups outperformed the control group as measured by a discourse completion test, an output-based test and an acceptability judgment test, an input-based test. Furthermore, no significant difference among the three treatment groups in terms of the syntactic and lexical/clausal complexity scores for the discourse completion test was found. Given the lack of significant difference between the three treatment groups, it seems that single/dual task demand and variety of task activities did not have a strong effect on recognizing and producing L2 request downgraders.

Any explanations of these results must be speculative in nature, as no information regarding the psycholinguistic processing involved in either the treatments or the tests is available. During the referential oriented activities, the participants in the treatment groups had to discover the rules for themselves by attending to not only the relationship between forms and meanings of target features but also the sociopragmatic and pragmalinguistic features of the target structures. In the referential oriented activities, the participants chose the more appropriate of two pragmalinguistic request forms,

an exercise that highlighted paying attention to pragmalinguistic and sociopragmatic meanings. In the affective oriented activities, participants also rated the level of appropriateness of each bold-faced underlined pragmalinguistic request form, paying attention to pragmalinguistic and sociopragmatic meaning it carried. In earlier work, Craik and Lockhart (1972) claimed that the quality of a memory trace depends on the level or depth of perceptual and mental processing where meaning plays a very important role. Meaning, in this case, includes both pragmalinguistic and sociopragmatic meaning. In other words, when the participants focused more on the pragmalinguistics-sociopragmatics connections of the target feature, they were inclined to process it at a deeper level, which led to greater retention. Both the referential and affective oriented activities in the present study were designed to focus learners' attention on the pragmalinguistics-sociopragmatics connections by requiring the learners to access and integrate their pragmalinguistic and sociopragmatic knowledge. Thus, it is likely that the referential and affective oriented activities involved greater depth of processing, resulting in improved pragmatic proficiency. If so, it is most likely that the knowledge established through the referential oriented activities in the first group (both referential and affective oriented activities) had already caused learners to notice specific target features and facilitate the process of comparison between their norms and target norms appropriately in the first part of the instructional treatment. In the second part of the instructional treatment, there were not many opportunities for the affective oriented activities to adjust the processing of specific target features. Perhaps the affective oriented activities would have had a greater effect in the first experimental group if the referential oriented activities had not been so optimum and if the referential oriented activities had not been repeated.

Moreover, although the results show no significant difference among the three treatment groups in terms of the syntactic and lexical/clausal complexity scores, they indicate that the three treatment groups produce more clausal downgraders than any other elements, which may be related to attention limitations. One possible explanation may be related to the limitation of attentional resources. VanPatten (1990) argued that the limited attention capacities of learners can have a significant impact on what can be focused on during meaning oriented activities. Similarly, Skehan and Foster (1999) claimed that learners cannot attend to everything equally and that focusing on one area may reduce the probability that other areas can also become targets of attention. In view of learners' attention limitations, it is advisable to teach only one thing at a time in order to make the most of task.

CONCLUSION

The present study examined the relative effects of single/dual task demand and a variety of activities on recognizing and producing L2 request downgraders. The results indicate that processing of the target pragmatic features through the pragmalinguistics-sociopragmatics connections has a strong effect on recognizing and producing L2 request downgraders, regardless of single/dual task demand. Furthermore, one activity involving the pragmalinguistics-sociopragmatics connections of the target feature may be enough for improving learners' pragmatic proficiency.

One pedagogical implication for teachers, then, is that they should be aware that effective learning occurs even with the referential oriented activities alone or affective oriented activities alone as long as the activities are optimum. It is possible that the referential oriented activities, the affective oriented activities, and the combination of the referential and affective oriented activities can be repeated and that their repetition can reinforce the connection of the pragmalinguistic-sociopragmatic factors of target structures. Such tasks may prove of great value in improving learners' L2 pragmatic proficiency.

Several limitations of the present study should be considered in future research. One of the main limitations of the study involves the choice of testing instruments. The assessment instruments in this study consisted of the different kinds of tests: a discourse completion test and an acceptability judgment test. As both the tests were administered without any time constraints, the participants were likely to resort to controlled processing because they had plenty of time for the task. Accordingly, judgment and production modes of testing were adopted for assessing controlled processing skills, but there were no tests for assessing automatic processing skills. The addition of an on-line speaking test or listening test would have added an additional measure of automatic processing skills. Second, although the present study examined the relationship between the task demand and the complexity of the target pragmatic features, the study did not investigate the effect of task demand on accuracy and fluency of the target pragmatic features. Given the lack of effects for accuracy and fluency, further research is needed to investigate what factors may be responsible for accuracy and fluency effects in teaching L2 pragmatics. Third, the treatments in the three control groups were repeated to make the initial input enhancement more effective; as a result, the task repetition proved very effective. However, the present study did not explore the effects of task-type repetition. Ellis (2003) has also proposed that more research is needed to examine the relative effects of asking learners to

perform the same and similar tasks, particularly tasks of the same kind with similar content. Perhaps a topic for future research could be the relative effects of task repetition and similar task repetition on the development of learners' pragmatic proficiency.

In spite of these shortcomings, the present study contributes to our understanding of the effectiveness of tasks for the acquisition of L2 pragmatics in two important ways. First, tasks are more effective in promoting gains in recognizing and producing L2 request downgraders when accompanied by processing of the target feature through the pragmalinguistics-sociopragmatics connections. Second, effective learning occurs even with one activity of the pragmalinguistics-sociopragmatics connections in teaching L2 request downgraders. Thus, one implication of the present study is that researchers and teachers might find the results rewarding if they would devote some energy to designing the best possible tasks to assist learners process both pragmalinguistic and sociopragmatic resources in greater depth in teaching L2 pragmatics.

NOTE

¹ In behavioral research, researcher expectancy can be a problem when the researcher teaches and select experimental groups. The researcher followed the instructional guidelines rigidly controlled for the effect with the double-blind technique after the data were collected in order to minimize any researcher expectancy effect during the treatments.

² If the study begins with pre-test, the test can affect performance during the treatment and on future tests. The test alerts participants as to what researcher expect them to learn.

³ The acceptability judgment test used an 11-point Likert scale. According to Hatch and Lazarton (1991), a broader range in scale encourages more precision in respondents' judgments.

⁴ Ten native speakers of English were required to read written English descriptions of 20 situations with a Japanese supplement. They were then presented with a series of isolated requests and instructed to score the first request on an 11-point scale and then to score subsequent responses proportionally higher or lower in accordance with the degree of perceived acceptability. The native speakers' data was relatively uniformed and consistent ($SD = .82 \sim 1.08$, range = 2.00 ~ 4.00). This data was used as the baseline data.

REFERENCES

- Blum-Kulka, S., House, J., & Kasper, G. (1989). *Cross-cultural pragmatics: Requests and apologies*. Norwood, NJ: Ablex.
- Craik, F., & Lockhart, R. (1972). Levels of processing: A framework for memory research. *Journal of Verbal Learning and Verbal Behavior*, 11, 671-684.
- Ellis, R. (1995). Interpretation tasks for grammar teaching. *TESOL Quarterly*, 29(1), 87-105.
- Ellis, R. (1997). *SLA research and language teaching*. Oxford: Oxford University Press.
- Ellis, R. (2003). *Task-based language learning and teaching*. Oxford: Oxford University Press.
- Faerch, C., & Kasper, G. (1989). Internal and external modification in interlanguage request realization. In S. Blum-Kulka, J. House, & G. Kasper (Eds.), *Cross-cultural pragmatics: Requests and apologies*, (pp. 221-247). Norwood, NJ: Ablex.
- Fukuya, Y., & Zhang, Y. (2002). Effects of recasts on EFL learners' acquisition of pragmalinguistic conventions of request. *Second Language Studies*, 21(1), 1-47.
- Hatch, E., & Lazaraton, A. (1991). *The research manual: Design and statistics for applied linguistics*. Boston, MA: Heinle & Heinle.
- Hill, T. (1997). *The development of pragmatic competence in an EFL context*. Unpublished doctoral dissertation. Temple University, Japan.
- House, J. (1996). Developing pragmatic fluency in English as a foreign language: Routines and metapragmatic awareness. *Studies in Second Language Acquisition*, 18(2), 225-252.
- House, J., & Kasper, G. (1987). Interlanguage pragmatics: Requesting in a foreign language. In W. Loersch & R. Schulze (Eds.), *Perspectives on language in performance*, (pp. 1250-1288). Tübingen: Narr.
- Hudson, T., Detmer, E., & Brown, J. (1992). *A framework for testing cross-cultural pragmatics* (Technical Report #2). Honolulu, HI: University of Hawai'i Press.
- Hudson, T., Detmer, E., & Brown, J. (1995). Developing prototypic measures of cross-cultural pragmatics (Technical Report #7). Honolulu, HI: University of Hawai'i Press.
- Jeon, E., & Kaya, T. (2006). Effects of L2 instruction on interlanguage pragmatic development: A meta-analysis. In J. Norris & L. Ortega

- (Eds.), *Synthesizing research on language learning and teaching* (pp. 165-211). Philadelphia: John Benjamins.
- Lyster, R. (1994). The effect of functional-analytic teaching on aspects of French immersion students' sociolinguistic competence. *Applied Linguistics*, 15(3), 263-287.
- Robinson, P. (2001). Task complexity, task difficulty, and task production: Exploring interactions in a componential framework. *Applied Linguistics*, 22, 27-57.
- Robinson, P., & Lim, J. (1993). Cognitive load and the route marked not-marked map task. Unpublished data, University of Hawaii at Manoa, Department of ESL, Honolulu.
- Rose, K., & Ng, C. (2001). Inductive and deductive teaching of compliments and compliment responses. In K. Rose & G. Kasper (Eds.), *Pragmatics in language teaching* (pp. 145-170), New York: Cambridge University Press.
- Schmidt, R. (1990). The role of consciousness in second language learning. *Applied Linguistics*, 11(2), 129-158.
- Schmidt, R. (1994). Deconstructing consciousness in search of useful definitions for applied linguistics. In J. Hulstijn & R. Schmidt (Eds.), *AILA Review: Consciousness in second language learning: Conceptual, methodological, and practical issues in language learning and teaching*, 11, 11-26.
- Schmidt, R. (1995). Consciousness and foreign language learning: A tutorial on the role of attention and awareness in learning. In R. Schmidt (Ed.), *Attention and awareness in foreign language learning* (SLTCC Technical Report # 9) (pp. 1-64). Honolulu, HI: University of Hawai'i Press.
- Skehan, P., & Foster, P. (1999). The influence of task structure and processing conditions on narrative retellings. *Language Learning*, 49(1), 93-120.
- Takahashi, S. (1998). Quantifying requestive imposition: Validation and selection of situation for L2 pragmatic research. *Studies in Languages and Cultures* 9: 135-159. Institute of language and cultures, Kyushu University.
- Takahashi, S. (2001). The role of input enhancement in developing interlanguage pragmatic competence. In K. Rose & G. Kasper (Eds.), *Pragmatics in language teaching* (pp. 171-199). New York: Cambridge University Press.

- Takahashi, S. (2005). Noticing in task performance and learning outcomes: A qualitative analysis of instructional effects in interlanguage pragmatics. *System*, 33(3), 437-461.
- Takimoto, M. (2007). The Effects of input-based tasks on the development of learners' pragmatic proficiency. *Applied Linguistics Advance Accessdoi*: 10.1093/applin/amm049
- Tateyama, Y., Kasper, G., Mui, L., Tay, H., & Thananart, O. (1997). Explicit and implicit teaching of pragmatic routines. In L. Bouton (Ed.): *Pragmatics and language learning, monograph series* Vol. 8 (pp. 163-178). Urbana-Champaign, IL: Division of English as an International Language, University of Illinois, Urbana-Champaign.
- VanPatten, B. (1990). Attending to content and form in the input: An experiment in consciousness. *Studies in Second Language Acquisition*, 12(3), 287-301.
- VanPatten, B. (1996). *Input processing and grammar instruction in second language acquisition*. Norwood, NJ: Ablex.
- VanPatten, B., & Cadierno, T. (1993). Explicit instruction and input processing. *Studies in Second Language Acquisition*, 15(2), 225-243.
- VanPatten, B., & Oikkenon, S. (1996). Explanation versus structured input in processing instruction. *Studies in Second Language Acquisition*, 18(4), 495-510.
- Witten, C. (2000). Using video to teach for sociolinguistic competence in the foreign language classroom. *Texas Papers in Foreign Language Education* 5(1), 143-175. (Eric Document Reproduction Service No. ED 468314).
- Wong, W. (2004). The nature of processing instruction. In B. Van Patten (Ed.), *Processing instruction* (pp. 33-63). NJ: Lawrence Erlbaum Associates.
- Wong, W., & Van Patten, B. (2003). The evidence is IN: Drills are OUT. *Foreign Language Annals*, 36, 403-423.

APPENDIX: EXAMPLES OF REFERENTIAL AND AFFECTIVE ORIENTED ACTIVITIES

Referential activity: Read the following situation and the dialogue and choose the more appropriate request form out of two offered for each

underlined part and indicate your choice by circling ‘(a)’ or ‘(b)’. Then, listen to an oral recording of the dialogue and indicate whether the actual request used in the dialogue is ‘(a)’ or ‘(b)’.

Situation: Yuka is about to start her car when she notices that her car battery has gone flat. She needs to go to school now and she does not have any other means but to ask her landlord, Mr. Brown, whom she has never spoken to before, to give her a ride to school. Her landlord is extremely busy, but she decides to ask her landlord to drive her to school.

Brown: Hello.
Yuka: Hi, you are Mr. Brown, aren't you?
Brown: That's right.
Yuka: I'm a tenant next door. My car battery has just gone flat and I can't start my car. I really need to get to school. **1. (a) I was just wondering if I could by any chance get a lift; (b) I am just wondering if I could by any chance get a lift.**
Brown: Well, actually, I am really busy helping other tenants moving into this apartment. So, I can't really help you.
Yuka: I understand, but it's important that I get to school today because I have exams.
Brown: Tell you what. I've got my mobile phone. Why don't you call a taxi company?

Affective activity: Read the following situation and the dialogue and answer the following questions.

Situation: John is living in an apartment. He is extremely busy working on his assignment, but he needs to send a big parcel to England today. His landlady, Mrs. Taylor, whom he has never spoken to before, is extremely busy, but he decides to ask his landlady to send the big parcel. John sees the landlady.

John: Hi, you are Mrs. Taylor, aren't you?
Taylor: That's right.
John: Hello. My name is John.
Taylor: Oh, you are the tenant.
John: Yes. I live next door.
Taylor: How is it going?
John: Pretty good, thank you. I'm very busy working on my assignment.

1. I wondered if I could possibly ask you a favor.

Taylor: What's the favor?

John: I need to send this big parcel to England today and **2.I was wondering if it would be possible for you to take it into town.**

Taylor: It's quite big, isn't it?

John: Yes, It's quite large. Usually I would do it myself, but since I need to turn in the assignment today, I won't be able to do so.

Taylor: I understand.

Indicate the appropriateness level of the four underlined requests from your point of view on the scale below.

1. very unsatisfactory 1—2—3—4—5 completely appropriate
 2. very unsatisfactory 1—2—3—4—5 completely appropriate
-

Chapter 3

IMPROVING ASIAN STUDENTS' TEXT COMPREHENSION AND INTERPRETATION THROUGH READER RESPONSE

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Interest in the use of literature has increased over the past few decades due to a growing dissatisfaction with a utilitarian approach to reading in which learning to read is perceived as the accumulation of skills, and reading is viewed as a set of discrete skills that can be learned in isolation (Bloome and Nieto, 1991). The lessons, roughly speaking, are organized in a hierarchical manner, from basic and prerequisite skills to more advanced skills, and from easy passages to harder ones. Students must acquire prerequisite skills before proceeding to more advanced ones. As a result, this utilitarian approach to reading has led to the development of "functional literates" and produced readers who meet the basic reading requirements of contemporary society (Freire and Macedo, 1987; Shannon, 1989, 1990). In contrast, previous and current research has shown that literature-based reading instruction can promote higher cognitive thinking skills and academic performance (Morrow, 1992; Morrow, Pressley, and Smith, 1997; Yau, 2007; Yau and Jiménez, 2003). Students who received literature-based instruction demonstrated the ability to transfer knowledge gained from reading to writing, as well as showed good understanding of story structure such as the identification of story plot, theme, conflict, and resolution (Hancock, 1993; Morrow, Pressley, and Smith, 1997; Yau, 2007). Although there are various definitions,

literature-based reading instruction, in general, involves using literature in the teaching of reading (Hiebert and Colt, 1989; Tunnell and Jacobs, 1989; Zarrillo, 1989), and its theoretical base is derived from reader response theories. Five central types of reader response theory along with a literature review on past work in each area will be extensively discussed in the upcoming section.

READER RESPONSE THEORIES

There are, in general, five major categories of reader response that evolved in the twentieth century: the textual, experiential, psychological, social, and cultural theories. Major tenets, issues, and critiques for each category are presented in the following section.

TEXTUAL THEORIES OF RESPONSE

The assumption underlying textual theories is that meaning is embedded in a text rather than constructed by a reader and a text. During the 1940s and 1950s, the “New Criticism” movement advocated “precise, technical, objective analysis of the language of the text, particularly figurative language” (Beach, 1993, p. 15). The major intention of the New Critics was to provide techniques and a rationale for discussing modern poets such as Eliot, Auden, Yeats, and the like (Applebee, 1974). Literature instruction focused on the study of the language and form of literary works; therefore, texts became the core of instruction during this period. However, New Criticism de-emphasized personal reactions of readers and discouraged differences in their responses to literature (Beach, 1993).

With the influence of structuralism and transformational linguistics, textual theorists of response began to show increasing attention to how readers’ consciousness or their knowledge of language affects their responses to texts, moving toward a phenomenological approach to reading (Beach, 1993). Phenomenology, initially identified by Johann H. Lambert, was defined as “the science in which we come to know mind as it is in itself through the study of the ways in which it appears to us” (Edwards, 1967, p. 135). In terms of reader response, phenomenological theorists are interested in the relationship between the consciousness of the reader and the perceived text.

Georges Poulet, in his book *Phenomenology of Reading* (1969), indicated that readers would suppress their preconceptions and assumptions for the sake of gaining a new way of perceiving. A text is regarded as a “well-wrought urn” or an artistic object, and readers would show willingness to surrender to the writer’s consciousness as well as to adopt the writer’s ways of perceiving reality. However, Roman Ingarden (1973) disagreed with Poulet’s assumption of “passive surrender” and argued that readers play an active role in comprehending a text by drawing on their own prior knowledge, perception, and imagination.

This notion was later adopted by Wolfgang Iser (1978) who proposed that readers play an active role in the process of creating meaning from the moment they start to read. Not only do readers generate expectations, but they also confirm or deny their expectations as reading progresses. As a result, the process of reading becomes dynamic and individualized through continual creation and revision. Iser (1978) regarded an approach to a text that presents a “total picture” as a dull text. The process of negotiation between text and reader allows readers to fill in for themselves, make inferences, build metaphors, and complete characters. This process can result in individual creations of literary experience (Iser, 1978).

The major criticism of textual theories is the de-emphasis on a reader’s role in the process of meaning construction. Textual theorists’ insistence on a one-to-one correspondence between sign and signified is insufficient for explaining the complexity of a reading act. Although Iser’s phenomenological approach to reading is compatible with Rosenblatt’s theory—reading is a transactional act (Rosenblatt, 1978, 1983, 1985, 1989), it fails to address the fact that readers apply their knowledge of narrative and genre conventions in the process of constructing meaning. Studies (e.g., Jose and Brewer, 1984; Lester, 1982) have shown that structural properties of texts are interactive with reader’s affective states and values. Further, poststructuralists such as Britzman (1991) and Weedon (1987) disagree with the idea that “a reader applies definitive knowledge of literary conventions to extract appropriate interpretations” (Beach, 1993, p. 41). They argue that a reader’s identity is multiple, fluid, and open to change (Weedon, 1987), and it is shaped by a variety of social structures and practices of discourse (Britzman, 1991). Accordingly, what knowledge a reader brings to a text is particular rather than definitive.

EXPERIENTIAL THEORIES OF RESPONSE

The primary focus of experiential theories is the nature of a reader's engagement and experience with a text. Literature is regarded as either a vicarious experience or as an exploration.

Experiential theorists view literature as an empathetic experience of the events described. A reader's experience of and knowledge of life is enriched through literature. Also, literature can provide a channel for readers to explore themselves and others (Hosic, 1921). Within this group, there has been a degree of disagreement over the definition of *experience*. Leonard (1922) defined *experience* as the present experience of children, instead of the past one. He advocated for the use of contemporary literature because it allows readers to make more appropriate connections among people, thoughts, and acts in real life. Rosenblatt (1983) acknowledged the difference between experience *through* and experience *of* or *with* literature. Among these, experience through literature is of central importance. This movement gradually broadened during the late 1930s to literature as "exploration" (Rosenblatt, 1983). It resulted in a shift in focus from experience *of* or *from* literature to experience *with* literature (Applebee, 1974). Students' responses, rather than the content of the work, become the object of the teacher's attention.

Further, Rosenblatt (1983) objected to the idea that the goal of teaching literature is mainly to foster a natural and vital discussion of the experience shared by the author. She contended that the instructional goal is to assist students in formulating a new experience by drawing on their past experiences with life and language. Students should be exposed to various experiences (good and bad) symbolized in texts and learn to critically and intellectually evaluate their emotional reactions (Rosenblatt, 1983). Learning about various ways of life enables students to develop reflective thinking skills, which are considered a crucial element to gain a clear perspective and a sense of direction in actual life (Rosenblatt, 1983).

There have been two major criticisms with regard to the experiential theories of response. The experiential theorists have assumed that everyone is equal and has the same access to reading; however, they have failed to address issues such as class conflict, gender, or racial inequalities (Freire and Macedo, 1987). The experiential theorists tend to ignore the fact that readers from different classes or social backgrounds might view the experience with literature differently. For example, students from a language minority group might regard reading a text written by the dominant group as disempowering

to their group, rather than fulfilling and joyful, when their cultural heritage is de-emphasized or devalued in the mainstream curriculum. Another major criticism is Rosenblatt's assumption that reading could fall on a continuum ranging from efferent to aesthetic. Efferent reading focuses on what is to be obtained for later use (i.e., reading for information); aesthetic reading focuses on the experiential qualities of what is being evoked during the reading event (i.e., reading for enjoyment). This assumption categorizes a reader's responses in a hierarchical manner, from superficial to sophisticated responses (Beach, 1993). Reading for information and for enjoyment should be equally valued.

PSYCHOLOGICAL THEORIES OF RESPONSE

A widely accepted theory is that reader response is psychological. Reader response is shaped by factors such as the level of cognitive or intellectual abilities and subconscious forces (Appleyard, 1990; Holland, 1968, 1990). Thus, the theories of response draw on a variety of disciplines within psychology, such as Piaget's stages of cognitive development and the developmental levels of a reader.

Cognitive theories of response are based on Piaget's (1955) stages of cognitive development: different stages of cognitive development account for different responses. For example, children between the ages of 6 and 9 are more likely to respond with short summaries or evaluate based on categories. In contrast, nine-year-olds prefer to respond with analysis or interpretation, or evaluation according to specific characteristics of the texts (Applebee, 1978). In addition to examining the cognitive stages and processes of a reader, cognitive linguistic theorists are particularly interested in how readers draw on their knowledge of metaphoric relationships in order to comprehend the metaphors in texts, or to apply their own conceptions to responding to texts. For instance, a reader may interpret a phrase such as "life is a journey" to signify his or her boredom with life in general (Turner, 1991). Also, reader responses change according to the developmental levels of readers. Appleyard (1990) described five roles (e.g., player, hero or heroine, thinker, interpreter, and pragmatic user), each of which represents a developmental phase of reading (preschool, elementary, young adolescence, adolescence, and adult). Young children tend to identify with the heroes or heroines in fiction (Appleyard, 1990).

The merit of psychological theories of response is that many perspectives and disciplines are incorporated in examining the complex phenomenon of

reading and responding to literature. These perspectives and disciplines provide language arts teachers with specific and descriptive frameworks to explain students' responses (Beach, 1993). Examinations of the interactive relations between a reader's schema and reading comprehension are a case in point (Anderson, 1984; Anderson and Pearson, 1988). They resulted in the development during the last three decades of several reading techniques (e.g., story grammar and questioning the author) on which schema theory was based. The cognitive processing model helps teachers develop strategies that enhance reading comprehension (Beach, 1993). It likewise can provide guidelines to investigate how second language readers make hypotheses, inferences, predictions, causal links, and create solutions. Examining psychological factors that influence responses will help teachers design suitable language arts curricula to meet the needs of learners of English as a second or foreign language (ESL or EFL). Yet, the content of what is read and the reader's cultural capital (e.g., life experience, history, and language) are often overlooked by psychological theorists (Freire and Macedo, 1987). The theories fail to account for the variation of social and cultural contexts that also shape responses.

SOCIAL THEORIES OF RESPONSE

The key concept of social theories of response is that readers' social roles, motives, needs, and conventions influence their responses to literature. Vygotsky's social constructivist theory and Bakhtin's dialogic theory are the most significant representatives of the social theories.

Vygotsky's theory is based on his idea that social interaction promotes learning (Vygotsky, 1978). Social constructivists assume that a person formulates knowledge by actively constructing that knowledge within specific social contexts or discourse communities (Au, 1993). They view that knowledge "as an active construction built up by the individual acting within a social context that shapes and constrains that knowledge, but does not determine it in an absolute sense" (Applebee, 1992, pp. 2-3). Their idea of what counts as knowledge has implications for what should be taught in schools. The classroom is viewed as a social context because it is infused with pedagogical intent that teachers deliberately create to foster certain kinds of learning. Similarly, Bakhtin (1981) assumed that the meaning of discourse derives from the interaction between differing, competing points of view of the speaker and audience in a social context. In other words, the meaning of a

person's interpersonal dialogue is closely related to the social and ideological meanings of the external social context. According to Bakhtin (1981), classroom interaction can influence students' responses to a literary text. Thus, teachers should pay attention to the multitude of competing voices and value assumptions in the classroom.

Social theorists acknowledge that literacy is not carried out in the abstract but is part of the social world of individuals, families, and communities. Teaching proceeds from the whole to the part. Students are encouraged to actively construct their own understandings while discussing literature, either in small, teacher-led groups or in literature circles (Harste, Short, and Burke, 1988). These ideas have profound implications for literature instruction in part because they provide a theoretical framework for examining diverse learning. The finding of Raphael and Brock's (1993) study illustrates that learning is facilitated through the assistance of more knowledgeable members of the community and culture. Likewise, students are more likely to comprehend the meaning of their own, rather than their teacher's, interpretation, when they are encouraged to take an active role in formulating their own knowledge through speech and writing (Raphael and Brock, 1993; Rubin and Carlan, 2005).

CULTURAL THEORIES OF RESPONSE

Readers' cultural practices influence their responses as well. In other words, readers' stances, attitudes, and values can shape their responses to texts. Cultural theorists draw on several disciplinary perspectives such as poststructuralism, feminism, anthropology, history, and Marxism. They base their theories on the assumption that a reader responds according to "subject positions" (Beach, 1993, p. 126) acquired from socialization by cultural institutions. Studies of storytelling practice in Asian cultures (e.g., Japan, China, and Korea) have shown that Asian children's narrative structure reflected their cultural practice (Minami and McCabe, 1991; Minami and McCabe, 1996). Readers learn various cultural practices through the process of socialization because they are part of it (Giroux and Simon, 1989). Language skills are acquired differently according to learners' perceptions regarding their subject positions (McKay and Wong, 1996).

Additionally, poststructuralists argue that the relationship between signified and signifier is relatively unstable. The sense of permanence and stability of language is challenged. Due to the instability of language, meaning continues to change. In order to understand the meaning of reader response,

we need to examine how institutions (e.g., schools, businesses, organized religions, and governments) socialize readers to respond according to certain “subject positions” consistent with their “ideological stances” (Beach, 1993, p. 126-7). That is to say, understanding the ideological stances embedded in certain cultures is important for gaining a thorough understanding of the meaning in a reader's response.

Although cultural theorists have broadened the scope of literature study by incorporating a variety of disciplinary perspectives, reader response is not only shaped by cultural variables but also by textual, experiential, psychological, and social factors. The study of reader response should take these different perspectives into consideration mainly because the act of reading is such a complex phenomenon and the role of a reader is multifaceted.

RESEARCH ON LITERATURE-BASED INSTRUCTION

Previous and current research has found within literature instruction a dual emphasis on the text itself and on the relationship between reader and text. Although the reader response approach has been advocated since the 1940s, a comprehensive study conducted by Applebee (1992) revealed that instruction with an emphasis on textual responses remained the most influential force. Instruction reported by the American teachers in Applebee's (1992) study was loosely related to reader response theories, but it was associated more directly with close analyses of text. The two methods, nevertheless, were frequently treated in a complementary fashion, rather than standing in opposition to one another. This finding indicated a broad theoretical orientation to literary study such that "reader response seemed most typically used as a way into texts, while a focus on analysis of the text itself emerged as a later but ultimately more central feature of classroom study" (Applebee, 1992, p. 8).

In spite of the fact that textual analysis remains influential, another line of inquiry has shown that instruction focused on reader response tends to enhance comprehension and interpretation more than that which focuses on textual analysis only (Almasi, McKeown, and Beck, 1996; Newell, 1996; Wolf, Carey, and Mieras, 1996; Yau, 2007; Yau and Jiménez, 2003). For example, Newell (1996) compared the similarities and differences of students' writing, reasoning, and literary understanding in two instructional environments—reader-based and teacher-centred. Whereas the teacher-centred group wrote a short essay (five paragraphs) on character analysis, the reader-based group was allowed to include textual and experiential knowledge in

their writing. The study's findings showed that different instructional tasks shape students' responses to and understanding of literature. The students in the reader-based group performed significantly better on all three response levels of the post-test (description, interpretation, and generalization) than those in the teacher-centred group.

Additionally, positive effects of literature-based instruction on the literacy performance of children and adults have been reported by a variety of studies (e.g., Morrow, 1992; Morrow, Pressley, Smith, and Smith, 1997; Stahl, Mckenna, and Pagnucco 1994; Yau, 2007; Yau and Jiménez, 2003). These studies have shown that literature-based instruction does not diminish reading achievement test scores among elementary school children; as a matter of fact, there is a small positive effect of literature-based reading instruction (Morrow, 1992; Morrow, Pressley, Smith, and Smith, 1997; Stahl, Mckenna, and Pagnucco, 1994). The findings of Morrow's 1992 study showed that literature-based reading instruction could promote academic achievement among second language learners. The students, including African Americans, Latino/as, and Asian Americans, in the literature-based group possessed more knowledge about books (i.e., naming book titles and relevant literature) than those in the basal reading group.

In considering which instructional possibilities held promise for improving the literacy performance of three struggling Asian American readers, Yau and Jiménez (2003) reported that the use of children's literature that was Asian American in content promoted reading engagement, and the book discussions provided a channel for language and thought development. The reading of popular children's literature can expand vocabulary knowledge and accelerate reading speed, as found by Lao and Krashen (2000) in their study of adult learners of EFL in Hong Kong. The rationale for the use of popular children's literature for foreign language learning, as claimed by the researchers, was to promote pleasure and independent reading. This finding is in line with Yau's (2007) study – children's literature can be an appropriate curriculum especially for adult readers learning a foreign language. In a similar fashion, exploring the feasibility of implementing literature-based instruction in Taiwanese contexts, Yau (2007) further suggests that book discussion, journal writing, and composing skits and reflective essays are three meaningful paths toward enhancing reading comprehension and interpretation.

CURRENT TRENDS IN LITERATURE-BASED RESEARCH

Three major trends have emerged from the studies on literature-based instruction during the last two decades. First, as well as a focus on reading comprehension, instruction should also emphasize interpretation. Second, since many factors (e.g., a reader's experience, ideological stance, and cultural heritage) influence reader responses, the incorporation of a variety of disciplines is indispensable. Finally, a broadened literary canon is advocated because both mainstream and nonmainstream students benefit from the use of multicultural and international literature.

Interpretation Over Comprehension

Previous and current studies (e.g., Wolf, Carey, and Mieras, 1996; Wollman-Bonilla and Werchadlo, 1995) have rejected emphasizing good comprehension, such as story retelling or the identification of the main ideas in a passage, over a reader's interpretation of or reaction to a reading passage. Current literature educators have advocated the social constructive view of response, which addresses the significance of taking on multiple voices and perspectives in understanding literature and in analytical thinking (Bakhtin, 1981; Vygotsky, 1978). Social constructivists believe that meaning is socially negotiated and mediated through multiple sign systems. Based on these notions, Wolf, Carey, and Mieras (1996) trained preservice teachers to be more knowledgeable and skilled in supporting children's responses to literature. After training, teachers in this study were found to gradually move toward instruction that placed more emphasis on interpretation than comprehension.

Journal writing is regarded to be not only a means for readers to demonstrate their understanding of reading passages but also a channel for personal reaction and interpretation (Larson, 2009; Wollman-Bonilla and Werchadlo, 1995; Yau, 2007). Wollman-Bonilla and Werchadlo (1995) investigated literary response in first-graders' journals and found that literature response journals provide an opportunity not only for children to express their ideas but also for the teacher to be aware of these children's thoughts. Two categories of student responses were recognized: text-centred and reader-centred. The students' text-centred responses included recounting story events, expressing understanding of characters' thoughts or feelings, and asking questions about the plots or characters' actions. These responses showed how

well these children comprehended the text. In addition, these children connected the text with their personal experience or prior knowledge, and they also expressed their desire to be like a certain character in the story or to participate in the story events depicted in the text. Their reader-based responses demonstrated how well these children interpreted the text. The researchers argued that in addition to developing an awareness of textual cues and reading strategies, young children can respond to their reading with their own interpretations. Adopting a non-traditional approach, Larson (2009) examined how fifth graders respond, in an electronic journal, to two children's books published in an e-book version. The study found that e-reading and e-responding can provide students with ample and fair opportunities to express their own ideas along with a consideration of multiple perspectives with respect to the e-books read. Along this line, Yau (2007) looked into the contents, qualities, and characteristics of student responses to young adult literature among Taiwanese adult learners of EFL. The analyses of data derived from book discussions and the participating students' various writings (e.g., reading journals and reflections) point out that the student responses are both text-centred and reader-centred in nature. The responses derived from book discussions are mostly text-centred, while those from reading journals and reflective essays are either text-centred or both text-centred and reader-centred.

A Variety of Disciplines

The literature-based research also illustrates a trend toward incorporating a variety of disciplines into the study of reader response. This trend not only implies the need for a greater awareness of reader response, but also promotes the development of more effective literature instruction and curriculum. Almasi and her associates (1996) applied the social cognitive perspective to explore children's perceptions concerning engaged reading. The researchers looked at how activities, events, cultures, and contexts influenced students' attention to a given task. Their findings suggest that teaching methods, context of the literacy act, and classroom cultures affect a student's attention to and absorption in a given task. Similarly, adopting a social constructionist's view, Ash (1994) applied response-centred talk to engage at-risk students in constructing meaning through actively listening, reading, and talking. The researcher concluded that response-centred talk can create an opportunity for

teachers and students to have meaningful and insightful interaction which promote reading comprehension and thinking skills.

Furthermore, Berger (1996) incorporated a variety of reader response theories (e.g., structuralism, deconstruction, and textual, experiential, social, and cultural theories), then developed a reader response technique, and finally applied it in the classroom. The goals of literature teaching, according to Berger (1996), were twofold: to expand students' knowledge and capacity of eliciting meaning from a text, and to enhance students' abilities to reflect on their process of comprehending and interpreting a text. The participating students in this study selected their own books for reading and then wrote responses in their journals. The guided questions for the responses were as follows: (1) What do you notice? (2) What do you question? (3) What do you feel? (4) What do you relate to? These questions aimed at understanding the meaning, expressing personal ideas, and making connections between the text and the reader. In comparison with the students' previous writings, the content and quality of their responses were more insightful and meaningful when these guided questions were given. The results of Berger's (1996) study suggest that the students are better able to construct meanings from a text when being provided with specific guidelines.

A Broadened Literary Canon

A broadened literary canon should be considered when designing reading curricula for students who are from diverse backgrounds (Harris, 1993, 2008; Norton, 1990; Thomas, 1996). Norton (1990) claims that through carefully selected and shared literature, students can come to appreciate a literary heritage that comes from many diverse backgrounds. Studies (e.g., Cowin, 1988; Jiménez and Gámez, 1996; Smith, 1995; Thomas, 1996; Yau, 2007; Yau and Jiménez, 2003) have shown that when multicultural literature is incorporated into language arts curricula, students can gain an understanding of beliefs and value systems which are not represented in the mainstream culture. When the African American children in Smith's (1995) study read books that reflected their own cultural heritage, two unique characteristics of their responses were found. The students frequently used their dialect, and their responses revealed the call-and-response behaviours that were associated with African American culture. Their writings also reflected their cultural background and the texts with which they came in contact. Thomas' (1996) study draws a similar conclusion. The African American students in Thomas'

(1996) study became more involved in discussing the literary texts that reflected their own culture, while the European-American students developed an awareness of diverse voices when reading multicultural literature. In a similar way, Latino/a at-risk students also became more engaged in reading when the selected books reflected their own cultural heritage (Jiménez and Gámez, 1996). "[T]eachers build on the literacy strengths of language minority students by encouraging responses within multiple languages, using culturally congruent children's literature and facilitating family history projects," as Yau and Jiménez (2003, p. 196) propose. As a whole, these studies reinforce the view held by psychological and cultural theorists that a reader's cultural identity influences reading response (Giroux and Simon, 1989), as well as the view that a reader's culturally specific schema affects comprehension and interpretation (Steffensen, Joag-dev, and Anderson, 1979).

IMPLICATIONS FOR LITERACY EDUCATION

The key notion of reader response theory is that a reader's response is individual and multifaceted. Readers differ from one another in various respects (e.g., experiences, cognitive abilities, social-cognitive capacities, and ideological stances). Due to the complexity of the relationship between reader and text, a wide range of theories, views, and perspectives have been incorporated within reader response theory. Textual theorists suggest that meaning is only embedded in a text; experiential theorists argue that meaning is also created by a reader's experience with or through literature; psychological theorists look at the influences of a reader's psychological and cognitive development; social theorists examine the impact of a reader's social role on responses; cultural theorists investigate the effect of a reader's cultural practices on responses.

There are three major trends in the current literature-based research. First, instruction should emphasize both reading comprehension and interpretation. Second, literacy instruction should incorporate a wide range of disciplines. Last, but equally important, a broadened literary canon should be considered when implementing literature-based instruction in class. The use of literature, the core of literature-based reading instruction, can provide readers with richness of vocabulary, sentence structure, and literary form. Readers can find plot complications, character development, and conflict in children's literature. They can also learn from a diverse cultural heritage and multiple voices through the use of multicultural and international literature. Ample

evidence suggests that when literature is used, students pay more attention and absorb more information in reading tasks. On the basis of these principles, the following discusses instructional strategies used to promote English literacy learning among Asian students across languages and ages. This discussion includes the use of culturally congruent children's literature along with the incorporation of multiple reading strategies.

The Use of Culturally Congruent Literature

The use of culturally congruent literature can provide students with an opportunity to demonstrate knowledge of their own cultural heritage. At the same time, it is also an educational opportunity for their teachers, who are also learners, to learn a culture other than their own. The following excerpts are a case in point. In response to *Religions of the World: I am a Muslim* (Chalfonte, J., 1996) and *Islam* (Husain, S., 1995), an eight-year-old struggling reader was asked to elaborate on how she practices her Islamic teaching in school. She stated, "During the fast month, we fast in school from sun up to sun down. We cannot brush our teeth," and "We go in the library and get our own gong." This reader subsequently indicated that a gong, which is a bell-shaped object hanging on the wall in the living room of their house, symbolizes God's house. When reading about six pillars described in the designated books, this Muslim student described how she and her sister applied caring for the poor by helping their disabled schoolmate. "Once we were in the [Northwood] park, we were first and she didn't catch up. She was out of the line and I let her [into the line]," and "Sometimes she can't open the door and she can't go, and I open [the door] for her because it was very difficult for her to reach," said the student. Not only did the student elaborate what a Muslim family is, she also stated how she applied her beliefs to her daily life. The student's responses demonstrate her deeper understanding which went beyond the reading passage.

Reading and creating children's literature can also be regarded as a fertile ground for cultivating advanced levels of thought. In response to *Grandfather's Journey* by Allen Say (1993), a fifth-grade struggling reader composed two family albums. This particular student designed, drew, coloured each page in the first album. When describing how his mother came to America, he drew an airplane and wrote, "My mom's family came to the United States by plane from Laos." He also drew himself playing hockey in the ice area, mainly because physical education class appeared to be his

favourite class in school. In comparison with his first picture story book, this student added more interesting features and details while describing each character in his second family album. Here is what he wrote about his young cousin: "I have a cousin named Amy. She was born in Argentina. She speaks Spanish and Laotian. She came here two years ago. She is in third grade. She is weird. When she makes macaroni cheese, she leaves the water in there and it turns into macaroni soup."

Additionally, book discussion, especially through one's two languages, enables bilingual students to construct meaning through listening, reading, and talking with peers or more competent adults. They can promote reading interest as well as enhance the students' reading comprehension and interpretation (Ash, 1994; Yau, 2008). Materials such as poems, riddles, jokes, and puns not only engage the reader, but they also promote the development of higher cognitive skills such as reasoning, imagery, and creativity (Yau, 2008; Yau and Jiménez, 2003). This can be illustrated by the following interaction between a third-grade student with learning disabilities and his tutor. The riddle is written in both English and Chinese. This student tried to read the riddle in Chinese first. The discussion of the riddle (When people are away, it closes its mouth. When people come back, it opens up wide) continued with the student (S) and his tutor (T).

1. S: Ren bu, ren bu, ren, ren, bu shi (People are away)
2. T: Ren bu zai jia (When people are away)
3. S: Ren bu zai jia, da bi zui. (When people are away, it closes its mouth.)
4. Ren zai jia, da, da, da (When people come back, it, it, it)
5. T: Zhang zui. (Open its mouth.)
6. S: Da zhang zui. (It opens its mouth.)
7. T: Dian shi. (Television.)
8. S: Bu shi. (No.)
9. T: Dian shi. (Television.)
10. S: Bu shi. (No.)
11. T: Dian shi (Television). When you're home, you turn it on. When
12. you aren't home, you turn it off.
13. S: Bu shi dian shi. Shi yi ge duong xi.
14. (It is not a television. It's an object.)
15. T: Bu shi dian shi. (It's not a television.)
16. Shi yi ge dong xi. (It's an object.)
17. Dian shi shi yi ge dong xi. (A television is an object.)

18. S: Something found in the room.
19. T: Something found in the room?
20. Yeah! A television in the room.
21. S: But it's D O O R.
22. T: It's not D O O R. T E L E V I S I O N.
23. S: And D O O R. A door.
24. T: Do you agree?
25. S: Yeah. It's the thing.
26. T: I remember you said the other day that it was a book.
27. S: Yeah, it can be a book, or a TV, or, or a
28. T: A door, maybe. What else is open?
29. S: Or it can be, or it can be a TV, television, or it can be a door, or can
30. be a book. See it can be a book.
31. T: Yeah. When you are at home, you open a book.
32. When you're not at home, you close it. Or it can be a TV, a television;
33. it can be a computer. No, we leave a computer on all the time.
34. S: Oh, yeah, yeah.
35. T: So it's not a computer.

The whole interaction between this English language learner and his tutor indicates that meaning is not static but fluid. This particular student again was challenged with another answer during the subsequent discussion. In the beginning, he refused to accept the new solution (Line 7-10). When the tutor explained the reason (Line 11-12), he found another solution and realized there could be multiple solutions to a problem (a television or a door or a book). This dialogue illustrates how this struggling reader benefited from bilingual discussions with a competent adult and how this integrated discussion aided him in this construction of multiple meanings in the text. Additionally, this student gained from accessing his other language while trying to solve problems.

This student is provided with an opportunity to use his two languages to solve this particular problem. His interaction with more competent adults created a zone to develop his potential. His first response to this riddle, 'a book,' was very creative because the answer for this riddle was 'a door.' He was further challenged to think of the other alternatives (a television, or a computer). The mutual construction of meaning through a learner's languages can cultivate higher cognitive skills such as reasoning, creativity, and critical thinking.

Children's Literature for Adult Literacy Education

Literature written for adolescents can provide adult learners with a means for exploring self, society, the past, and the present world. The composition of reflective essays provides the means for personal reflections, evaluations, and applications. Moreover, this type of literacy task offers an opportunity for critical thinking and language expression. Composing reflective essays is one of the meaningful paths toward the enhancement of reading comprehension and interpretation. In the following excerpts, a reflective essay written by a Taiwanese adult reader of EFL manifests what Freire (1998) called "reading of a previous reading of the world" (p. 19) as she responded to *Wringer* (Spinell, J., 1999). This EFL reader began to recognize her right to a voice in her society as the reader learned to organize and consolidate her accumulated experiences in relation to literature. She developed an ability to critically evaluate her social reality by reflecting on what she had read:

In *Wringer*, I see a nine-year-old boy, Palmer, who at first felt uncertain and confused with the annual festival in his community—shooting and killing pigeons for fund raising. But in the end Palmer courageously stood for his belief in public. It would be easy for me to say that if Palmer does not want to be a wringer, he does not need to [be]. When I thought of a similar situation in our society, I asked myself this question: Would I have the same courage as Palmer does? Am I able to stand [up] for my beliefs and against unreasonable social conventions?

This reader started her first paragraph with the statements that demonstrated her understanding of the major story conflict (Palmer felt uncertain and confused by the annual festival in his community) and its solution (Palmer courageously stood up for his belief in public). Subsequently, this reader put herself in the position of the protagonist and presented her stances and beliefs. In the following paragraphs, this reader scrutinized two well-accepted customs with respect to a woman's role in society by probing into the legitimacy of the social practices. The following excerpt illustrates the student's notion and stance in regard to the role of a married daughter in Taiwanese society:

About two weeks ago, one of my colleagues told me that a married daughter in a conservative Taiwanese family is not supposed to come back to her biological parents' home. She cannot even return to pay respect to her deceased parents. A married daughter is regarded as water being thrown

[poured] out; therefore, she is not supposed to maintain a close relationship with her biological parents. I think this kind of thinking is ridiculous, and I will definitely welcome my daughter to come home whenever she likes.

This reader organized and consolidated her lived experiences and then courageously voiced not only her disapproval, but also her solution to this particular social problem existing in her surroundings: the altered social status of a married daughter in a somewhat patriarchal society. Her multiple and competing identities, derived from her lived experiences as a bilingual individual, parent, worker, and student, were reflected in her literary response. Moreover, in the concluding paragraph, this reader acknowledged her strengths and subsequently provided a practical solution that she sees as inspired by the protagonist. She stated, “I think that it depends on both families to make changes, but one alone cannot change it. Therefore, the best I can do is to communicate with my husband and his family members. I hope I can have their understanding and support, just like Palmer has from his parents and best friends.” In a strict sense, this reader was engaged in reading and played an active role in making sense of what she had read. She likewise made connections between what was on the page and what was derived from her life experiences. Not only did this EFL reader read the words of the message the author intends to convey, but she also read the worlds in which she lives. The student’s statements show her abilities to critically evaluate her social reality, as well as to boldly acknowledge her right to a voice in society.

In brief, the training of decoding skills and textual understandings should not be the core of literacy instruction for ESL or EFL students. Instead, interactive events that occur between teachers and students should be promoted. Children’s literature can serve as part of an alternative EFL curriculum for adult learners because it provides a wide-ranging literary canon for language learning alongside a threshold for understanding adult literature (Ho, 2000; Yau, 2007). In addition, its language use (e.g., vocabulary and syntactic structure), roughly speaking, is simpler and easier for EFL learners to comprehend than that found in adult literature (Ho, 2000), thereby fostering reading interest and pleasure (Lao and Krashen, 2000).

Previous and current research (e.g., Hancock, 1993; Larson, 2009; Morrow, 1992; Newell, 1996; Yau, 2007 and 2008) has shown that instruction focusing on reader response promotes students’ writing, reasoning, and literary understanding. The transactional view of reading— that interactive events are at the heart of learning— should be advocated in second/foreign language classrooms. Additionally, reader responses are understood to be

socially constructed, that is to say, meaning is socially negotiated and mediated through multiple sign systems (Bakhtin, 1981; Vygotsky, 1978). This suggests that students should be given ample opportunity to articulate their feelings or thoughts regarding what they read. Book discussion, journal writing, and composing reflective essays can be three meaningful paths toward the enhancement of reading comprehension and interpretation, as proposed by Yau (2007). Book discussion creates an opportunity for teachers and students to have satisfying and meaningful interactions with each other about their reading of literature. Literature response journals can provide opportunities for teachers to be aware of their pupils' thoughts. Not only do writing in journals and composing reflective essays promote language expression, they also develop thinking skills through contemplation and reflection (Yau, 2007).

REFERENCES

- Almasi, J. F., McKeown, M. G., Beck, I. L. (1996). The nature of engaged reading in classroom discussions of literature. *Journal of Literacy Research*, 28, 107-146.
- Anderson, R. C. (1984). Some reflections on the acquisition of knowledge. *Education Researcher*, 13, 5-10.
- Anderson, R. C., and Pearson, P. D. (1988). A schema-theoretic view of basic processes in reading comprehension. In P. D. Pearson and M. Kamil (Eds.), *Handbook of reading research* (pp. 255-290). New York: Longman.
- Applebee, A. N. (1974). *Tradition and reform in the teaching of English: A history*. Urbana, IL: National Council of Teachers of English.
- Applebee, A. N. (1978). *The child's concept of story: Ages two to seventeen*. Chicago: University of Chicago Press.
- Applebee, A. N. (1992). The background for reform. In J. A. Langer (Ed.), *Literature instruction: A focus on student response* (pp. 1-18), Urbana, IL: National Council of Teachers of English.
- Appleyard, J. A. (1990). *Becoming a reader: The experience of fiction from adolescent to adulthood*. New York: Cambridge University Press.
- Ash, B. (1994). Narratives of experience: Response-centered teaching and teacher reflection. *Journal of Reading*, 38, 180-187.
- Au, K. H. (1993). *Literacy instruction in multicultural settings*. New York: Holt, Rinehart and Winston.

- Bakhtin, M. M. (1981). *The dialogic imagination*. Austin: University of Texas Press.
- Beach, R. (1993). *A teacher's introduction to reader-response theories*. Urbana, IL: National Council of Teachers of English.
- Berger, L. (1996). Reader response journals: You make the meaning...and how. *Journal of Adolescent and Adult Literacy*, 39, 380-385.
- Bloome, D., and Nieto, S. (1992). Children's understandings of basal readers. In P. Shannon (Ed.), *Becoming political: Readings and writings in the politics of literacy education* (pp. 83-93). Portsmouth, NH: Heinemann.
- Britzman, D. (1991). *Practice makes practice: A critical study of learning to teach*. Albany, NY: StateUniversity of New York Press.
- Cowin, R. (1988). Teaching for a global society: Using literature in the elementary classroom. In B. F. Nelms (Ed.), *Literature in the classroom: Readers, texts, and contexts* (pp. 195-204). Urbana, IL: National Council of Teachers of English.
- Edwards, P. (Ed.) (1967). *The encyclopaedia of philosophy* (Vol. 6). New York: Macmillan Company and the Free Press.
- Freire, P. (1998). *Teachers as cultural workers: Letters to those who dare teach*. Boulder, CO: Westview Press.
- Freire, P., and Macedo, D. (1987). *Literacy: Reading the word and the world*. Westport, CT: Bergin and Garvey.
- Giroux, H. A., and Simon, R. (1989). Popular culture and critical pedagogy: Everyday life as a basis for curriculum knowledge. In H. A. Giroux and P. McLaren (Eds), *Critical pedagogy, the state, and cultural struggle* (pp. 236-252). Albany, NY: StateUniversity of New York Press.
- Hancock, M. R. (1993). Exploring and extending personal response through literature journals. *TheReading Teacher*, 46, 466-474.
- Harris, V. J. (1993). *Teaching multicultural literature*. Norwood, MA: Christopher-Gordon.
- Harris, V. J. (2008). Selecting books that children will want to read. *The Reading Teacher*, 61, 426-430.
- Harste, J. C., Short, K. G., Burke, C., and contributing teacher researchers (1988). *Creating Classrooms for authors: The reading-writing connection*. Portsmouth, NH: Heinemann.
- Hiebert, E. H., and Colt, J. (1989). Patterns of literature-based reading instruction. *The Reading Teacher*, 43, 14-20.
- Ho, L. (2000). Children's literature in adult education. *Children's Literature in Education*, 31, 259-271.

- Holland, N. (1968). *The dynamics of literary response*. New York: OxfordUniversityPress.
- Holland, N. (1990). *Holland's guide to psychoanalytic psychology and literature-and-psychology*. New York: OxfordUniversityPress.
- Hosic, J. F. (1921). *Empirical studies of school reading*. Unpublished doctoral dissertation, Columbia University, New York.
- Ingarden, R. (1973). *The cognition of the literary work of art*. (R.A. Crowley and K. R. Olson, Trans.). Evanston, IL: Northwestern University Press.
- Iser, W. (1978). *The act of reading: A theory of aesthetic response*. Baltimore: JohnsHopkinsUniversity press.
- Jiménez, R. T., and Gámez, A. (1996). Literature-based cognitive strategy instruction for middle school Latina/o students. *Journal of Adolescent and Adult Literacy*, 40, 84-91.
- Jose, P., and Brewer, S. (1984). Development of story liking: Character identification, suspense, and outcome resolution. *Developmental Psychology*, 20, 911-924.
- Lao, C. Y., and Krashen, S. (2000). The impact of popular literature study on literacy development in EFL: More evidence for the power of reading. *System*, 28, 261-270.
- Larson, L. C. (2009). Reader response meets new literacies: Empowering readers in online learning communities. *The Reading Teacher*, 62, 638-648.
- Leonard, S. A. (1922). *Essential principles of teaching reading and literature in the intermediate grades and the high school*. Philadelphia: J. B. Lippincott.
- Lester, N. (1982). A system for analyzing characters' values in literary texts. *Research in the teaching of English*, 16, 321-338.
- McKay, S. L., and Wong, S. C. (1996). Multiple discourses, multiple identities: Investment and agency in second-language learning among Chinese adolescent immigrant students. *Harvard Educational Review*, 66, 577-608.
- Minami, M., and McCabe, A. (1991). Haiku as a discourse regulation device: A stanza analysis of Japanese children's personal narratives. *Language in Society*, 20, 577-600.
- Minami, M., and McCabe, A. (1996). Compressed collections of experiences: Some Asian American traditions. In A. McCabe (Ed.), *Chameleon Readers: Teaching children to appreciate all kinds of good stories* (pp. 72-97). New York: The McGraw-Hill.

- Morrow, L. M. (1992). The impact of a literature-based program on literacy achievement, use of literature, and attitudes of children from minority backgrounds. *Reading Research Quarterly*, 27, 251-275.
- Morrow, L. M., Pressley, M., Smith, J. K., and Smith, M. (1997). The effect of a literature-based program integrated into literacy and science instruction with children from diverse backgrounds. *Reading Research Quarterly*, 32, 54-75.
- Newell, G. E. (1996). Reader-based and teacher-centered instructional tasks: writing and learning about a short story in middle-track classrooms. *Journal of Literacy Research*, 28, 147-172.
- Norton, D. E. (1990). Teaching multicultural literature in reading curriculum. *The Reading Teacher*, 44, 28-40.
- Piaget, J. (1955). *The language and thought of the child*. Cleveland, OH: World Publishing.
- Poulet, G. (1969). Phenomenology of reading. *New Literary History*, 1, 53-68.
- Raphael, T. E., and Brock, C. H. (1993). Mei: Learning the literacy culture in an urban elementary school. In D. J. Leu, C. K. Kinzer, L. M. Ayre, J. A. Peter, and S. Bennett (Eds.), *Examining central issues in literacy research, theory, and practice: Forty-second yearbook of the National Reading Conference* (pp. 179-188). Chicago: The National Reading Conference, Inc.
- Rosenblatt, L. M. (1978). *The reader, the text, the poem: The transactional theory of the literary work*. Carbondale: Southern Illinois University Press.
- Rosenblatt, L. M. (1983). *Literature as exploration* (4th ed.). New York: The Modern Language Association.
- Rosenblatt, L. M. (1985). Viewpoints: Transaction versus interaction: A terminological rescue operation. *Research in the Teaching of English*, 19, 96-107.
- Rosenblatt, L. M. (1989). Writing and reading: The transactional theory. In J. M. Mason (Ed.), *Reading and writing connections* (pp. 153-176). Boston: Allyn and Bacon.
- Rubin, R., and Carlan, V. G. (2005). Using writing to understand bilingual children's literacy development. *The Reading Teacher*, 58, 728-739.
- Shannon, P. (1989). *Broken promises: Reading instruction in twentieth-century America*. Westport, CT: Greenwood.
- Shannon, P. (1990). *The struggle to continue: Progressive reading instruction in the United States*. Portsmouth, NH: Heinemann.
- Smith, E. B. (1995). Anchored in our literature: Students responding to African American literature. *Language Arts*, 72, 571-574.

- Stahl, S., McKenna, C., and Pagnucco, J. (1994). *The effects of whole language instruction: An update and a reappraisal*. (ERIC Document Reproduction Service ED 364 830).
- Steffensen, M. S., Joag-dev, C., and Anderson, R. C. (1979). A cross-cultural perspective on reading comprehension. *Reading Research Quarterly*, 15, 10-29.
- Thomas, P. L. (1996). When Wordsworth is too tame: Merging minority literature with the classics in the secondary language arts curriculum. In L. Cook and H. C. Lodge (Eds.), *Voices in English classroom* (pp. 177-185). Urbana, IL: National Council of Teachers of English.
- Tunnell, M. O., and Jacobs, J. S. (1989). Using "real books": Research findings on literature-based reading instruction. *The Reading Teacher*, 42, 470-477.
- Turner, M. (1991). *Reading minds*. Princeton, NJ: Princeton University Press.
- Vygotsky, L. S. (1978). *Mind in society*. Cambridge, MA: Harvard University Press.
- Weedon, C. (1987). *Feminist practice and poststructuralist theory*. London: Basil Blackwell.
- Wolf, S. A., Carey, A. A., and Mieras, E. L. (1996). "What is this literacy church stuff anyway?": Preservice teachers' growth in understanding children's literary response. *Reading Research Quarterly*, 31, 130-157.
- Wollman-Bonilla, J. and Werchadlo, B. (1995) Literature response journals in a first-grade classroom, *Language Arts*, 72, 562-570.
- Yau, J. C. (2007). New words and new worlds: Examinations of literature-based instruction in university EFL classrooms. *Taiwan Journal of TESOL*, 4(1), 1-25.
- Yau, J. C. (2008). *Language, identity, and children's literature: The literacy learning experiences of four language minority students*. Saarbrücken, Germany: VDM Verlag Dr. Müller.
- Yau, J. and Jiménez, R. (2003). Fostering the literacy strengths of struggling Asian American readers. *Language Arts*, 80, 196-205.
- Zarrillo, J. (1989). Teachers' interpretations of literature-based reading. *The Reading Teacher*, 44, 22-29.

Children's Books Cited

- Chalfonte, J. (1996). *Religions of the world: I am a Muslim*. New York: Powerkids Press.

- Husain, S. (1995). *Islam*. New York: Peter Bedrick Books.
- Say, A. (1993). *Grandfather's Journey*. Boston: Houghton Mifflin.
- Spinelli, J. (1999). *Wringer*. New York: Harper Collins.

Chapter 4

USING AUTHENTIC NEWSPAPER TEXTS IN TEACHING INTERMEDIATE VOCABULARY

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ABSTRACT

This study was designed to investigate the effectiveness of using authentic newspaper texts in teaching vocabulary to Turkish intermediate level EFL students. Furthermore, the present study was an attempt to have a closer look at foreign language learners' attitudes towards authentic newspaper texts and to examine their changes in attitude and proficiency after vocabulary instruction using such texts in the foreign language classroom.

This quasi-experimental study took place in Uşak Orhan Dengiz Anatolian High School and it comprised two different groups: one experimental and one control group. 54 students from this high school participated in the study. This sample was composed of 10th grade students and their English language level was intermediate. The experimental group learned the words through authentic newspaper texts, whereas, the control group was exposed to traditional vocabulary

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teaching techniques such as matching, giving definitions, and fill in the blanks.

Three different data collection instruments were employed in this study: a questionnaire on students' language study habits, vocabulary pretest and posttest, and an evaluation questionnaire. The results of data analysis revealed a significant difference between vocabulary pretest and vocabulary posttest scores of the experimental group students receiving vocabulary instruction through authentic newspaper texts when we compared them to vocabulary pretest and vocabulary posttest scores of the control group students receiving vocabulary instruction through traditional ways.

Based on these findings, the current study suggested that authentic newspaper texts can be more effective teaching aids in teaching vocabulary than traditional vocabulary teaching tools in English Language Teaching (ELT) classrooms.

INTRODUCTION

At the present day, everybody approves the value of vocabulary in learning a language. Vocabulary, as the basic element of language, is accepted as even the backbone of the whole language system. But, unfortunately, vocabulary knowledge was not attached importance according to its deserts in language study area in the beginning. Vocabulary teaching was a matter of secondary importance in foreign language programs. It was considered as something useless and time-consuming in such programs. Many educational institutions did not give importance to the special vocabulary instruction in foreign language teaching all over the world. We can see the notable attention to vocabulary since the second half of the nineteenth and the first few decades of the twentieth century. Today almost all second language theorists and practitioners admit vocabulary is crucial for language teaching.

However, this widespread agreement on the need for vocabulary has not ended debates in ELT. Once vocabulary's importance is accepted by a majority of linguists and researchers, vocabulary teaching and learning techniques have been highly controversial.

The idea of using authentic materials as vocabulary teaching tools came on the language study scene on the grounds of such discussions. They were intended for making up some shortfalls in ELT; just one of them was vocabulary teaching. Although most educationalists first came out against authentic materials in language teaching, the number of supporters of authentic materials has been overwhelmingly increasing from day to day. Because

authentic materials are thought of being multi-dimensional teaching material as they can touch on so many fields. Especially today, there is also a wide area of authentic materials available to EFL/ESL teachers to respond to their various needs and demands in their teaching situations. For example; songs, movies, poems might be chosen among a wide variety of authentic materials in teaching vocabulary, but this study reports the findings of an empirical investigation of using authentic newspaper texts with large amounts of varied material being easily accessible as a vocabulary teaching method in language classes.

Importance of Vocabulary Acquisition in ESL/EFL

What is vocabulary? As a commonly defined, vocabulary is knowledge of words and word meanings. But vocabulary has a deeper meaning. The complexity of knowing a L2 word involves not just the ability to recognize its form (pronunciation, spelling etc.), or knowing its dictionary meaning; it also necessitates knowledge of its specific grammatical properties, and collocations, functions (frequency and appropriateness), and the ability to use the word appropriately for actual interaction (Nation, 1990; Oxford and Scarcella, 1994).

Chall (1983) makes a distinction between the two types of vocabulary needed for reading: word-recognition vocabulary and meaning vocabulary. Word-recognition vocabulary is the initial and the easiest phase of vocabulary learning. Because it consists of the words that language learners can pronounce when they see it in print. Meaning vocabulary comes after word-recognition vocabulary and it is more challenging one. It consists of words that language learners can attach appropriate meaning. For any definition whatsoever, we should accept it is so important for language. Seal implies its importance metaphorically by defining words as the building block upon which knowledge of second language can be built (1991).

In parallel with this idea, Ma Zhan-Xiang defines words of a language are just like bricks of a high building. He also adds despite quite small pieces, they are vital to the great structure (2004). When we look at the Table 1 below, we can see that vocabulary acquisition is among language learning purposes that should be achieved. Table 1 outlines the language learning goals below (Nation, 2001):

Table 1. Goals for Language Learning

General Goals	Specific Goals
Language Items	Pronunciation Vocabulary Grammatical Constructions
Ideas (Content)	Subject Matter Knowledge Cultural Knowledge
Skills	Accuracy Fluency Strategies Process Skills or Sub-skills
Text (Discourse)	Conversational Discourse Rules Text Schemata or Topic Type Scales

As we can see in Table 1 above, teaching and learning vocabulary should be considered as a specific goal of a range of goals that are important in the language classroom. Carroll (1971) pinpoints vocabulary acquisition as one of the most basic objectives of schooling (p.121). Moreover, it is believed by many linguists that learning a foreign language is learning the vocabulary of that language. Wallace (1992), for example, points out there is a sense in which learning a foreign language is basically a matter of learning the vocabulary of that language. In spite of this reality, vocabulary was described as a “neglected aspect” and the “poor relation” of L2 teaching and learning (Meara, 1981; Maiguashca, 1993) up to the mid 1980s. For instance, Durkin, (1979) found that in the 4.469 minutes of reading instruction that were observed, a mere 19 minutes were devoted to vocabulary instruction and that virtually no vocabulary development instruction took place during content instruction such as social studies.

Allen (1983, pp.1-2) puts forward several reasons for the general neglect of vocabulary. One reason is that teacher trainers believe there should be more emphasis on grammar than vocabulary since vocabulary was already being given too much time in language classrooms. Another reason is that, according to specialists in methodology, the learning of too many words before the mastery of the basic grammar would interfere with learners’ success in sentence construction. The third reason is these some other specialists in methodology seemed to believe that word meanings can be learned only

through experience, and that the meanings of words can not be adequately taught in a classroom.

Therefore teaching vocabulary has not been administered to lessons with a special training by most of the English language teachers and it has not been traditionally a particular subject for students to learn instead of being taught within lessons of speaking, listening, reading and writing. The important thing is that vocabulary plays a crucial role for these language skills and absence of vocabulary hinders constitution of such skills. For example, the relationship between vocabulary knowledge and speaking skill can be associated in terms of the interference of lexical problems with communication; communication breaks down when people do not use the right words because of lacking necessary words. Or can we say a learner will be successful while writing in the target language without having adequate and suitable word patterns? For that reason, vocabulary should not be taught as if it had a secondary importance within lessons of language skills.

Authentic vs. Pedagogical Materials in ELT

Language instruction has five main components: learners, teachers, materials, teaching methods and evaluation. Materials are very important among these five components. Because, it is not possible for language teachers to instruct language learners without any materials. Richards (2001, p. 251) defines teaching materials as key components in most language programs. Beforehand, the only language teaching materials were grammar books, dictionaries, cassettes, readers; but today there is a great variety of language teaching materials such as newspapers, photographs, songs as well as the previous ones. Language teaching materials can be shaped by consideration of a number of factors, including the teachers' training/experience, preferred teaching styles or learners' learning style preferences, language learning needs, interests or motivations. If a language teacher prefers traditional teaching style, s/he generally uses instructional materials as their primary teaching resource whereas another language teacher might prefer authentic materials if s/he follows communicative approach in his/her teaching. For learners, materials have a crucial role that they may provide the major source of contact they have with the language apart from the teacher. For this reason, the use of authentic materials or pedagogical ones should be primarily decided while planning the role of materials in a language program. At this point, there

are a great many views on advantages and disadvantages of textbooks and authentic materials by comparing them separately.

Textbooks in ELT

The significant role played by textbooks is undeniable in the teaching and learning foreign languages. Much of the recent literature on materials development for language learning has recommended that textbooks provide learners with more opportunities to acquire language features from frequent encounters with them during motivated exposure to language in use (Cunico, 2005; Islam, 2001; Maley, 2003; Tomlinson, 2003; Tomlinson, 2001).

Haycroft (1988) suggests that one of the primary advantages of using textbooks is that they are psychologically essential for students since their progress and achievement can be measured concretely when we use them. Sheldon points out, students often have expectations about using a textbook in their particular language classroom and believe that published materials have more credibility than teacher-generated or in-house materials (1988).

What follows, another advantage identified by Cunningsworth (1995) is the potential which textbooks have for serving several additional roles in the ELT curriculum. He argues that they are an effective resource for self-directed learning, an effective resource for presentation material, a source of ideas and activities, a reference source for students, a syllabus where they reflect pre-determined learning objectives, and support for less experienced teachers who have yet to gain in confidence.

On the contrary, textbooks do not always have advantages in teaching/learning environments. Many other researchers and practitioners claim that there are also some shortcomings of textbooks used in ELT. For instance, according to Crystal and Davy (1975), the language presented to students in textbooks is a poor representation of the real thing, “far away from the real, informal kind of English which is used very much more than any other during a normal speaking lifetime” (p. 2). O’Neill (in Yan, 2001) state that textbooks can only have props and framework for classroom teaching; and no textbook can expect to appeal to all teachers and learners at a particular level. In this case, can we claim that only a textbook can be a single source in ELT?

Authentic Materials in ELT

One issue in materials design that has aroused debate over time is the role of authentic materials. Richards (2001) says “materials not designed for instructional use such as magazines, newspapers and TV materials may also play a role in material choice and use” (p. 251). There are so many reasons why there is an increasing interest in implementing authentic materials in language teaching. But one of the main reasons for using authentic materials is that they connect the classroom to the outside world and bring reality into the artificiality of the classroom. Even if the classroom is not a “real-life” situation, authentic materials have a very important place within it. Learners can benefit from the exposure to real language being used in a real context rather than the exposure to the artificial language of the textbooks.

Another reason of preferring authentic materials is their cultural content aspect. Because these texts are prepared for native speakers, they reflect the details of everyday life in a culture, as well as its societal values (1994). On the other hand, in terms of psychological dimension, several researchers argue that the complexity of authentic materials is more likely to raise the learners’ anxiety level.

For example; Ur (1984) and Vande Berg (1993) indicate that activities with unedited input will increase learners’ frustration; thus, those activities should be reserved for the highest levels in the curriculum. However, according to Bacon, less-proficient students can understand and benefit from authentic texts. Further, she claims an early exposure to such texts will help these students develop useful listening strategies for more complex tasks later on. But, she adds the texts should be culturally relevant to the experience of the students (1990).

The sources of authentic materials that can be used in language classrooms are in variety. Any types of audio, visual and printed materials which are used for communicating specific messages in real life can be regarded under this authentic material category.

Such materials may range from non-linguistic items (realia), through to authentic texts including newspaper articles, audio recordings of conversations or videos of recent television programmes. But the most common are newspapers, TV programs, magazines, movies and songs. Some linguists note the use of films, television, and other broadcast media in language teaching is widespread and quite popular (Allen, 1983; Stempleski and Tomalin, 1990; Cooper, Lavery and Rinvuluciri, 1991; Sherman, 2003).

For learners with a limited English language environment, newspapers can be a vast source of language exposure. Obviously, newspapers provide an enormous amount of text and information. For students, reading newspapers is a great chance to improve their reading skills, enrich the vocabulary, gain some cultural and up-to-date knowledge in the whole world.

By using news for teaching materials, teachers can provide opportunities for students to learn world issues, cultures and other things, in addition to learning the language itself. In addition, newspapers are made up of not only words, but also pictures. By means of pictures many words can be taught in fact. In this context, a newspaper can be a rich source of materials for classroom use.

METHODOLOGY

The Participants of the Study

This quasi-experimental study took place in Uşak Orhan Dengiz Anatolian High School and it comprised two different groups: one experimental and one control group. It was used a sample of 54 students from this high school. Once the experimental group comprised of 28 students, the other 26 students were assigned to the control group before starting the research. This sample was composed of 10th Grade students in this school as their English language level needed to be intermediate.

It was the second year for students in this school. This means they classified as beginners started to learn English through traditional techniques within 10-hour English courses under one-year intensive programme in previous year.

The subjects included 25 male (46.3 %) and 29 female (53.7 %) students. Their ages ranged from 16 to 17. In spite of being mentioned about age and sex characteristics, these variables were not considered during the period as they were not related to the purpose of this particular study.

Research Design

This quasi-experimental procedure consisted of five stages. These were, in turn, (1) questionnaire on students' language study habits, (2) pretest, (3) treatment, (4) posttest, (5) evaluation questionnaire. Table 2 poses these stages clearly below:

Table 2. Graphic Display of the Research Design

GROUPS	QUESTIONNAIRES, TREATMENTS AND TESTS GIVEN				
EXP. GROUP	1 st QUEST.	PRETEST	AUTHENTIC NEWSPAPER TEXTS	POSTTEST	2 nd QUEST.
CONT. GROUP	1 st QUEST.	PRETEST	TRADITIONAL VOC. WAYS	POSTTEST	-----

Note: exp= experimental, cont= control, quest= questionnaire, voc= vocabulary.

Instruments

The instruments employed in the study consisted of two questionnaires and two tests. The participants took a pen-and-paper pre-vocabulary test assessing their vocabulary level and completed a questionnaire on their language study habits. Soon after the implementation, they took a pen-and-paper vocabulary posttest displaying the vocabulary development process when compared with the pre-vocabulary test and only experimental students completed an evaluation questionnaire on the design of the new vocabulary technique.

Both questionnaires were presented to the students in their mother tongue so as to help them to understand and respond to the questionnaire items more easily. While evaluating the vocabulary tests, Paired-Samples T-test was used to compare the mean of both groups and see whether there was a significant difference between the groups and themselves in terms of their learning target vocabulary. The vocabulary pretest was administered to the students prior to the experimental treatment. While preparing the pretest, all the vocabulary items were chosen from the units in the course book covered in the syllabus. In other words, it was designed specifically to determine whether or not the students knew the vocabulary items under study. On the other hand, the vocabulary posttest administered at the end of the instructional period. The administration of the post vocabulary test served a purpose: measuring students' gains in vocabulary learning after the implementation. The posttest words were selected from among taught during the instructional period. At the same time, the students' perceptions of and attitudes to the new technique were focused on as well as what they gained through authentic newspaper texts in this study. For this reason, a questionnaire was administered to only

experimental group students in order to obtain data concerning the evaluation of vocabulary instruction through authentic newspaper texts in their own class during one-hour course period.

Instructional Procedure

Soon after the subjects were given the pre-vocabulary test, the experimental treatments started for both groups. The instructional period lasted 3 weeks in a two-hour English class per week. During the authentic newspaper texts training period in the experimental group, the parallel words were taught in accordance with textbook vocabulary practices through traditional vocabulary techniques in the control group.

The First Week

The first newspaper activity took place in two separate lessons and lasted 45 minutes in each lesson. In the first week of the study, there were 15 target words in total. First of all, basic information about newspaper terms was given to the students. After that, the teacher wanted them to open some pages which she said and to find out the samples of the newspaper terms in the newspaper. They tried to find and say some examples. Later, the teacher gave them a task on finding the occupations of some well-known people. This was a warm-up activity to make the classroom environment warmer. The first week mainly consisted of six activities. In these activities, the students tried to find the words having the same meanings of the words on activity page from the top story of the newspaper; they tried to find the words to complete the sentences; they first underlined the words said by the teacher, and they tried to put these underlined words into the sentences instead of the bold, *italic* written words.

The Second Week

The second week newspaper activities were applied in two courses including 45 minute period each course. There were mainly 19 target words in the second week. In the warm-up activity, the teacher wanted the students to look over the news in the newspaper. They asked for them to mention about the current events by looking at the newspaper pages. The teacher used the

warm-up activity as a transition phase to the next activity. There were four activities in the second week. Firstly, the students needed to guess the words by looking at the definitions given. Secondly, the teacher wanted the students to omit some words and replace them with another word having a similar meaning. They had the right of referring to a dictionary when they did not find a suitable word for the omitted one. The aim of the third activity was to show the students forms of the words in the article. They used dictionary to find out the below words' adjective, adverb, noun, verb and negative forms. They would also complete the sentences by using the word forms they found. As the fourth activity, they tried to find the antonyms of the words mentioned in the article.

The Third Week

In the third week, the activities were performed on two different days within two lesson hours. The third week newspaper activity included 30 target words. Activities were chosen from the zodiac page which attracts the students. First of all, the students tried to learn the names of zodiac in English in the warm-up activity. They were asked how many zodiacs there are. They were also asked which sign of the zodiac they were born under. The students answered by looking at the zodiac chart one by one. After they found their own zodiac from the chart, they read the writings in it. They used their dictionaries for the unknown words. This activity was done in order to relieve the students and motivate them for the next activities. In three activities, the students tried to find out the synonyms of the words in their zodiac through their dictionaries; they tried to complete the sentences with the words in the box suitably and they tried to determine whether the words used right or false.

Data Analysis

The data which were collected through the questionnaire were analyzed by means of descriptive statistics. The questionnaire on students' language study habits and the evaluation questionnaire were analyzed by using frequencies and percentages using 15th version of Statistical Packages for Social Sciences (SPSS 15). On the other hand, vocabulary pretest and posttest results were encoded true or false answers in SPSS 15. The means, standard deviations, "t" and "p" values for each test were calculated for each group (experimental and

control) by applying a Paired-Samples T-Test in SPSS program in order to see whether there was a significant difference between the experimental and control groups on these two vocabulary tests.

RESEARCH RESULTS AND DISCUSSION

Evaluation of Research Results

Research Question 1: How much importance do the students give to vocabulary and language study?

40 % of the experimental students state that vocabulary is necessary but grammatical structure is more necessary than vocabulary. On the other hand, 56.5 % of the control group students express that vocabulary is very necessary because it is not possible to learn a language without learning its vocabulary. Whereas 40 % of the experimental group students point out they allocate enough time to vocabulary learning, 78.3 % of the control group students say they allocate little time to it. With these findings, it can be suggested that the control group students give less importance to vocabulary learning than the experimental group students although they think a foreign language can not be learnt without knowing its vocabulary.

Table 3. Data Related to the Students' Perceptions of Vocabulary

Questionnaire Items	Experimental (n =24)	Control (n =24)
The word is prerequisite for learning a language.	60 % strongly agree; 32 % agree; 4 % strongly disagree	56.5 % strongly agree; 39.1 % agree; 4.3 % disagree
Word knowledge comes before grammar knowledge to learn a language.	12 % strongly agree; 32 % agree; 16 % disagree; 8 % strongly disagree	21.7 % strongly agree; 39.1 % agree; 4.3 % disagree; 8.7 % strongly disagree
The amount of the words we know in English is a positive function of having a good command of English.	48 % strongly agree; 36 % agree; 4 % disagree; 8 % strongly disagree	56.5 % strongly agree; 30.4 % agree; 4.3 % strongly disagree

Most of the experimental (92 %) and control group students (95.6 %) believe that the word is prerequisite for learning a language. Nearly half of the

experimental students (44 %) and most of the control group learners (60.8 %) think that word knowledge comes before grammar knowledge to learn a language. Most of the experimental (84 %) and the control (86.9 %) group share an idea that the amount of the words which are known in English is a positive function of having a command of English.

Research Question 2: What do the students think about vocabulary learning and teaching techniques?

48 % of experimental students and 60 % of control group students find the importance given to vocabulary teaching in English lessons unsatisfactory.

Also, both experimental (64 %) and control (87 %) groups do not believe the words which are taught in English classes are permanent. They claim they remember some words but they forget a large majority of the words after the classes. According to 40 % of experimental learners, different methods should be applied in lessons so that they do not forget the words; on the other hand, 47.8 % of control learners claim the words become more permanent if and only they see them in different sentences. Under these findings, we can cite that sampling groups are not glad of the currently used vocabulary teaching methods as they forget most of the words taught in English classes. Instead, they reveal new vocabulary teaching ways alternatively. 80 % of the experimental students (56 % strongly agreed, 24 % agreed) and 82.6 % of the control students (43.5 % strongly agreed, 39.1 % agreed) thought that different techniques should be applied instead of the same techniques. This high rate reveals that students prefer different techniques to usual ones.

The figures also pose that 84 % of the experimental group students (48 % strongly agree, 36 % agree) and 95.7 % of the control group students (52.2 % strongly agree, 43.5 % agree) emphasize that they are open to new vocabulary teaching techniques. 48 % of experimental group believes vocabulary can be taught best by using visual materials (video, pictures, photos). On the other hand, 52.2 % of control group students support the idea of using from all materials in different time as the best vocabulary teaching technique.

Research Question 3: Does the implementation of authentic newspaper texts in classroom setting increase the learners' intermediate vocabulary?

Table 4. Analysis of Vocabulary Pretest Results

N=50

GROUPS	Mean	Standard Deviation	t	p
EXPERIMENTAL	9,08	3,73	1,110	0,278
CONTROL	8,00	3,79		

As seen in the table above, the mean for the experimental group was 9.08 and the standard deviation 3.73, whereas the mean for the control group was 8.00 and the standard deviation 3.79. As expected, pretest mean scores were almost equal and their standard deviation values were also very close to each other. Accordingly, it can be claimed that there was a slight difference between the experimental group's vocabulary success level (9,08 %) and the control group's success level (8 %). But this difference was insignificant ($p > 0.05$). It seems that both group students entered the study with a similar level of vocabulary knowledge. In other words, the groups were similar to each other in terms of their homogeneity, which refers to a good indication to start the experiment.

Table 5. Analysis of Vocabulary Posttest Results

N= 48

GROUPS	Mean	Standard Deviation	T	p
EXPERIMENTAL	32,29	6,03	-3,096	0,005
CONTROL	25,87	10,11		

According to the T-test results, the mean for the experimental group was 32.29 and the standard deviation 6.03, whereas the mean score for the control group was 25.87 and the standard deviation 10.11. Also, T-value was “-3,096”. When the table analyzed, it is seen that there was a significant difference between the groups ($p = 0.05$).

When we look at results in Table 5, we can claim that with higher mean score and lower standard deviation experimental group students instructed through authentic newspaper texts exhibited much better performance than control group students taught with traditional techniques in this vocabulary posttest. Namely, the statistical analysis seen in the above table reveals that the experimental group's vocabulary development was much more than the control group's.

The result indicates that vocabulary instruction through authentic newspaper texts is more effective than traditional approaches used for vocabulary instruction at the intermediate level of English proficiency.

Research Question 4: What attitudes do the students have on the use of authentic newspaper texts in teaching intermediate vocabulary?

The results show that 64.3 % of the experimental students (25 % strongly agree, 39.3 % agree) believe the new technique is effective and it increases the learner's vocabulary knowledge. According to nearly half of the experimental

students (46.5 %), the new technique is enjoyable and it increases the learner motivation, whereas 21.4 % of them do not believe in the effectiveness of the new technique. Half of the experimental group (14.3 % strongly agree, 35.7 % agree) find the new technique more enjoyable than previously applied traditional vocabulary teaching ways.

The results also reveal that the experimental students mostly (53.6 %) are of an opinion that selected topics for the newspaper activities are interesting. In addition to this, it can be claimed that half of them (50 %) find the selected activities entertaining. In parallel with these results, we can indicate that half of the experimental students (50 %) share the same idea that new words learnt in the lessons can be more permanent thanks to the new technique, and also most of the experimental students (60.7 %) believe the new technique can strengthen the learner's reading comprehension. When the experimental students compare newspapers with the other authentic materials, more than half of the students (57.1 %) find newspapers more effective than novels and most of them (64.3 %) find them more interesting compared to English writing activities. But they do not believe newspapers are more effectual than programmes (53.6 %) and songs (64.3 %).

When the experimental students compare newspapers with traditional vocabulary teaching methods, they mostly (64.3 %) state that newspapers can be more influential than looking the words up in dictionaries. They also believe that newspapers is more effectual than writing the unknown words with the words in relation with them together while learning vocabulary (57.1 %). In addition to this, most of the experimental group (57.1 %) think that reading newspapers is a more useful technique than keeping a notebook for unknown words in order to learn vocabulary in English.

CONCLUSION

The aim of this study was to investigate the possible role of using authentic newspaper texts in vocabulary instruction for Turkish EFL students studying at 10th Grade at Orhan Dengiz Anatolian High School in Usak. The reason for investigating this topic was to contribute to the literature on vocabulary teaching studies since there is still much to do in this area, and also vocabulary is one of not only problematic but also vital topics in EFL/ESL. Moreover, many foreign language learners still prefer using traditional vocabulary teaching techniques that so many students find them boring and

inadequate. The students state that they easily forget the words taught through traditional vocabulary ways after class.

A great many students believe that vocabulary learning process is tedious. Although many foreign language teachers know this, they tend to use only textbooks while teaching vocabulary in courses. There might be so many reasons of this, but this study was done to show the foreign language teachers how to benefit from authentic newspaper texts as a vocabulary teaching tool.

Implications and Suggestions for Further Study

In this study, the effectiveness of using authentic newspaper texts in teaching vocabulary to Turkish intermediate level EFL students was examined. Further studies concerning authentic newspaper texts can be done on other skills of foreign language teaching with different groups of language learners. In order to generalize the results of the study, it is necessary to carry out additional studies with larger populations of students at all levels of language proficiency.

Furthermore, students of all age groups learning English can be used as subjects for further studies. Short term and long term effectiveness are important issues in foreign language teaching. That is why, a vocabulary short term retention test can be administered to measure how many words they have kept in mind after the vocabulary posttest in the further research. Besides, a second vocabulary retention test (long term retention test) can be applied after a certain time period in the form of formal written test and how many words the students remember can be checked in long term.

On the basis of this research, it can be claimed that authentic newspaper texts are useful and effective; they can be more exhaustively used in vocabulary teaching in English courses.

For this reason, they can be placed into the English language teachers' teaching materials without any hesitation. The use of authentic newspaper texts increases the motivation of the students and raises the interest of them in learning vocabulary and learning a foreign language. As it is applied in a relaxed and comfortable milieu, students seem to learn new vocabulary more quickly and retain it better. What is more, the students can be guided for their self-study process based on newspapers to increase their word knowledge in vocabulary learning.

REFERENCES

- Allen, F.V. (1983). *Techniques in teaching vocabulary*. Oxford: Oxford University Press.
- Carroll, J.B. (1971). Current issues in psycholinguistics and second language teaching. *TESOL Quarterly*, 5, 101-114.
- Chall, J.S. (1983). *Stages of reading development*. New York: McGraw-Hill.
- Cooper, R., Lavery, M., and Rinvulcri, M. (1991). *Video (Resource Books for Teachers Series)*. Oxford: Oxford University Press.
- Crystal, D. and Davy, D. (1975). *Advanced conversational English*. London: Longman.
- Cunningsworth, A. (1995). *Choosing your coursebook*. Oxford, Heinemann.
- Durkin, D. (1979). *Teaching them to read*. Boston, Ma: Allen and Bacon, Inc.
- Ma Zhan-Xiang. (2004). The necessity of intensifying English vocabulary teaching in the remote minority area college English teaching. *Asian EFL Journal* http://www.asian-efl-journal.com/june_04_mzx.php.
- Maguashca, R. (1993). Teaching and learning vocabulary in a second language: Past, present, and future directions. *Canadian Modern Language Review*, 50, 83-100.
- Maley, A. (2003). Approaches and methods in language teaching. *ELT Journal*, 57, 305-308.
- Meara, P. (1981). Vocabulary acquisition: A neglected aspect of language learning. *Language Teaching and Linguistics Abstracts*, 13, 221-246.
- Nation, P. (1990). *Teaching and learning vocabulary*. Boston: Heinle and Heinle.
- Nation, P. (2001). *Learning vocabulary in another language*. Cambridge: Cambridge University Press.
- Oxford, R.L. and Scarcella, R.C. (1994). Second language vocabulary learning among adults: State of the art in vocabulary instruction. *System*, 22(2), 231-243.
- Richards, J. (2001). *Curriculum development in language education*. Cambridge: Cambridge University Press.
- Sherman, J. (2003). *Using authentic video in the language classroom*. Cambridge: Cambridge University Press.
- Stempleski, S. and Tomalin, B. (1990). *Video in action: Recipes for using video in language teaching*. New York: Prentice Hall.
- Tomlinson, B. (2001). Materials Development. In Carter R. and Nunan, D. (Eds.) *The Cambridge guide to teaching English to speakers of other languages* (pp. 66-72). Cambridge: Cambridge University Press.

- Tomlinson, B. (2003). *Developing materials for language teaching*. London: Continuum Publishing.
- Ur, P. (1984). *Teaching listening comprehension*. Cambridge: Cambridge University Press.
- Wallace, C. (1992). *Reading*. Oxford: Oxford University Press.

Chapter 5

SPEAK THE REAL: NEWS ARTICLES AS MAJOR SOURCE FOR ORAL COMPETENCE

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ABSTRACT

Speaking is no doubt the hardest skill ever among others to be mastered. One could frequently witness language learners constantly complaining about their incompetence in speaking. How come a language learner could improve in reading, writing and listening so well and yet fall far behind in speaking? We believe the answer to this question is pretty simple, and yet when it comes to devising ways as to improve speaking, many teachers for some understandable reasons, falter, and so do learners. Simply, the language is hardly related to reality, and the most novice learner is able to distinguish between what is real and what is fantasy. Thus, this article focuses on the presentation and utilization of real language as was used in authentic texts covered by British and American newspapers, *The Independent*, *Guardian*, *New York Times* and *Washington Post*, and elaborates step by step on the process of how an English speaking course could be most effective relying on benefits that may be drawn from such newspapers.

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Keywords: teaching speaking, oral competence, authentic materials, news articles.

INTRODUCTION

Not only for being a productive skill but also for enjoying such multifaceted and complex aspects, speaking is often considered as one of the most difficult skills to develop, and for most language learners, acquiring a native-like competence in speaking seems almost unattainable. Unlike the written language where language learners carry out certain tasks with moderate level of knowledge in grammar and vocabulary, in speaking, they compete with limited time to recall words, and also take care of their pronunciation, intonation, and responses from the addressee, which sometimes interrupts the speech and causes additional difficulties for the speaker.

In trying to account for the underlying reasons for the difference between speaking and writing, Brown and Yule (1983) remind us of the transitory character of speech and the permanent design in written discourse. This is one of the underlying reasons which make speaking more challenging compared with other skills or more fundamental courses like grammar and vocabulary. Bailey (2006) also draws our attention to the temporary character in speaking and the permanent in writing which, as she argues, is caused by the fact that spoken language is received in an auditory fashion, whereas the written language requires visual perception.

Although the spoken message with temporary character is received by the listener immediately, the written is permanent, and reception by learners typically occurs some time after the text was generated (sometimes even centuries later).

Despite the fact that the challenges associated with speaking cause lack of confidence and anxiety in language learners, this skill is often neglected in language programs by language teachers; language teaching methods treat speaking as a means of practising grammar or as a way of rehearsing pre-selected grammar items or functional expressions. Speaking is often dealt with at pronunciation level, and training and practice in interactive real time talk could be only implemented when beginning or ending lessons (Thornbury, 2002).

When we have look at language textbooks in the field, we can see that most materials are designed mainly for grammar, vocabulary and other skill courses. Course books and materials on speaking, however, should be treated

with due attention for a number of reasons. For one, they are not fit for what they promote or teach in terms of language content, teaching methodology and textual authenticity. Therefore, teachers choose activities from a variety of sources and create their own speaking course materials (Lazaraton, 2001). In trying to create their own speaking course materials, language teachers often make use of authentic language materials for which web sites of newspapers and magazines in English prove to be most readily available.

Authentic materials could be considered for having various benefits such as motivating EFL learners (Peacock, 1997). We, however, believe that the real benefit of authentic materials is that they develop language skills of learners. For example, in a study on language teachers' experiences in selecting, using authentic materials, designing, and evaluating tasks that illustrate such applications at tertiary level, Wong, Kwok and Choi (1995) elaborate on two major applications: developing learners' language skills, and orienting learners to the application of such skills in possible subsequent activities in the outside world. Comparing textbooks and authentic materials, Lee (1996) argues that since authentic materials have similar qualities as other learning materials, they provide greater possibilities for autonomous learning.

Researchers quite frequently refer to syntax and discourse structures in texts in their struggle to prove the benefits of authentic or simplified texts. Arguing that there has been no conclusive study that measures these differences and their implications for L2 learning, Crossley et al (2007), in their study, focussed on the differences between linguistics structures of simplified texts and those of authentic texts in order to get a better understanding of the linguistic features such as syntax and discourse structures owned by these two types of texts. Having analysed 24 authentic texts (15,640 words) and 81 simplified texts (21,117 words) from nine different grammar books, they found six major areas of difference:

1. The authentic texts and simplified texts differed significantly in their causal relations: authentic texts were more likely to have a higher ratio of causal verbs to causal particles than were simplified texts.
2. The simplified texts had a greater amount of overall coreferential cohesion of stem overlap, noun overlap, and argument overlap.
3. When authentic and simplified texts were compared for logical operators, no significant difference between the two types of texts was found.
4. Significant differences were found between the simplified and authentic texts in their parts of speech use: authentic texts revealed a

greater number of less frequent linguistic features, including comparative adverbs, gerunds, and interjections.

5. In terms of polysemy *and* hypernymy, authentic texts showed a slightly higher tendency to contain ambiguous words, whereas the simplified texts showed a tendency to contain more abstract words, but these findings were not significant.
6. In terms of familiarity of words, simplified texts were significantly more likely to contain words that were more familiar than were the authentic texts

When it comes to the use of authentic materials, literature cites that teachers do make use of authentic materials. The use of such materials, however, is not limited to only the three skills: speaking, reading or listening. Ozkan, Bada and Genc (2007), for instance, did not prefer to follow a textbook in teaching grammar; they, instead, tried to introduce authentic texts particularly selected by the learners themselves reflecting their own content preferences. This way grammar classes became more enjoyable and interesting than before.

According to Nunan and Miller (1995) authentic materials are those which are not created or edited for use in language classrooms, and they are kept intact with no interference in the needs of language learners. This means that most everyday objects in the target language could be considered as authentic materials. Train schedules, pictures of road signs, business cards, labels, menus, brochures, receipts, newspapers, films, and internet websites are all examples of such materials used in language classrooms.

Authenticity in authentic materials regarding language teaching can be investigated in terms of a) texts and other lesson materials b) language tasks, and c) learner responses. Unlike pedagogical texts such as written dialogues and simplified listening passages constructed for teaching purposes, authentic materials are prepared for the general community and not specifically for ESL/EFL learners. Authenticity of the task means whether the task is designed for language learning or for the practice of newly learned grammatical items. Authenticity of the response is related to whether the speech of the learner is natural, contextualized and uncontrived (Bailey, 2006). Within this framework, this particular study could be considered as “fully authentic” in that the texts used during the course program, the tasks learners had to complete and the responses given were all “authentic”.

Moreover, we believe that such a program complies either partially or fully with the following seven principles proposed by Brown (1994) for language teachers concerning the design of their speaking classes:

1. Use techniques that cover the spectrum of learner needs, from language-based focus on accuracy to message-based focus on interaction, meaning and fluency.
2. Provide intrinsically motivating techniques.
3. Encourage the use of authentic language in meaningful contexts.
4. Provide appropriate feedback and correction.
5. Capitalize the natural link between speaking and listening.
6. Give students opportunities to initiate oral communication.
7. Encourage the development of speaking strategies.

Thus, in this article, we focused on the presentation and utilization of real language as was used in authentic texts covered by British and American newspapers, *The Independent*, *Guardian*, *New York Times*, and *Washington Post* and tried to display the language variety such authentic materials could provide depending on the covered various topics. In line with this, we sought responses to the following questions:

1. How would learners compare textbook-based speaking lesson coverage with that which was based on authentic news articles?
2. What was positive/negative about the textbook-based model?
3. What was positive/negative about the authentic news article-based model?
4. What overall benefits were obtained from the new model?

METHODOLOGY

Participants

All the participants in this study were 15 males and 80 females (18-19 years of age) from the English Language Teaching Department of University of Cukurova, Adana, Turkey. All these participants took a speaking and pronunciation course six hours per week in their first year of education. The speaking course obeyed one of the four principles which Canale offered to prepare and encourage learners by participating in actual communications. In

this respect, Canale (1983) stated that the second language learner must have the opportunity to take part in meaningful communicative interaction to respond to genuine communication needs and interests in realistic second language situations.

Process

Articles from British and American newspapers (*The Independent*, *Guardian*, *New York Times*, and *Washington Post*) were chosen and sent to students online. The selection process was based on some characteristics such as the article should reflect news concerning population worldwide focusing on topics such as *health*, *education*, *events*, *politics*, and *obituaries* of some world-famous personalities. Every text to be covered had discussion points on top of it relating content to individuals' societal characteristics. This way, students were able to associate what they read in the text with what they experienced or were experiencing in their own society. Creating a meaningful learning atmosphere was thus of paramount significance. The attached text below was sent in order to clarify what students were supposed to do with the article they received. Thus, each researcher, for each article to be covered, sent the following information to their students:

For our discussions, you'll receive three versions of a file from me: two are in text and one in audio format. You will get these files as links. Therefore, you need to click the links to download the files. On each link click your mouse, and download the file. The text files will have 1/2 as extensions; for example: "Cellphone1" and "Cellphone2". The file ending with '1' is the file you should be working on to get prepared for the discussion sessions; and the one ending with '2' has blue underlined words and phrases which I believe are of significant use for you. We'll work on '2' when we cover the one ending with '1'.

The audio file which has an extension of '.mp3' is the file to listen to. When you click the link, your media player may directly play the file or prompt you to save it. If your player starts playing it, on top of your media player menu, click "file" and then "save as" and save this file on your computer. If the media player directly prompts you to save the file, then save. Please make sure that all files are saved on your computer.

The guidelines below are very important. Please do try to follow them when you study on the article.

Listen to the audio version of the text a couple of times without looking at the text itself.

Listen to the audio a couple of times while looking at the text.

Read the text without looking words up in a dictionary, yet underline the new words.

As you read the text the second time, use a preferably monolingual (English to English) dictionary, and write meanings of words on your text, and NOT anywhere else!

If there's a new grammatical structure, underline it, and resort to a grammar reference book, and/or later discuss it with me.

Try to locate key words, their collocations and substitutions in the text, and try to make sentences with such words.

Get ready for the discussion point mentioned on top of your text; while doing so, collect information from other sources such as books, journals, the Internet, etc.

When we're completely done with the text, do have a clean copy of it for yourself and read it, and see if you can understand it without any help! If so, well done! If not, get back to the worked-on copy and do some more work, please!

Instruments

Following a 28-week speaking course consisting of six hours per week, the participants were asked to respond to three open-ended questions in a tabular form: with the first one, they were asked to elaborate on positive and negative characteristics of previous speaking courses; with the second, positive and negative characteristics of the current speaking course, and with the third, benefits obtained from the topics covered during the current course programme.

RESULTS AND DISCUSSION

Positive characteristics of previous experience are presented in Table 1. Under *Themes*, participants' perceived benefits are illustrated, and *ToM* stands for time of mention.

As shown in Table 1, the participants mentioned seven types of positive aspects of the previous experience in speaking classes. Out of the 24 responses, the most cited positive aspects were improvement in the pronunciation (20.8%) and listening skills (20.08%).

Table 1. Participants' ideas on the positive aspects of their previous experience in speaking classes

Themes	Positive aspects of previous experience	
	ToM	%
Enhanced speaking	4	16.7
Enhanced grammar	2	8.3
Enhanced listening	5	20.8
Enhanced lexicon	4	16.7
Enhanced pronunciation	5	20.8
Encouraged project work	2	8.3
Encouraged use of games	2	8.3
Chi-Square (Asymp. Sig)	0.755	

Secondly, the participants believed that their experience in previous speaking classes helped them improve their lexicon (16.7%) and their speaking skills (16.7%). The chi-square test result for this measurement, $p=0.755$, does not suggest a significant difference in favour of one of the seven types of items in the table. Same measurements were conducted regarding perceived negative aspects of the previous experience in speaking classes. Themes and calculations are illustrated in Table 2.

Table 2. Participants' ideas on the negative aspects of their previous experience in speaking classes

Themes	Negative aspects of previous experience	
	ToM	%
Difficulty in understanding	1	1.6
Lack of pronunciation emphasis	15	24.2
Memorization	4	6.5
Overemphasis on structure	1	1.6
Boredom	2	3.2
Lack of clear goals	2	3.2
Limited activities in speaking	15	24.2
High anxiety level	11	17.7
Lack of group work	3	4.8
Lack of technology use	2	3.2
Limited use of target language	2	3.2
Chi-Square (Asymp. Sig)	0.000	

When we have a look at Table 2, the total number of negative aspects of previous speaking classes far exceeds the number of positive aspects (Totally, there are 11 negative aspects which were mentioned 58 times). That those speaking classes failed in helping students improve pronunciation (24.2%) and offer limited activities (24.2%) are the most cited deficiencies. The high level of anxiety students (17.7%) felt throughout the classes is the third most cited deficiency. The chi-square test result for this measurement, $p=0.000$, suggests a significant difference.

Compared with the previous, the current experience, as perceived by students, presents a wider picture of benefits. Positive and negative aspects related to this experience are displayed respectively in Table 3 and Table 4.

Table 3. Participants' ideas on the positive aspects of their current experience in speaking classes

Themes	Positive aspects of current experience	
	ToM	%
Enhances listening	16	9.5
Enhances speaking	47	28.0
Exposes to technology	2	1.2
Enhances lexicon	16	9.5
Improves pronunciation	20	11.9
Improves observation strategies	3	1.8
Focuses on topic based syllabus	6	3.6
Creates enthusiastic atmosphere	20	11.9
Enhances collaborative work	11	6.5
Builds self-confidence	12	7.1
Builds schemata	4	2.4
Fosters learner-centred approach	2	1.2
Exposes to authenticity	2	1.2
Dispels fear of exams	2	1.2
Improves fluency	2	1.2
Improves research skills	3	1.8
Chi-Square (Asymp. Sig)	0.000	

Having a look at Table 3, we can observe that there is both a quantitative and qualitative increase in the number of responses given. The total number of responses is almost five folds of the responses illustrated in Table 1. Out of the 168 responses on 16 themes (compared with the seven themes in Table 1), the

most cited is the positive effect of current experience on improving speaking ability (28%), which should be a principal aim of a speaking course. In addition to the improvement in their speaking skill, the participants referred to improvement in pronunciation (11.9%) and to an enthusiastic atmosphere of classes (11.9%) as other positive aspects of the current experience. For participants, this experience also enhanced listening (9.5%), improved lexicon (9.5%), built self-confidence (7.1%) and encouraged collaborative work (6.5%).

Table 4. Participants' ideas on the negative aspects of their current experience in speaking classes

	Negative aspects of current experience	
Themes	ToM	%
Technical problems	3	21.4
Anxiety before public	4	28.6
Limited time for speaking	1	7.1
Unwillingness in discussion	6	42.9
Chi-Square (Asymp. Sig)	0.294	

Compared to perceived negative aspects of the previous experience, the current experience was also investigated in order to shed light on the drawbacks of the current experience and identify areas which need improvement in the current speaking courses. Table 4 presents the perceived limitations of the current experience.

Having a look at Table 4, we can see that among the four open ended questions, this received the fewest responses, being only 14. Out of these responses the most cited ones are the participants' unwillingness in discussions (42.9%), anxiety felt before public (28.9%) which also accounts for the unwillingness in discussion and technical problems (21.4%). Given the fact that most of the participants did not have any acquaintance with each other before attending the course, it becomes clear why they felt anxious and were unwilling to participate in discussions.

In Lee's (1996) study where language students' attitudes towards textbooks and authentic materials were surveyed, students of high proficiency preferred the materials due to affective reasons. As with Lee's study, the participants in this study also favoured authentic materials on affective

grounds [cf. Table 3: *Creates enthusiastic atmosphere* (11.9%), *Builds self-confidence* (7.1%), *Enhances collaborative work* (6.5%)].

Table 5. Participants' ideas on the perceived benefits from the topics covered in current experience

Themes	Benefits from Covered topics	
	ToM	%
Builds self-confidence	11	7.2
Improves lexicon	16	10.5
Improves pronunciation	13	8.6
Improves speaking skill	53	34.9
Fosters self-correction	2	1.3
Expands schemata	22	14.5
Fosters peer-to-peer interaction	1	.7
Improves listening	8	5.3
Fosters noticing salient structures	2	1.3
Improves writing	6	3.9
Exposes to authenticity	3	2.0
Improves imaginative thinking	2	1.3
Improves research skills	7	4.6
Entertaining	2	1.3
Improves text analysis	4	2.6
Chi-Square (Asymp. Sig)	0.000	

In addition to the items related to interrogating, the negative and positive aspects of the current and previous experience in speaking classes, the participants were also asked to elaborate on potential benefits of the topics they covered throughout the speaking class sessions. Table 5 presents the responses regarding this last question.

As seen in Table 5, there are 15 themes with 152 emerging times in the responses received from participants. The improvement in *speaking ability* (34.9%) is by far the most cited benefit of the covered topics. Other benefits are *expanding schemata* (14.5%), improvement in *lexicon* (10.5%) and *pronunciation* (8.6%), and *building self-confidence* (7.2%). Almost 75% of the responses were related to these five themes, and the chi-square analysis suggests a significant difference: $p=0.000$.

Besides improvement in speaking and speaking related skills, another significant contribution of news articles, as was stated by the participants, is

improvement in the schemata of the learners. We believe a brief definition of schemata is due here: "... in modern psychology schemata (or frames and scripts) are understood as generic data structures which play a central role in the interpretation of perceptions, the regulation of behaviour, and the storage of the knowledge in memory" (Seel, 2003:63). From this definition we understand that schemata have three constituents: interpretation of perception, regulation of behaviour and storage of knowledge. Thus, the participants believe that both their interpretations of the linguistic input which function as the objects of perception and knowledge in language (especially vocabulary) developed during the speaking classes covering authentic materials. Besides these major areas of improvements, the participants also produced themes such as *fostering self-correction*, *peer-to-peer correction*, *noticing salient structures*, *improvement in imaginative thinking*, *textanalysis* and *research skills* as other positive aspects of the topics covered.

From an overall perspective, we see that while the participants mentioned the positive aspects of the previous experience 24 times, the positive aspects of the current experience were mentioned 168 times; and while the negative aspects of previous experience occurred 58 times; those of the current experience were only 14 times. Thus, while negative aspects of the previous experience prevail over the positive, positive aspects of the current experience by far exceeds those that are negative.

Regarding benefits obtained from the textbook-based model, participants stressed improvement in *speaking*, *listening*, *pronunciation* and *lexicon*; in authentic news based model, additionally, themes such as *enthusiastic atmosphere* in the class, *enhancement in collaborative work* and *improvement in self-reliance* were also mentioned with varying frequencies. Based on this observation, we can thus state that the positive aspects of the current model by far exceeded those of the textbook-based model both quantitatively and qualitatively.

CONCLUSION

In language teaching, particularly in the teaching of speaking, one of the most debated issues has always been the use of authentic materials in teaching activities. With this study, we attempted to investigate whether the use of authentic materials in speaking classes had any positive role in the perceived improvement of speaking, pronunciation and lexicon. University English language students participated in this study and described their experiences in

using authentic materials, conducting authentic tasks and giving authentic responses.

In an effort to help language learners improve their speaking skills, newspapers, printed in authentic English, proved to be reliable resources of authentic materials. Learners, aware of the *real language* used in news articles versus an artificial one as they often witnessed in books on grammar, speaking, etc, not only developed their speaking and speaking related skills but also gained insight on the culture, thereby, compensated for the possible misunderstandings caused by cultural differences.

REFERENCES

- Bailey, K. (2006). Issues in Teaching Speaking Skills to Adult ESOL Learners. In John Comings, Barbara Garner, Cristine Smith (Eds.), *Review Of Adult Learning And Literacy, Vol. 6: Connecting Research, Policy, And Practice: A Project Of The National Center For The Study Of Adult Learning And Literacy*. Mahwah, New Jersey: Lawrence Erlbaum Associates, Inc.
- Brown, G. and Yule, G. (1983). *Discourse Analysis*. Cambridge: Cambridge University Press.
- Brown, H. D. (1994). *Teaching by Principles: An Interactive Approach to Language Pedagogy*. Englewood Cliffs, NJ: Prentice Hall.
- Canale, M. (1983). From Communicative Competence to Communicative Language Pedagogy. In J. C. Richards and R. W. Schmidt (Eds.) *Language and Communication* (pp. 2-27). New York: Longman.
- Crossley, S.A., McCarthy, P. M., Louwerse, M.M., McNamara, D.S. (2007). A Linguistic Analysis of Simplified and Authentic Texts. *The Modern Language Journal* 91 (2007), 15-30.
- Lazaraton, A. (2001). Teaching Oral Skills. In Marianne Celce-Murcia (Ed.), *Teaching English as a Second or Foreign Language*. (pp.103-115). Boston: Heinle and Heinle.
- Lee, W. (1996). The Role of Materials in the Development of Autonomous Learning. In R. Pemberton, E. S. L. Li, W.W. F. Or and H. D. Pierson (Eds.), *Taking Control: Autonomy in Language Learning*. (pp.167-184). Hong Kong: Hong Kong University Press.
- Nunan, D., and Miller, L. (Eds.). (1995). *New Ways in Teaching Listening*. Alexandria, VA: Teachers of English to Speakers of Other Languages.

- Ozkan, Y., Bada, E.,and Genç, B. (2007). Individual-Based Grammar Instruction. In *Proceedings of The First International ELT Conference: Current Issues in Language Teaching* (pp.81-93). Mersin: Çağ University.
- Peacock, M. (1997). The effect of authentic materials on the motivation of EFL learners. *ELT Journal* 51(2), 144-156.
- Seel, N. M. (2003). Model-Centered Learning and Instruction. *Technology, Instruction, Cognition and Learning* 1, 59-85.
- Thornbury, S. (2002). *How to Teach Speaking*. Essex: Longman.
- Wong, V., Kwok, P., and Choi, N. (1995). The use of authentic materials at tertiary level. *ELT Journal* 49 (4), 318-322.

Chapter 6

EFL/ESL TEACHING IN CHINA: QUESTIONS – QUESTIONS – QUESTIONS[#]

Niu Qiang and Martin Wolff

ABSTRACT

The teaching of English as a Foreign/Second Language (EFL/ESL) in China has become a nationwide endeavor pursued at all academic levels, from the kindergarten to the University. In the past ten years there has been an explosion in the development of public school English programs and private English language schools throughout China. EFL/ESL has become very big business in China (China Daily, HK Edition, October 9, 2002.) Reports show that ESL has become a 10-billion yuan business in China. Of the 37 billion yuan annual book sales, ESL takes up as much as 25% of the market share. And a few ESL teachers in Shanghai command an hourly rate of 1,000 yuan (US\$120). Even on average, a student pays 10-20 yuan (US\$1.2-2.4) for one hour of ESL training.

This article raises numerous fundamental issues which appear to have been overlooked by China in its exuberance to embrace EFL/ESL teaching as China rushes to join the new world order and partake of its share of the global economic pie. This article establishes a solid and fundamental legitimization for asking the politically incorrect,

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controversial and sensitive questions but leaves their final resolution to the language teachers, graduate students and linguists who have the inherent fundamental duty to seek the answers.

INTRODUCTION

“Can We Talk?” This question precedes the often politically incorrect, controversial or sensitive monologue of America’s famous stand-up comic, Joan Rivers. It is often followed by *“Really people, let’s get serious.”* So –

Can We Talk?

There are many unanswered questions concerning China’s nationwide EFL/ESL teaching fever which are probably politically incorrect, controversial and sensitive:

1. Why should 1.3 billion Chinese learn English?
2. How can EFL/ESL teaching in China be called a success?
3. Is EFL/ESL teaching in China a case of the blind leading the blind?
4. Can anyone really be expected to acquire English in this hostile environment?
5. What is the Chinese English student’s favorite wine?
6. Is it inevitable that although we teach them English, they will learn Chinglish?
7. What’s in a name?
8. What is worse: Students who cheat the system or a system that cheats the students?

This article raises numerous fundamental issues which appear to have been overlooked by China in its exuberance to embrace EFL/ESL teaching as China rushes to join the new world order and partake of its share of the global economic pie. This article establishes a solid and fundamental legitimization for asking the questions but leaves their final resolution to the language teachers, graduate students and linguists who have the inherent fundamental duty to seek the answers.

Really people, let’s get serious.

1. WHY SHOULD 1.3 BILLION CHINESE LEARN ENGLISH?

In 1862, under the Great Qing Dynasty, the first English Language School was officially opened by the Chinese Government to train ten men for the newly created diplomatic corps. (Deyi, 1992 Panda Books) In the past ten years, there has been an alarming increase in the emphasis on English as a Foreign/Second Language (EFL/ESL) in China.

Now, China annually recruits 100,000 “Foreign Experts” (FE) to teach English as a Foreign/Second Language (EFL/ESL) (www.Chinatefl.com) with an accompanying 10 billion Yuan price tag. (China Daily, Hong Kong Edition, October 9, 2002.) According to one Internet recruiting web site there are 150,000 foreign ESL teachers working in China (www.AbroadChina.org). The People’s Daily reports that in 2001 the industry made a 700 million yuan (US\$8,700,000) profit in Beijing alone. (People’s Daily, 1/23/02) Public middle schools, high schools and universities throughout China have developed and implemented English-language programs. Private EFL/ESL schools (kindergartens, primary, middle, high and college) have proliferated to such an extent that according to statistics from the Education, Science, Culture and Health Committee of the NPC, about 54,000 private schools had been set up in China by the end of 2000, with 6.93 million registered students. (People’s Daily, 5/23/01).

At first blush, it may appear admirable that China has so wholeheartedly made such a concerted effort to adopt English, the international language of commerce, as its second language. On October 24, 2002, Zang Xinsheng, Vice-Minister of the Ministry of Education reportedly said: “With China’s accession to the World Trade Organization and the approaching Olympics in 2008 more than ever is it a priority for young Chinese to learn and improve their language skills” (China Daily, 10/25/02). The same article states “Beijing is striving to reach its goal of teaching citizens to speak English to improve its image as an international metropolis.”

Beijing wants its 13 million residents to speak English to enhance its image as a cosmopolitan metropolis (China Daily, 10-05-02). China’s Ministry of Education wants all young people of China to learn English due to China’s WTO membership and China’s hosting the 2008 Olympics (China Daily, 10-05-02). Certain municipal governments in China require all of their civil servants to learn some English (China Daily, 10/05/02) \.

These goals or objectives beg the question, WHY?

Market studies, market analysis and affirmative recommendations from experts in the fields of business, math and linguistics should support each of the forgoing propositions, but do not appear to have been conducted.

What is the mathematical probability that each of Beijing's 13 million or so residents will need to be able to speak English for an intended or even accidental encounter with a single English speaking foreigner during the 2008 Olympics? Probably not very high.

Does a market study support the proposition that Beijing's image will be enhanced in the eyes of foreigners if all the residents of Beijing can speak English? Further, would such image enhancement translate into increased economic benefit for Beijing? If so, how much economic benefit will accrue to Beijing and does it offset the social, cultural and political costs that must be paid along the way by the people of Beijing? These questions do not appear to have been addressed by any formal study.

How many bilingual (Chinese-English) jobs will actually be created in China due to China's World Trade Organization (WTO) membership and hosting the 2008 Olympics? Does the number of new jobs requiring English support the need for all of China's young people to learn English? Answers to these questions are not readily available. And about the bilingual jobs created by the 2008 Olympics: How long will they last? A few months? Why should someone spend three or four years studying English in College for a job in 2008 that will only last a few months? Post Olympics what becomes of these Chinese English speakers?

What is the mathematical probability that all municipal government civil servants, in any particular Chinese municipality, will need to use English in their daily work? Very slim.

Is there any empirical study or evidence to support the current EFL/ESL revolution in China, which revolution may in fact have significant adverse social, cultural and political effects? (Qiang/Wolff, 4/03) It does not appear that the Chinese Central Government has issued any formal Resolution or Position Paper authorizing, condoning or supporting the current ESL revolution in China. Rather, it has been allowed and even encouraged to just evolve. Other than standardized testing for College entrance, the Central Government seems to have no set educational policy or curriculum for EFL/ESL. There is no single Ministry of Education document stating the Government policy on EFL/ESL in China. (He Qixin, 8/01).

This rush to educate has spawned an industry run amuck, without appreciable government control or regulation. (Qiang/Wolff, 9/03).

Why the concerted effort to require 1.3 billion Mandarin speakers, 25% of the world's population, to learn English as a foreign/second language? Since Mandarin is one of the six working languages of the United Nations, does the world at large have a greater appreciation for the importance of Mandarin than China itself?

Is the current EFL/ESL revolution in China a misguided, self-inflicted English colonialization, brought about tacitly, if not officially, by adopting EFL/ESL teaching as a national program? Will the West conquer China from within, without a single shot ever being fired? Will English enculturation supplant traditional Chinese culture and values? Will Beijing duck and dim sum be replaced with McDonalds and Kentucky Fried Chicken (KFC)?

Why has China apparently forsaken Mandarin for English when 25% of the world's population already speaks Mandarin, and Mandarin is one of the six working languages of the United Nations? Why does China so meekly submit to the English-based new world order emanating out of Washington, D.C., when 25% of the world's population looks to Beijing for its leadership? Does China not yet realize the reality that the emerging China has the immediate clout to demand that those desiring to do business in China or with China should learn Mandarin, rather than expect 1.3 billion Chinese to learn English? Why should 1.3 billion Chinese learn English when "95% of Chinese college graduates will not use oral English in their whole lifetime nor will they read any English materials." (China Daily, 11/03/03). Could or should China learn something from the EU's prioritizing the preservation and continued use of native languages? (Qiang/Wolff 4/03) Is the risk posed by EFL/ESL to China's social, cultural and even political structures and systems outweighed by the potential economic benefits such that China's Chineseness is for sale? EFL/ESL at any cost? Should the love of money replace traditional Chinese wisdom as the most valuable asset of the new Chingland? Should economic gain be at the expense of what makes China different from all other nations? National identity is tied directly to the preservation of the native language. Subsequent to our first raising this issue in April 2003, "China and Chinese, or Chingland and Chinglish?" English Today, Cambridge University Press; more Chinese scholars have joined in asking the question, "Why should 1.3 billion Chinese learn English?". (Kechang 3/04; Cho 3/04).

2. HOW CAN EFL/ESL TEACHING IN CHINA BE CALLED A SUCCESS?

The Kindergarten Experience

Foreign experts employed in middle schools and colleges are routinely asked to give Saturday or Sunday English classes to kindergarten teachers and students. Having examined this phenomena in three Provinces, the various experiences can be reduced to a similar pattern.

The foreign expert is picked-up at their home by a kindergarten car and driven to the school. Upon arrival at the school the foreign expert is introduced to the head mistress who does not speak a single word of English. (One immediately wonders how such an administrator can properly supervise or evaluate the effectiveness of her English teachers.) Then a few kindergarten teachers are paraded before the foreign expert. Aside from the perfunctory “Hello, how are you?”, the teachers are unable to engage in the most rudimentary conversation with the foreign expert.

Next the foreign expert is paraded through the campus, visiting select classrooms where the foreign experts greet the children and nothing more.

It is now lunchtime and the foreign expert is treated to a feast. During lunch the foreign expert inquires when the teaching will begin and is informed that it is already finished. Then the foreign expert inquires as to the identity of the person with the movies camera who had filmed the entire event and is informed that was the representative of the local television station.

After lunch the foreign expert is driven back to their apartment to relax and bask in the satisfaction of knowing that they have made a significant contribution to the EFL/ESL teaching in China. NOT! The foreign expert is thoroughly disgusted that they have been used as a marketing tool, a sort of endorsement for the school to establish that the school has a relationship with a real live foreign expert. This relationship encourages new enrollments and higher profits but has little or nothing to do with teaching EFL/ESL.

The Middle School Experience

Foreign experts employed in colleges are routinely asked to give English classes to middle school teachers and students. One such experience in 2003 is representative of this experience.

A foreign expert was asked to present a series of six courses to middle school teachers for two hours and a student class for another two hours. After the first two lessons to the 30 teachers, the vice-principal cancelled the teachers' class without any advance notice to the foreign expert. When the foreign expert showed up for the third teachers' class, a student class was substituted without explanation. Since the foreign expert had prepared a teachers' lesson, this made things a little difficult for the foreign expert. When this was explained to the Vice-principal, he responded that the foreign expert should "just read from the approved textbook like the Chinese teachers do."

Upon inquiry, the foreign expert was informed that the Vice-principal did not want his teachers being further informed about any Western teaching methodology.

The Vice-principle also unilaterally changed the student class format to four classes of 200 students for one hour each. The foreign expert also learned about this change when he showed up for the third lesson. When the foreign expert inquired as to how he was to teach such classes without having made appropriate preparation, the Vice-principal advised that his "students have prepared questions to ask so just talk with the students."

In one representative class, 38 students out of the 200 asked all of the questions. The students had not prepared any questions in advance of the class. (So much for the Vice-principle's claims of student preparation.) The students simply opened their textbooks and randomly selected questions to read to the foreign expert. With the exception of one question, they were all answerable with a "yes" or "no." (So much for "talking" with the students.) The only question that required a different answer was, "What color is it?" This "color" question was asked 7 times in the one representative class, six times after it was explained that the question was an incomplete sentence lacking a proper subject or object. (So much for listening comprehension).

Other questions were repeatedly asked in the representative class:

Question: Do you like China? (Asked 22 times) Answer: yes

Question: Do you like Chinese food? (Asked 21 times) Answer: yes

Question: Do you like Chinese people? (Asked 19 times) Answer: yes

Question: Do you play the guitar? (Asked 4 times) Answer: no

Question: Do you play the piano? (Asked 7 times) Answer: no

Question: Do you play basketball? (Asked 11 times) Answer: no

Question: Do you play football? (Asked 9 times) Answer: no

Question: Do you like us? (Asked 17 times) Answer: (audible) Yes
(inaudible) I am starting not to.

Is there a listening comprehension problem? NO! It was the first time that any of these students had ever met a foreigner and each of the brave ones wanted to say something, anything, to the foreign white monkey the school had brought around for an afternoon's entertainment. The real problem appears to be a less than competent school administrator, an issue discussed below.

A foreign expert was introducing himself to individual students in a middle school class and the dialogue went like this:

FE: Hello. My name is Bob. What is your name?

Chinese English teacher: Prompts the student with something in Chinese.

Student: My Chinese name is xxx. My English name is Bill.

FE: How are you Bill?

Chinese English teacher: Prompts the student with something in Chinese.

Student: I am fine. How are you?

FE: I am fine thank you. Nice to meet you Bill.

Chinese English teacher: Prompts the student with something in Chinese.

Student: Nice to meet you too.

After this exchange occurred with six or seven students, always with the prompting of the Chinese English teacher, the foreign expert changed the dialogue ending. The following occurred:

Student: I am fine. How are you?

FE: I am really very tired and I wish I were not here teaching this class.

Student: Stares at FE with frightened "deer in headlights" look.

Chinese English teacher: Silent

Student: Turns and looks at Chinese English teacher.

Chinese English teacher: Shrugs shoulders

Student: Turns to foreign expert and shrugs shoulders

Are the middle schools merely training parrots? May it never be!

A foreign expert wrote a tongue twister on a middle school blackboard:

"How much wood could a woodchuck chuck if a woodchuck could chuck wood?"

The foreign expert asked a middle school student to stand and read what had been written on the blackboard. The student stood only after several classmates said something to him in Chinese. Instead of reading, the student remained silent and appeared to have difficulty seeing the blackboard from the back of the classroom. The foreign expert asked the student to come forward. The student did not move until some classmates said something to him in Chinese.

When the student arrived at the front of the room and stood facing the blackboard, the following dialogue occurred:

FE: Please read what I have written on the board.

Student: Please read what I have written on the board.

FE: Yes. I want you to read what I have written on the board.

Student: Yes. I want you to read what I have written on the board.

FE: Can you read?

Student: Can you read?

FE: OK. Please take your seat.

Student: OK. Please take your seat.

FE: Go and sit down.

Student: Go and sit down.

FE: I want you to go and sit down in your seat now. (Pointing to the student's seat at the back of the room.)

Student: I want you to go and sit down in your seat now. (Pointing to the student's seat at the back of the room.)

YES, we are merely training parrots!

Middle school teachers use the 'talk and chalk' teaching methodology and the parrots err students repeat after the teacher who reads what they have written on the board. Vocabulary is taught in the same manner, with emphasis on memorization, but completely lacking in definitional meaning or contextual usability.

The College Experience

"The incompetence of many graduates from high schools or even colleges and universities to communicate effectively in spoken and written English is related to the teaching methods in China. Students are usually spoon-fed,

listening and taking notes with teachers standing at the front and doing most of the talking.” (He Mei, China Daily, 9/28/00).

“Most of us begin studying English at 12 or even younger. By the time we graduate from the university, we have studied English for over 10 years. However, the result is awful. Many students can say nothing but some simple phrases. Even for some English majors, writing an article in English also means nothing other than making countless mistakes.” (Deng Di, China Daily 6/9/00).

A business English major at Xinyang Agricultural College, Henan Province, inquired: “What use is a degree from this college when I can only get a job as a laborer?”

In the summer of 2002, two weeks before graduation, a business English major commenced his graduation party speech with the following sentence, “My English is so poor I will make my talk in Chinese.”

In the summer of 2002, two weeks before graduation, one-third of a business English class could not spell “business.”

“I read nothing but English during my free time,” said Xiao Zhong, a postgraduate from the Economic Department of Beijing Normal University, “but my listening comprehension and oral English remained far behind satisfaction.”

A girl had to take the graduate school entrance examinations five times because of failure in English in the four previous years, although she had excellent records for her major subjects. “During the past five years, I had spent 80 percent of my time on studying English until finally past the examination,” she complained. She said that if she had spent the time on her major subjects, she might have great progress in her studies.

Professor Gu Haibing from the National Economic Management Department of Remin University of China said that for most people who had finished nine-year compulsory education, it is impossible or unnecessary to be excellent in all the subjects, given the current circumstances that professions are all meticulous divided. We suppose the study cost (time) on basic subjects are the same, if a person spends more time on English and his time on other subjects will be less. The result is that the person masters neither English nor other subjects. (China Daily, 11/03/03)

“Currently, the English teaching in colleges and universities is not at a higher level, but only a repetition of what the students learned in high school. And again, the English class for postgraduates is a repetition of their college classes.” (Haibing, China Daily, 11/3/03).

During the Spring 2004 academic semester, at a major Shanghai teacher's college, a 3rd year Chinese English student opined that he believed no Chinese man should get married until he owned a *horse* and *cow*.

When the class' laughter subsided, the foreign teacher asked the student to repeat his comment.

The student said, "I believe that no Chinese man should get married until he owns a *horse* and *cow*." When asked if he was from a Western province where such may be a custom, the student proudly proclaimed that he was Shanghaiese. The foreign teacher asked the student to write his statement on the blackboard. The student dutifully wrote, "I believe that no Chinese man should get married until he owns a *house* and *car*."

Is China producing more EFL/ESL failures than successes?

3. IS EFL/ESL TEACHING IN CHINA A CASE OF THE BLIND LEADING THE BLIND?

The all time best selling book, which was banned from China for a very long time, contains an applicable admonition which should quite possibly be taken to heart by those charged with promulgating and administering educational policy in China.

"And if a blind man guides a blind man, both will fall into a pit." (Holy Bible, NAS)

China recruits approximately 100,000 native English teachers each year (www.chinatefl.com) "According to a certain statistics about 100 thousand teachers will be needed every year in China." English teachers from Australia, Great Britain, Canada, and the United States of America are heavily recruited through the Internet (<http://www.chinatefl.com>; <http://www.tefl.com>; <http://www.eslcafe.com/jobinfo>).

Generally speaking, in America, a University Bachelors, Masters or Doctorate Degree, in any discipline, merely qualifies a native speaker to enroll in a teacher training program where they will then receive a teaching certificate or Masters Degree, which amounts to a license to teach.

Unfortunately, there is no universal recruitment standard for EFL/ESL teachers in China other than the requirement that they are native speakers and have a college degree, in some recognized discipline. (See below).

Most Chinese schools require a Bachelors degree, at a minimum. Unfortunately the degree does not need to be in English, Literature, Linguistics or Education. There are many circumstances where Native English Speakers have been employed with an Associates degree or as little as a U.S. high school diploma.

ASIA VOLUNTEERS - Frequently Asked Questions – China - About Qualification

Do I need any Qualification or Training to Join Volunteer English Teaching Program in China?

No qualification is needed

Must be a native English speaker

Minimum commitment of one month is required

<http://www.asiavolunteers.com/china/faq.php> (Global Crossroad)

Who can do it?

You can teach English overseas if:

you are at least 19 years old or you have finished high school

you have a passport from Australia, New Zealand, Canada, America, Great Britain, Ireland or South Africa

you speak English fluently, with minimal accent

you are interested in travel and other cultures

you are comfortable with strangers and have good social skills

http://www.teachinternational.com/who_can_doit.php (Teach International)

“Xin Pai Foreign Language School Date: Monday, 20 January 2003, at 10:08 a.m. More Job Vacancies Four more teaching positions are now available at Xin Pai Foreign Language School ... but even those with no experience, who would like to try their hand at teaching, are welcome, as we can provide on-the-job training and assistance” xinpai@china.com

“Frequently Asked Questions: 1. What qualifications should one have in teaching in China? The basic qualifications are: being a native speaker of English, having a minimum BA degree and commitment to teaching, loving China and its people. Clear, well-spoken English and a good knowledge of the fundamentals of English grammar. Teaching experience/certificate is preferred but not a must.” <http://www.chinatefl.com/abroad.html>;

A major ESL teacher recruiting web site (www.AbroadChina.org) gives the following advice:

What if I do not have a degree?

If you do not have a degree, you must have: Qualified Teacher Status and at least one years' recent classroom-based experience of teaching English or modern languages, or a TEFL qualification and one years' classroom-based experience of TEFL or teaching another subject. However, some school will accept you without degree requested, and in some summer program, they may also accept. But some school will not accept you without a degree, so your options will be restricted.

What if I have limited teaching experience?

With TEFL qualifications or equivalent and less than one years experience. If you have a degree, some host schools still will accept you.

The above directly contradicts, at least as to public universities and institutions of higher learning, the following official position of the Chinese Central Government:

The Central Government guide provides:

“Those in search of language teaching positions in universities and institutions of higher learning should have a good grasp of their native languages and literature and should have at least three years’ language teaching experience. They should be able to speak their native language in standard pronunciation and intonation.” (State Bureau of Foreign Experts, 1994, “Guide for Foreign Experts Working in China”)

Note that the above is advisory and applies only to “universities and institutions of higher learning,” presumably public colleges and private Business Institutes, but not kindergartens, primary schools, middle schools or high schools, public or private. The use of the word “should” and not “must” should also be noted. The final and most important observation must be the lack of any requirement that English be the native language of the foreign expert hired to teach EFL/ESL.

Most schools request a TESOL, TEFL, TOFL, ESL or CELTA certificate, but actual teaching experience or business experience is an acceptable substitute. (See above.) Most EFL/ESL teaching certificates are designed for EFL/ESL teaching in Europe whereas Asia is a completely different situation involving a different cultural orientation completely unlike that of Europe. The standard teaching certificates do not prepare one to be an EFL/ESL teacher in China. All of these programs assume that the ability to teach second language acquisition is such a simple matter that it can be learned in a short 30 day period.

Although many schools claim to offer training once the FE is in China, in fact only a handful of private schools provide any pre-employment or on-the-

job training specifically for EFL/ESL teaching in China. Public schools provide no formal on-the-job EFL/ESL training.

Most Chinese schools prefer some teaching experience but some do not, let alone EFL/ESL experience. Likewise, most schools do not provide any type of teacher training, either on-the-job or on-line. They use the learn-as-you-go, on-the-job, by “trial-and-error” method of teacher training.

Unfortunately there does not appear to be any enforcement of even the most basic requirements that an EFL/ESL teacher be a native speaker of English or have a college degree in some discipline.

We are a network of English Training Centers based in Guangxi province, South China, and have an urgent need for English teachers (non-native speakers should have a fair English accent), for our centers and partner schools in the region. (www.routard.com)

Non-native English speakers, or put another way, L2 English speakers currently teaching EFL/ESL in China are from Nigeria, Cameroon, Ghana, Philippines, Pakistan, India and Russia.

In reality, there is no native English speaker requirement, teacher training requirement, or even any teaching experience requirement to become an English teacher in China. (Quang/Wolff, (In Press) Progress in Education Vol. __ Chapter __ “China EFL/ESL Jobs: A Case of False Advertising”)

Most EFL/ESL teachers are recruited to China with very attractive bait (Travel/Teach English: The Global TESOL Institute, <http://www.eslcafe.com/jobinfo/asia/sefer.cgi?China>;

Looking for a well-paid job to explore China? Come to TDM! Posted By: TDM Language College woody@tdmlanguage.com Date: Thursday, 16 January 2003, at 10:04 a.m. But you are very well paid. Your salary will be more than enough for you to live comfortably, to explore the exciting China, its history, its nature, its people, its culture, its language and its food).

The recruit is usually very young with no prior teaching experience, away from home for the first time, in his first cross-cultural experience, and under the belief that they are about to embark upon a China vacation, which of necessity, must be interrupted occasionally for a little work.

There is little or no advance training, preparation or indoctrination for teaching EFL/ESL in China. Far too many recruits never finish their one-year contract, some leaving within the first week, month or first several months. The reasons for disillusionment are almost as many and varied as the number of apparently disillusioned. (<http://www.eslcafe.com/jobinfo/asia/sefer.cgi?>

China). In a two year period 113 FE's published over 400 complaints, mostly about Chinese owned and operated primary schools. (Qiang/Wolff, 9/03).

"Too many people with no real interest in the job come here (China) for a good time (very easy to do) and leave the real teachers trying to clean up the mess and repair their image. A white face and a degree, even a fake one, land a job." (Tamblyn, Andrew, 1/15/03, letter).

"The tragedy is that some folks come here not to teach, but to travel, so they get all romantic and misty eyed. They can't teach, don't want to teach, and want to party like in the good old USA. This devil-may-care, happy camper attitude unfortunately leads them to make immature decisions and to be placed in schools that can not wait to capitalize on these "Rage Against the Machine" look-a-likes. They also give serious teachers a bad reputation." (H. Jones, (2/25/01, Letter).

China is burdened with far too many "backpackers" parading around as EFL/ESL teachers.

Evidence that the native English teacher produces students any better equipped to speak English than their Chinese English teacher counterparts is lacking. This is partly due to poorly designed curriculum and partly due to the fact that too many native English-speaking teachers are simply not trained to teach anything, let alone teach EFL/ESL, which is a highly specialized field.

Most private English schools rely upon the foreign expert to bring appropriate teaching materials with them and to prepare their own courses. Middle school and high school students of Chinese English teachers are subject to objective evaluation through the college entrance examination process. University students of Chinese English teachers are subject to objective evaluation through the Band 4 and Band 6 testing program, however limited and inadequate they may be in testing oral capabilities. However, private college or business institute students taught by "native" English speakers are not subject to any objective evaluation testing process. The effectiveness of these private educational programs is an unknown factor and hence their contribution to the Chinese society is also an unknown factor. The only thing really known for certain about these private English schools is that they are draining an appreciable amount of yuan from the local economy (China Daily, HK Edition, 10/9/02).

This situation cries out for and demands an empirical study of the real benefit of private English colleges and business institutes in relation to their economic profiteering. The 16th Communist Party Congress discussed the

advisability and merits of allowing private educational institutions to begin engaging in business for profit, as if it was not a current reality. Acknowledgement that private educational enterprises are making a financial killing in China already is a prerequisite to developing appropriate Governmental regulation and quality control standards for the private educational sector.

Language and culture are inseparable; on this there is no apparent disagreement between linguists. How then can an L2 EFL/ESL speaker, without any actual immersion in, or exposure to, the L2 EFL/ESL culture, possibly expect to be an effective L2 EFL/ESL teacher? They are certainly capable of dissecting the grammatical rules, analyzing English writings, reading extensively, and memorizing vocabulary, but this will enable them to do nothing more than teach a “DD” form of English. Additionally, in far too many cases, (especially the primary school teachers) their own pronunciation is so atrocious that they cannot possibly correct a student’s improper pronunciation and they are so steeped in Chinglish that it is impossible for them to recognize it and correct it in their students. (Yanping Dong, 2003).

The L2 students of L2 teachers will not have any appreciation for the cultural or environmental context in which the native speaker actually uses the language. The student will speak, if at all, in a “DD” form of English that the native speaker will find very strange, bookish, stiff or formal, and unintelligible; or, the Chinese student will use a form of Chinglish which is universally understandable by other EFL/ESL speakers and L1 English speakers alike.

Chinese English teachers at the middle school and high school levels are themselves so unaccomplished in proper English pronunciation that they discourage and even intimidate their students from attempting to speak in English (He Mei, 9/28/00) When these students reach the university level they have little or no practical speaking ability and have very poor pronunciation, making the university oral English teachers job almost an impossibility. This situation has also been fostered by an English curriculum that is test result driven rather than driven by practical conversational ability. (China Daily, 11/3/03) Middle school and high school students focus on learning only that which is required to pass the college entrance examination, which does not at present include oral English.

Few, if any Chinese English teachers are educated as to the difference between language learning and language acquisition. Those Chinese English teachers trained more than five years ago read a textbook that had only one or two chapters dealing with 20-year-old language acquisition theories. At least

one college level Chinese English teacher was hired for the 2002-2004 school years with only a high school diploma and absolutely no language acquisition training.

The following are examples of a dictionary definition (DD) conversation and a culturally insensitive textbook:

EXAMPLE #1: (Dictionary Definition, Chinese English Teacher talking to Foreign Expert, Feb. 24, 2003)

CET – “Tomorrow you will “fetch” your Temporary Residence Permit from the Public Security Bureau.”

FE – “Why do you talk to me like that? I am not a dog!”

CET – “What do you mean?”

FE – “In America we command our dogs to “fetch” when we want them to retrieve something for us.”

CET – “But the dictionary says that “fetch” is used to refer to going someplace and bringing something that is there back.”

FE – “Yes, but in actual daily usage we only tell our dogs to “fetch” when we throw something and have them chase it and bring it back or when we are using dogs while hunting for birds. It is an insult to tell a person to “fetch.” You insinuate that they are a dog.

EXAMPLE #2: (Cultural Ignorance, excerpts of inappropriate conversational English randomly taken from an English textbook published in 2001 and written by a Chinese L2, “Interactive Speakers.”)

It's time to say our farewells. P55

Could they make me known the exact time the plane takes off? P69

Have I got the go ahead to put out the fire? P119

I wonder if you'd excuse me for a moment. P152

... I'm afraid. P183

I'm afraid P 24, 167, 182

Will it be convenient if I call upon you at seven this evening? P220

To be openhearted, your denial that you had witnessed the accident dumbfounded me. P 249

He chooses to look into the matter till the truth is out. P264

Should properly qualified Foreign Experts be pressed into the service of teaching primary and middle school teachers how and what to teach in their EFL/ESL classes?

Today's Chinese English/Linguist Ph.D.s study language acquisition but where do they end up teaching? The Chinese PhD's either go abroad or congregate in the national or provincial top tier universities where they reach a minority of the 16 mil. College students. The majority of English majors are

dispersed throughout the 2nd and 3rd tier colleges and universities where language acquisition theory is a relative unknown. The Chinese linguists concentrate their research primarily on the top tier students and their journal articles are thus misleading as to the state of EFL/ESL teaching for the majority of Chinese English students who are languishing in the 2nd and 3rd tier colleges and universities.

Even at a top tier Shanghai University, a Chinese PhD Associate Professor employed in the English department teaches a class in English, about English, and then allows the final exam to be written in Chinese. The claimed rational is that it is harder for the Chinese English major to formulate and write the final exam paper in Chinese. This would be a great rational for a Chinese class but inappropriate for an English class. The bottom line is that it is easier for the Associate Professor to read, correct and grade the final exam paper written in English. This is just plain laziness at the highest academic level in China.

A flawed L2 curriculum, taught by L2 speakers who themselves are deficient in their L2 language understanding and production ability, constitutes an educational program doomed to less than stellar results. In fact, the results are so poor as to require a very lenient grading standard to avoid failing more than half of the Chinese English students in each class.

“Currently, the English teaching in colleges and universities is not at a higher level, but only a repetition of what the students learned in high school. And again, the English class for postgraduates is a repetition of their college classes. The students take the course only for passing the examinations. The real meaning of English learning no longer exists.” (Haibing, China Daily, 11/3/03) The college Chinese English teachers are merely teaching what they were taught, the way they were taught, without much knowledge about EFL/ESL acquisition.

How can someone teach beyond his or her own knowledge? When Chinese English teachers and non-Chinese English teachers are incompetent to teach English, can they produce anything other than incompetent students? Is this just like the “blind leading the blind”?

Exactly how does China wind up with so many incompetent EFL/ESL teachers? Clearly the Government guidelines are inadequate and do not even have the force and effect of regulations or laws and are rarely the subject of any enforcement proceedings or actions.

But there may be something more basic at the root of this situation and it may be a case of incompetent school administrators. In 2002 a 2nd tier Shanghai University appointed a history major (who could not utter one English word) to be Dean of the English department. An isolated case you

think? Consider that in 2002 a 2nd tier university in Hebei Province appointed a civil engineer (who could not speak English) to be the Dean of the English department. A private business institute in the same province appointed a North Carolina hillbilly Seminary dropout with no teaching credentials or experience to be the Director of Studies. And reflect further on the fact that in 2002 a Veterinarian who could not speak any English was the Dean of the English department in a 3rd tier college in Henan Province. This Vet hired three department employees who could not speak a word of English and all departmental meetings, communications and notices were in Chinese.

To improve EFL/ESL teaching in China, maybe there needs to be a fundamental shift in educational philosophy and administrative qualifications. If the English department business is conducted in Chinese, how can the department set a proper example for the Chinese English majors to utilize English at all times? An English department operated in Chinese does not create a friendly English acquisition environment.

4. CAN ANYONE REALLY BE EXPECTED TO ACQUIRE ENGLISH IN THIS HOSTILE ENVIRONMENT?

You are forced to trudge up three to five flights of cold concrete stairs, (past the stench of open trench, self-cleaning bathrooms reeking of urine and feces,) to reach your assigned concrete cubicle where you are required to sit on a 17" high backless wooden stool with an 8 1/2" x 11" seat, in front of a 30" high wooden bench, enclosed on three sides with glass partitions. The cold concrete floor is swept daily by merely pushing the dirt into a corner where it stacks up. Water is splashed on the floor to keep the dust down. There is no heat to ward off the freezing cold of winter nor air conditioning to provide relief from the sweltering heat of summer. The walls are dingy-yellowed with time, dirty and in disrepair. The lighting is bare fluorescent tubes just like a sweatshop. In the front of the room is a Chinese language sign that roughly translated means [only speak mandarin in this room]. There is a second Chinese language sign on a sidewall that roughly translated says [no talking in this room].

This cold, dank, concrete box is surrounded by construction noises on one side, and from another side the machine-gun rapid-fire pops of hundreds of dribbled basketballs on the concrete exercise yard and the sound of popcorn popping as 50 ping pong balls are slapped with bare wooden paddles and

bounced on concrete tables located underneath your windows; and from yet another side the sounds of people noisily clomping up and down the adjacent stairs or people in an adjacent concrete cubicle playing a Chinese movie on the television loud enough for the entire building to participate in the audio bombardment.

Inside the concrete cubicle you sit theater style facing the front of the room, in a semi-isolation cubicle if in a sound lab, for nine hours each day. There are no English signs or notices posted on the walls, no decorations to instill any thoughts about the West, its culture, or its language. There are two Chinese signs on the front wall, one says, “No Talking In Class” and the other says, “When You Speak Use Mandarin Only.” There are no maps or globe of the outside world. You are deprived of any and all English newspapers, magazines or periodicals. There is no western music or television. And worst of all, no one speaks to you in English, not even those sitting next to you, let alone any of the other forty plus occupants of the cubicle. You are forced to watch Chinese movies or be completely bored.

Suddenly, but on cue, an authority figure enters your cubicle and announces that you will now learn English as a foreign/second language and you are snapped into the reality that you are now in an environment where you are required to not only learn but to “master” English as a foreign/second language. Your English teacher stands in front of the two Chinese signs that advise against talking in class or when you must, only use Mandarin. Your teacher commences to teach you English using Mandarin.

No, this is not punishment, not a prison, not a concentration camp, not a re-education camp or some other type of detention facility. You are a free spirit! Free that is to “master” English and do it within the next three years or four years by memorizing a vocabulary of 1,000 to 5,000 words, memorizing grammatical rules and memorizing set phrases or language patterns.

Outside your cubical you are constantly bombarded with Mandarin over the campus-wide loudspeaker system and in the written notices and bulletins posted on the public information boards around the campus, but nothing in English. Even the posted notice advising of an impending English Corner is written in Chinese characters. You note the absence of English reading materials in the brand new \$3.5 mil. College library; the absence of English music CDs, English DVD movies or television programs; the blaring Chinese movies in the cafeteria; the total absence of English signs or decoration anywhere on campus; and the lack of any inducement to speak English. When you go to the English department offices, all of the staff and students are communicating in Mandarin. You observe that the English department staff

meetings are held in Mandarin. There are no staffs in the college library, cafeteria or store that speak English. No staff in the College President's Office or other college administrative offices speaks English. The campus medical clinic and post office staffs also speak only in Mandarin.

There is nothing special or attractive about being an English major and there is no inducement to acquire English as a foreign/second language, just learn it as it is taught to you by your Mandarin speaking teachers who predominantly speak and teach in their L1 using a "chalk and talk" methodology. (Qiang/Wolff, 3/04)

The above-described environment violates every principle set forth by Krashen for establishing a friendly English acquisition environment. (Krashen 1989)

Acquisition requires meaningful interaction in the target language - natural communication - in which speakers are concerned not with the form of their utterances but with the messages they are conveying and understanding. ... The best methods are therefore those that supply 'comprehensible input' in low anxiety situations, containing messages that students really want to hear. These methods do not force early production in the second language, but allow students to produce when they are 'ready', recognizing that improvement comes from supplying communicative and comprehensible input, and not from forcing and correcting production. Stephen Krashen

It also constitutes Chinese immersion rather than English immersion.

Learning English needs a language environment. Without it, people have to spend a lot more time on memorizing. For many of the learners, even they have tried hard, they still achieve very little. ... Here is the dilemma: on the one hand English is compulsory in school, on the other hand, there is no language environment in the society. Professor Gu Haibing, National Economic Management Department, Remin University. (China Daily, 11/3/03)

EFL/ESL students require comprehensible input within a friendly, no stress environment, to acquire the target language, which should be taught in the target language. (Krashen 1997) Chinese English majors with adequate financial resources study abroad where there is a friendly English language environment. By studying abroad the Chinese student is immersed in an English language environment.

In the real world, conversations with sympathetic native speakers who are willing to help the acquirer understand are very helpful. Stephen Krashen

But for the majority of Chinese students this approach is not realistic. As Professor Haibing points out and the above described English language environment at a Chinese college portrays; Chinese colleges not only fail to provide a friendly English acquisition environment, they actually seem to go out of their way, either through design or ignorance, to create an environment that is hostile to English acquisition.

Why don't Chinese colleges and universities make the most modest attempt to create a friendly English acquisition environment for their English majors? It seems to us a matter of common sense that if going abroad is the preferred manner of learning English due to immersion in a friendly English environment, then for those who are financially embarrassed, the Chinese college should at least make a modest attempt to bring "abroad" to the Chinese college campus.

Merely hiring a few foreign experts to visit with the students a couple of hours a week does not constitute the creation of a friendly English acquisition environment when all of the other daily input is Chinese. Students must have free library access to diverse English reading materials (books for all ages and language development stages including comic books, magazines, newspapers, novels, journals, classics, as opposed to English textbooks) since comprehensible input will be different for each student based upon their stage of English language development and learning speed differentials. They must also have free library access to English music (English CDs at 8 rmb each), movies (English DVDs at 6 rmb each), and television (CCTV Channel 9 (English) International). Free access in this sense means freedom to choose interesting and understandable materials (comprehensible input); freedom to decide when to access the materials; and freedom from the stress of doing assignments in preparation for a test (friendly environment).

Acquiring English should become a matter of enjoyment and fun in the sense of a little child finding themselves alone and unsupervised in a candy store. The student should receive as much daily comprehensible input in the target language as possible which means the college should have bilingual signage; the English department should have English only signage; the English department should conduct all of its business in English; within the English department there should be a communicate in English only rule; class schedules, class rosters, notices to students and memoranda and other communications with staff should all be in English; the English department

should be decorated with things English; the English department should be readily identifiable as a “little English enclave” even to the casual observer. Walking into the English department should be like walking into another world, an English-speaking world.

When a Chinese student goes abroad, they are forced to acquire English very rapidly or face the probability that their basic needs will go unmet. This is made easier due to the immersion in everything English. The same should be true in the Chinese college English department.

Is the cost to create such a friendly English acquisition environment much more than the cost to send one Chinese student abroad?

5. WHAT IS THE CHINESE ENGLISH STUDENT’S FAVORITE WINE?

There is a New York joke that goes like this:

Question: What is the favorite wine of a New York Jewish princess?

Answer: I’d rather be in Miami!

(This is a play on the words “wine” and “whine” which are both pronounced the same, at least by New Yorkers. The favorite Jewish “wine” is Manishevits. A “Jewish Princess” is a young, drop-dead gorgeous Jewish girl who demands the best of everything, including spending New York’s cold winters enjoying the warm sunshine of Miami, Florida.) How many Chinese English scholars would understand this joke without the background explanation?

Ask any foreign expert what is the favorite wine (sic) of Chinese English students and the resounding answer is: “My English is so poor, how can I make it better?”

In response to this “whine” the foreign expert explains the difference between language learning through traditional “chalk and talk” teaching methodology with rote memorization as its core, and language acquisition through comprehensible input in a friendly English acquisition environment. The teacher explains the need for the student to take charge of their own learning experience and to become both responsible and accountable for free reading, free listening, free film or television watching, and constant oral practice (Krashen 1989).

The EFL/ESL teacher explains that English should be spoken during class breaks, in the dormitory, in the halls, in the cafeteria, and that questions of the Chinese English teachers should be asked in English and answers should be demanded in English.

During the next class break the foreign expert observes that the students are still communicating with each other in Chinese. That evening the foreign expert calls one of his student's dormitory rooms to hear the phone answered "Wei! Ni Hao!."

The next day the foreign expert observes his students speaking Chinese in the cafeteria and asking Chinese English teachers' questions in Chinese. Two of his students prepare a notice of English corner to be posted on the campus, and you guessed it, the notice is written in Chinese.

The following week, at the end of the class, the foreign expert asks the standard question: "Do you have any questions?" At least one student inquires, "My English is so poor, how can I make it better?" The foreign expert's inaudible reply goes something like this: (*You lazy no good for nothing S.O.B., why don't you try getting off your dead a** and do a little work like reading, listening, and speaking more. You might also try coming to class more often. Do you honestly think your English will improve by repeating your stupid question every dam* week that you do decide to grace us with your presence in this class, which is not very often?*) The audible reply goes like this: "You must read more, listen more and speak more. You may also try coming to class more often so you hear all of the lectures and do not ask for material to be repeated." Of course, since most school libraries are lacking in English materials, this does require the student to search out their own learning materials.

Professor Gu Haibing stresses, "for English today, especially the study of spoken English, practice is very important." (China Daily 11/3/03).

"Without practice, the level of oral English of some people who have studied English for many years may not match those vendors at the foot of the Great Wall who often speak English with foreigners while hawking their commodities." (Gu, China Daily, 11/3/03).

There is a lot to be said for only allowing students interested in learning and acquiring English to participate in English classes and to stop using English as the great warehouse to store people until the job market expands to afford them a viable employment opportunity or worse still, to simply keep them off the streets and out of trouble. Student motivation is an indisputable crucial component of any educational process. Unmotivated students do not learn. (Krashen 1988).

6. IS IT INEVITABLE THAT ALTHOUGH WE TEACH THEM ENGLISH, THEY WILL LEARN CHINGLISH?

The purpose of all language is effective communication.

“Pidgin” English is understood amongst the native Hawaiian people and it also enables them to effectively communicate with the English-speaking foreigners who are occupying their homeland.

“Singlish” is an effective form of English communication amongst the people of Singapore and their English speaking world trading partners, business associates and tourists.

In fact, almost every nation that has adopted English as a second language has developed a form of English that can be readily used by the lowest common denominator within its own people’s abilities to communicate and to still have effective communications with the native English speaker. Regional Englishes abound worldwide.

There may be some purists who look down upon “Chinglish” or anything less than “perfect English” but of course their definition of what perfect English is will also depend upon which of the 7 standard English forms they consider to be their native form or “pure English.” (Oxford Advanced Learner’s Dictionary, 6th Edition.) There are some who argue that there are many more “standard Englishes.”

China is a developing Nation and is well within its rights to develop a form of English or regional English that best suits its general population’s need to communicate with each other as well as with native English speakers, while insisting on a more refined proper English or standard English, (Jiang Yajun, 1995) only for its official translators and some groups of professionals such as lawyers, accountants, scientists, medical doctors, etc. (Shanghai Star 10-24-02,).

Chinglish is not a bad thing! In point of fact, it is inevitable (Jiang Yajun, (1995)

Some professionals believe that as long as one knows 1,000 to 2,000 vocabularies, basic grammars, simple dialogues and the way to check into a dictionary or relevant software, he or she would be able to use English as an important tool in their future work and studies. (China Daily, 11/3/93) Certain Municipal Governments require all of their civil servants to have a minimum of 1,000 English words in their vocabulary. (China Daily, 10-05-02) This official policy forces Chinese speakers of Mandarin to sprinkle a few English

words in to give a little English flavor to their Mandarin. This is nothing less than an officially sanctioned and promulgated form of Chinglish.

7. WHAT'S IN A NAME?

At a 3rd tier college in Henan Province with a total student enrollment in excess of 5,000 and an English department of 600 majors, 20 Chinese English teachers and two foreign experts; it is difficult for the staff and even the students to recognize each other on campus or in town. It would be beneficial for the English department staff and the students to be able to identify each other at all times so they would identify with each other and also know when it would be appropriate to use their English.

All students are required to wear nametags but the English majors wear the same Chinese nametag as the other students. This works to the disadvantage of creating a friendly English acquisition environment and is a missed opportunity to create an exclusive club identity, which is so important in creating proper language acquisition motivation. This is but one example of where an informed administrator could implement a simple, cost free administrative change that would help create a better language acquisition environment.

Chinese English teachers are predominantly known to their students by their Chinese name and many such teachers do not even require their students to have proper English names. In a completely unscientific study, it was observed that if a student addresses their Chinese English teacher by their Chinese name, it is highly likely that the ensuing conversation will also be in Chinese. However, it has also been observed that when a student addresses their Chinese English teacher by their English name, the ensuing conversation is more likely to be in English.

The need to teach L2 by using the target language is beyond linguistic dispute (Krashen) and yet the Chinese English teachers continually teach EFL by using their L1 Mandarin. It is also beyond linguistic dispute that “prompts” and “cues” must also be in the target L2 language. (MacWhinney) Why doesn't China require all Chinese English teachers to teach in English and to use their English name as well as the English name of their students? Use of Chinese names and language prompts the Chinese mental lexicon while use of English names and language prompts the use of the English mental lexicon.

As has already been noted, many English majors are not required to take English names. It has also been observed that when English majors do take

English names, they tend to look in a dictionary and assume an English word rather than a name. Some students have assumed such bizarre “names” as:

Chinese; Kaka; God; Raingirl; Peak; Money; Cash; Japan; Moonbeam; Success; Crayon; Ship; Vessel; Silent; Orange; Apple; Candy; Cookie; Cappacino (sic) Cappuccino, etc.

These “names” go uncorrected by the Chinese English teachers.

It has also been observed that the boys who take seats in the back of the room and assume such names as Hitler and Stalin turn out to be the habitual failures. It may be interesting to study the correlation to see if assuming the power name influences the failure of academic performance.

The following dialogue occurred when a student announced that his name was “God.”

Teacher: What is your English name?

Student: My name is God.

Teacher: You cannot take my class.

Student: Why?

Teacher: Because God already knows everything and cannot learn anything from me.

Student: Can I have a different name?

8. WHAT IS WORSE: STUDENTS WHO CHEAT THE SYSTEM OR A SYSTEM THAT CHEATS THE STUDENTS?

Students cheating on tests, students engaging in plagiarism, students manufacturing fake diplomas and credentials, and school administrators' falsification of students' records are rampant practices throughout China's universities and colleges, both public and private. Of this there is neither doubt nor dispute. (Qiang/Wolff, 3/04.).

The Ministry of Education has taken a strong stand against exam cheating by announcing that anyone caught cheating on college entrance exams would have their names published for public humiliating purposes i.e. loss of face. (China Daily, (7/8/02).

Official reaction to the call of the Ministry of Education to crack down on rampant cheating in universities has been limited, but very positive.

Beijing University will not only punish exam cheats who hire a surrogate test taker but will also punish the surrogate who takes an exam for another. Electronic instruments such as personal data assistants, calculators with higher

memory function and communications equipment like mobile phones will be excluded from exams. The new rules will also punish students who attempt to plead with, threaten or bribe a professor. (China Daily, (6/28/02).

Peking University has adopted new rules to curb plagiarism on essays and thesis. The punishment can result in failing a course and even loss of the opportunity to complete the requirements for a degree. (China Daily Hong Kong Edition, 7/5/02) Li Ki'an the head of the Academic Affairs Office says that the new rules "are meant to curb the rampant problem of cheating."

Fujian Normal University has expelled a PhD candidate and three Masters degree candidates because they sat a college English test for other students. The Chinese University of Science and Technology punished eight students for either hiring test takers or for sitting an examination for someone else. (China Daily Hong Kong Edition, 1/16/03).

In China grades are meted out on a predominantly "A", "B", or "C" standard. Teachers are loath to offend a student with a "D" or "F" for various reasons discussed in "Chinese University Diploma: Can Its International Image Be Improved" (Qiang/Wolff, 6/04).

This results in English majors graduating without the knowledge and skills represented by the diploma. This is a fraud upon the students whose diploma is a representation to them that they have acquired the knowledge and skills represented by the diploma. It is also a fraud upon the parents who financed the student's college education and are led to believe that their child has made a major accomplishment other than just sitting through a university education. It is also a fraud upon the student's future employer who will rely upon the college diploma when making the initial employment decision, only to subsequently realize that the student is totally unqualified for the job.

But worst of all, it is a fraud perpetrated upon a society that believes that a highly educated workforce will lead to a better-off society and therefore expends huge amounts of resources on higher education. The college graduate with the unearned diploma is qualified to do little more than be a "highly educated" laborer with a college diploma. Society will only be advanced on paper and in the minds of its members, while the goal of a better-off society will have been lost to the disillusionment of reality as these "educated" college graduates fail to make meaningful contributions to society.

CONCLUSION

There is something terribly amiss with EFL/ESL teaching in China.

The major clue to what is wrong is found in the statements of Deng Di and He Mei found at pg. 8 and 9 of this article. But what should be resonating in our minds, like the clap of thunder rolling just above our heads, is the question of the anonymous business English major at Xinyang Agricultural College, "What use is a degree from this college when I can only get a job as a laborer?" This question speaks volumes about the poor quality of EFL/ESL teaching in China rather than constituting a comment on the job market.

Until the euphoria of EFL/ESL teaching and the huge economic business sector it has spawned are put into proper perspective, China will continue to waste its valuable resources producing more EFL/ESL failures than successes.

REFERENCES

- Deyi, 1992 Panda Books, *"Diary of A Chinese Diplomat"*.
China Daily, 6/28/02, *"Beijing University Enforces Stricter AntiCheating Rules"*.
China Daily, 7/8/02, *"Exam Time Again For Students, Parents"*.
China Daily, 10/25/02, *"Government encourages public to learn English"*.
China Daily, 11/03/03, *"Is English Invading Chinese Culture?"*.
China Daily Hong Kong Edition, 7/5/02, *"Exam Cheats Could Get Kicked Out of College"*.
ChinaDaily, Hong Kong Edition, October 9, 2002, *"English Patients"*.
China Daily Hong Kong Edition, 1/16/03, *"Universities Put A Lid On Cheating"*.
China Daily, 3/25/04, *"English Equation Unbalanced"*, Xie Kechang.
China Daily, 3/25/04 *"Is it Conscionable for Chinese to immerse in an 'all English' environment?"* Wei Chao.
Deng Di, China Daily 6/9/00, *"Language Education Should be Reformed"*.
He Qixin, 8/01, Beijing Foreign Studies University *"English Language Education in China"*.
He Mei, China Daily, 9/28/00 *"English Teaching Method Faces Challenge"*.
Holy Bible, NAS, Matt 15:14.
Jiang Yajun, 1995, English Today, *"CHINGLISH"*.

- Krashen, Stephen D., (1987), Prentice-Hall International, "*Principles and Practice in Second Language Acquisition*".
- Krashen, Stephen D., (1988), Prentice-Hall International, "Second Language Acquisition and Second Language Learning".
- Krashen, Stephen D., (1997) Crane Publishing Co. Ltd., "*Foreign Language Education*".
- Oxford Advanced Learner's Dictionary, 6th Edition.
- MacWhinney, B. (2002) "*The Competition Model: The input, the context, and the brain*" Cambridge University Press.
- MacWhinney, B. J., Leinbach, J., Taraban, R., and McDonald, J. L. (1989). Language learning: Cues or rules? *Journal of Memory and Language*, 28, 255-277.
- People's Daily, 1/23/02, "*English Language Training Profitable Industry in China*".
- People's Daily, 5/23/01, "*China To Draft Law On Private Schools*".
- Shanghai Star 10-24-02, "*English Dominance*".
- Qiang/Wolff, 4/03, English Today, "*China and Chinese, or Chingland and Chinglish?*".
- Qiang/Wolff, 9/03, Progress In Education Vol. 12, Chapter 4, "*ChinaESL: An Industry Run Amuck?*".
- Qiang/Wolff, 6/04 Asian EFL Journal; 12/04 Progress in Education Vol. ____ Chapter ____ (In Press) "*Chinese University Diploma: Can Its International Image Be Improved?*".
- Qiang/Wolff, 3/04 Asian EFL Journal; 9/04 Progress in Education Vol. ____ Chapter ____ (In Press) "Can You Obtain A First Class Education in a Third Tier College in China?"
- (Quang/Wolff, (In Press) Progress in Education Vol. ____ Chapter ____ "China EFL/ESL Jobs: A Case of False Advertising").
- State Bureau of Foreign Experts, 1994, "*Guide for Foreign Experts Working in China*".
- www.AbroadChina.org.
- www.Chinatefl.com.
- www.eslcafe.com/jobinfo.
- www.tefl.com.
- www.routard.com.
- xinpai@china.com.
- Yanping Dong, 2003, "Are we ready for an Early Start in Foreign Language Learning?'"--- A Survey of Primary School English Education in Guangdong Province" in *Mordern Foreign Languages*. (1).

Chapter 7

IMPROVING READING SKILLS FOR ESL LEARNERS USING SOUNDSPEL[#]

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ABSTRACT

This study examined the effects of using a revised, transparent spelling system SoundSpel, a phonetic reading tool, with learners of English as a Second Language. During 6 training sessions, 12 participants used unaltered material and 12 used SoundSpel texts, in parallel with standard English, when reading American elementary school material. They then answered multiple-choice comprehension questions. Both groups were pre-tested and post-tested on comprehension tests of similar elementary school material without SoundSpel.

No group differences were found across tests or training (in quiz performance or reading time), suggesting no beneficial or harmful effects from using SoundSpel. A post hoc analysis suggested that SoundSpel would be most beneficial for students who learn to speak English before they learn to read it.

[#] A version of this book was also published as a chapter in *Bilinguals: Cognition, Education and Language Processing*, edited by Earl F. Caldwell and published by Nova Science Publishers, Inc. It was submitted for appropriate modifications in an effort to encourage wider dissemination of research.

INTRODUCTION

Learning to read is an important goal of elementary education. Specifically students need to move from sounding out words to sight reading, except, perhaps, for low-frequency words. Children typically have a larger speaking vocabulary than reading vocabulary, so a challenge for them is to match their speaking vocabulary to printed words. Towards this end, young readers often make use of dictionaries with phonetic notation. Mastering the spelling system, which includes 26 letters and approximately 42 sounds, can be a difficult task, as evident in the following example: *“Though the rough cough and the hiccough plough me through, I ought to cross the lough”* (Mole, 2003, p. 4). To read this sentence successfully, the pronunciation of each of these instances of the letter string *-ough* would need to be memorized. In this way, English differs from other, more transparent languages that have better letter-to-sound correspondence, and hence would require less memorization. Illustrating this fact, Patel, Snowing, and de Jong (2004) showed that Dutch children (ages 6-11) reading Dutch, which is a phonetically transparent language, were more accurate and faster at pronouncing visually presented words and nonwords than were comparable American children reading English, especially at younger ages.

Reading skill development has been shown to be highly associated with phonological processing skills. Evidence that phonological awareness is related to reading comes from longitudinal studies that have found that differing degrees of phonological awareness among children (before they even learn to read) can predict reading skill through at least age 6 (e.g., Bryant, MacLean, Bradley, and Crossland, 1990). Some phonological awareness develops early, although awareness of phonemes as units develops later than an awareness of syllables, onsets, and rimes. Phonological awareness can develop without reading instruction, but in the absence of reading an alphabetic system, this capacity seems to be retarded (Mann, 1986). However, it has been shown that specific training in phonological awareness can help with remediation of reading problems, particularly for poor adult readers learning an alphabetic system (Rayner, Foorman, Perfetti, Pesetsky, and Seidenberg, 2001). For example, training with “talking computers” that pronounce words in text has been effective at improving word recognition, phonological decoding, and phonological awareness in children with reading difficulties (Olson, Wise, Ring, and Johnson, 1997).

In the present study, phonological processing is investigated by using a program called SoundSpel, developed by the American Literacy Council

(Mole, 2003), which converts English text into a more predictable spelling system. Specifically, SoundSpel is a phonetic spelling system with unambiguous, easy to learn, letter-to-sound correspondences, including improved vowel representations and—unlike standard dictionaries—no additional characters or diacritical marks. English text can be written using a format called DoubleLine, in which every line of text appears in parallel with the same line converted directly below into SoundSpel, with the SoundSpel version of a given standard English word placed immediately under it. If a reader encounters an unfamiliar word in English, using DoubleLine, he or she can refer to the line below, which in effect contains a transcription (i.e., a respelling) of the word according to its pronunciation. For instance, the word “glad” is pronounced as it is spelled, relying on no special rule or exception for proper pronunciation. In SoundSpel, it would be written “glad” as in English. Yet the word “give” is an instance when the phonological representation of a word lacks congruency with its graphemic representation because of the terminal silent letter “e”. That word in SoundSpel would be written “giv” (without the superfluous final letter “e”). Thus, DoubleLine would be useful because it could function as a point of reference, representing words according to their phonological features, thereby providing a systematic link between written and spoken language.

In the present study, we explore the possibility of using DoubleLine to improve reading comprehension with adults learning English as a second language (ESL). Two groups of non-native English speakers were compared: The SoundSpel group was instructed in SoundSpel and read English text written in DoubleLine during training, and the control group was not exposed to SoundSpel or DoubleLine but read the same English text written so that every line of text appeared in parallel with the same line directly below it (i.e., duplicated). Before and after training, both groups of participants were given tests. The pretest was equivalent to the posttest, and neither test included DoubleLine or duplicated lines; instead the text was printed in ordinary English. During training and testing, each English passage that was read was followed by multiple-choice comprehension questions. Two measures of performance were collected: number correct on the reading comprehension test of a given passage and total time to read the passage and answer the comprehension questions. The two passages used in testing were both at the fourth grade level, whereas the six passages used in training included three at the third grade level followed by three at the fourth grade level. These reading levels were selected to match the current reading levels of the ESL participants as closely as possible.

If DoubleLine effectively promotes phonological awareness in adults, then we should find that performance on both measures is better during training for the SoundSpel group than for the control group. Most importantly, if the phonological training derived from SoundSpel transfers to reading normal English, then any improvement in performance from the pretest to the posttest should be larger for the SoundSpel group than for the control group. Thus, a comparison of SoundSpel and control groups during training would reveal any immediate benefits of DoubleLine, whereas a comparison of the two groups on the posttest would reveal any long-term benefits of prior exposure to DoubleLine.

METHOD

Participants

Participants for this study were recruited from the International English Center ESL program at the University of Colorado and the InterCambio de Comunidades ESL program in the Boulder community. This population was limited to non-native English speaking adults with a reading level ranging from approximately third to fourth grade. A total of 24 participants were included in the analyses. An additional participant was tested, but the data from that participant were excluded because that participant did not follow directions in one of the training sessions. The 24 participants could be divided by native language background into the following groups: Arabic (2), French (2), Korean (6), Japanese (4), Nepali (1), Spanish (8), and Ukrainian (1). Recruitment methods included informational fliers and word-of-mouth. Upon completion of the entire eight-part study, participants were compensated \$100 for their time.

Design

For the tests, one between-subjects independent variable was the experimental condition (control, SoundSpel). An additional independent between-subjects variable was the order of the pretest and posttest (A then B, B then A). Test type (pretest, posttest) was a within-subjects independent variable. Other within-subjects variables that pertained to training but not the tests were grade level of material (third or fourth) and story number (first,

second, or third) within a given grade level. The primary dependent variable of this study was reading comprehension, measured by the number of correct responses on the quizzes. Time taken to read each text and respond to the multiple-choice comprehension questions constituted a second dependent variable.

Materials and Apparatus

Materials used for this study were from American third and fourth grade reading passages taken from *Collections: In Good Company* and *Collections: Sometimes I Wonder* (Allington, Cortez, Cunningham, Sebesta, and Tierney, 1989b, 1989c). In the test portion of the study, occurring at the beginning and end of the experiment, participants read the unmodified fourth grade Texts A and B in a counterbalanced order. Text A was 12 pages long (1838 words) with a picture on each page. Text B was 20 pages long (5766 words) with 9 small illustrations. The texts used in the training portion of this study varied according to condition. The control condition training texts were double-spaced paragraphs with an identical line written below each line of the paragraph. Texts for the SoundSpel group were also in the format of double-spaced paragraphs; however, below each line that appeared in standard English spelling was that same line converted to SoundSpel DoubleLine (see Appendix A). All documents for the SoundSpel group had been converted using a Microsoft Word macro, provided by the American Literacy Council, and printed in Courier font. The first three texts were at the third grade level, and the last three texts were at the fourth grade level. Training Text 3-1 was 42 pages long (4217 words) with 21 illustrations. Text 3-2 was 22 pages (2192 words) with 14 pictures, and Text 3-3 was 28 pages (3154 words) with 9 pictures. Training Text 4-1 was 58 pages (6965 words) and had 9 illustrations, Text 4-2 was 54 pages (6631 words) with 8 pictures, and Text 4-3 was 52 pages (6714 words) and had 14 illustrations. Multiple-choice questions (four questions per text) were used to quiz reading comprehension. These multiple choice questions were developed by the experimenters and tested for clarity using native speaking undergraduates in a preliminary experiment (see Appendix B). Each multiple-choice question had three different answers to choose from. Most of the participants in the SoundSpel condition (except the first four tested) used a standard ruler to minimize any distraction of the double lines in reading these passages. (They were told to hide the SoundSpel line when reading the standard English text unless it was needed to decipher

the standard English text.) Participants in the control condition were not given the ruler. Time to complete reading each passage and answering the comprehension questions was recorded in minutes by the experimenter using a watch or wall clock.

Procedure

This study consisted of eight sessions: pretest, six training sessions, and posttest. With the exception of 4 participants (whose sessions were all on 8 separate days), sessions were paired over the course of 4 days—both were administered on a given day with a short break in between sessions (e.g., 5 min). Participants were assigned to one of two conditions based on a fixed rotation depending on their time of arrival for the first session: the control condition or the SoundSpel condition. Because there was no systematic relation between time of arrival and language background, assignment of participants to conditions was essentially random. All participants were then handed an unmodified pretest text (A or B), followed by a comprehension quiz including four multiple-choice questions. Participants in the experimental condition then received approximately 5 min of training on the SoundSpel spelling system from the experimenter.

Instructing participants in SoundSpel involved introducing every sound-to-letter(s) representation for the consonants (which remained relatively unchanged). Instruction proceeded by then introducing the less familiar, but systematic, SoundSpel representation of short and long vowels. Participants in the SoundSpel group saw all the consonants and then all the vowels on PowerPoint slides or printouts of the slides (two for the consonants followed by two for the vowels), with a sample word or words containing a given letter to illustrate that letter's pronunciation. The experimenter pronounced aloud for the participant each letter and many of the sample words (all of those for the vowels). After participants in the SoundSpel condition were tutored on SoundSpel, they were instructed to read aloud a short passage transcribed using SoundSpel (see Appendix C). The task of reading aloud the transcribed passage equipped the participant with (a) some familiarity in using the SoundSpel system, (b) an opportunity to receive feedback from the experimenter, and (c) a chance to demonstrate that he or she was, in fact, able to comprehend and use this new phonological tool. Training sessions followed the initial SoundSpel instruction and testing session. There were six training sessions, which were broken up by grade level. The first three training session

texts involved third grade stories. The subsequent three training session texts involved fourth grade stories. After reading each text, the experimenter administered a multiple-choice quiz consisting of four multiple-choice questions regarding its corresponding story. Participants completed the quiz without the aid of the text. Generally, the experimenter started timing upon distribution of the passage and ended upon completion of the passage's corresponding comprehension questions, although for some or all sessions of 4 of the participants (2 in each condition) only the reading of the passage was timed. Following these six training sessions was the final test session, in which the posttest was given. If participants were initially administered Text A, they received Text B following the six training sessions (or vice-versa). Time needed to complete this experiment was estimated to be a total of four 2-hour sessions (or eight 1-hour sessions for 4 participants), although a given session often took somewhat less time than estimated.

RESULTS

Tests

A mixed factorial analysis of variance was conducted on the number of correct responses, out of four total questions per test, for comprehension questions on tests before and after training, both of which were based on fourth grade materials (see Figure 1). The analysis included the between-subjects factor of condition (control, SoundSpel) and the within-subjects factor of test type (pretest, posttest). There were no significant main effects or interaction, $F(1, 22) < 1$ in each case. Specifically, there was no significant improvement from the pretest to the posttest for either the control condition (pretest = 3.000, posttest = 3.000) or the SoundSpel condition (pretest = 3.167, posttest = 3.000). A second mixed factorial analysis of variance, including the same factors, was conducted on the response time (in minutes) to complete reading each passage and responding to the four multiple-choice questions. Again, there were no significant main effects or interaction; $F(1, 22) < 1$ both for the main effect of condition and for the interaction of condition and test type; $F(1,22) = 2.331$, $MSE = 151.042$, $p = .1411$ for the main effect of test type. The means, which are provided in Figure 2, show a small decrease in response time across tests of comparable magnitude for the control condition (pretest = 33.750 min, posttest = 28.333 min) and the SoundSpel condition (pretest = 33.750 min, posttest = 28.333 min).

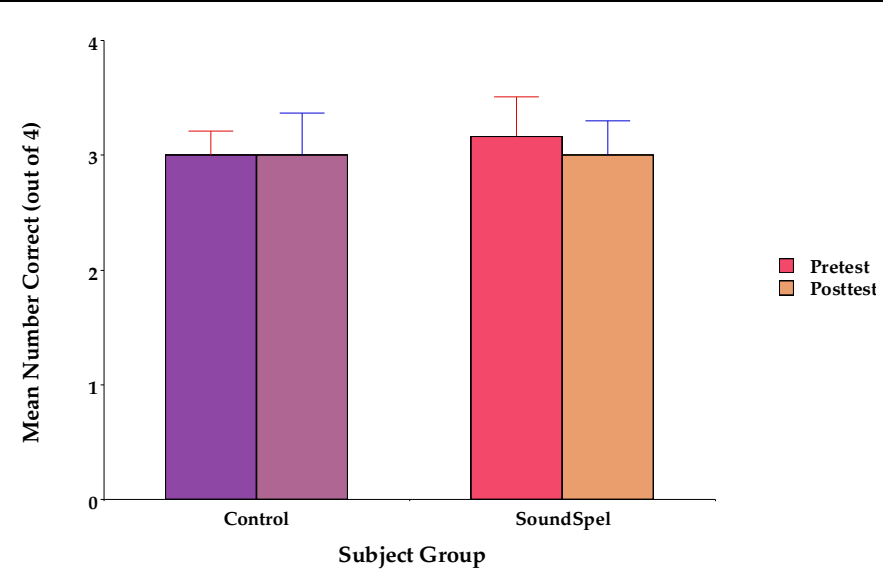


Figure 1. Mean number correct (out of 4 questions total per test) on pretest and posttest for two conditions. Error bars show standard errors of the mean.

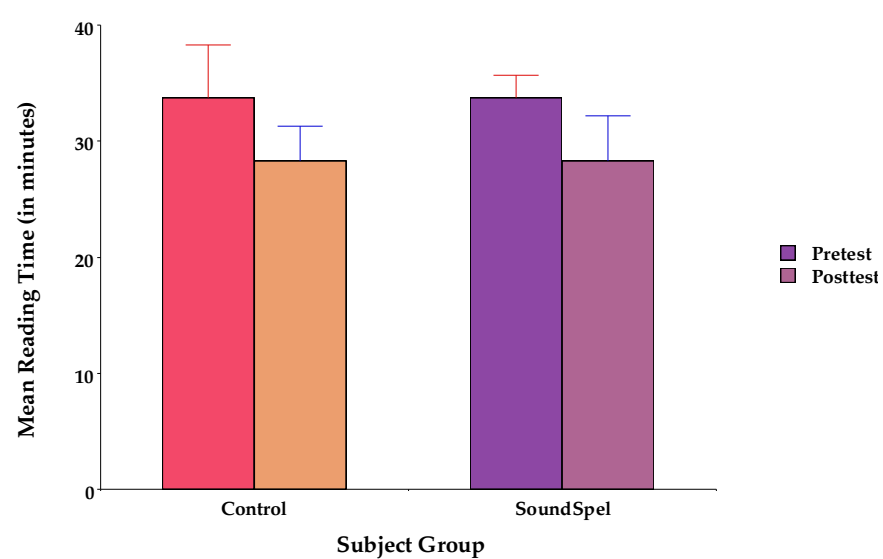


Figure 2. Mean reading time (in minutes) on pretest and posttest for two conditions. Error bars show standard errors of the mean.

Thus, participants in the SoundSpel condition did not differ significantly from those in the control condition in terms of their performance on the tests before and after the training phase with respect to both accuracy and speed.

Training

With respect to training, a mixed factorial analysis of variance was conducted on the number of correct responses (out of four total questions per story) on the comprehension questions given after each passage (see Figure 3).

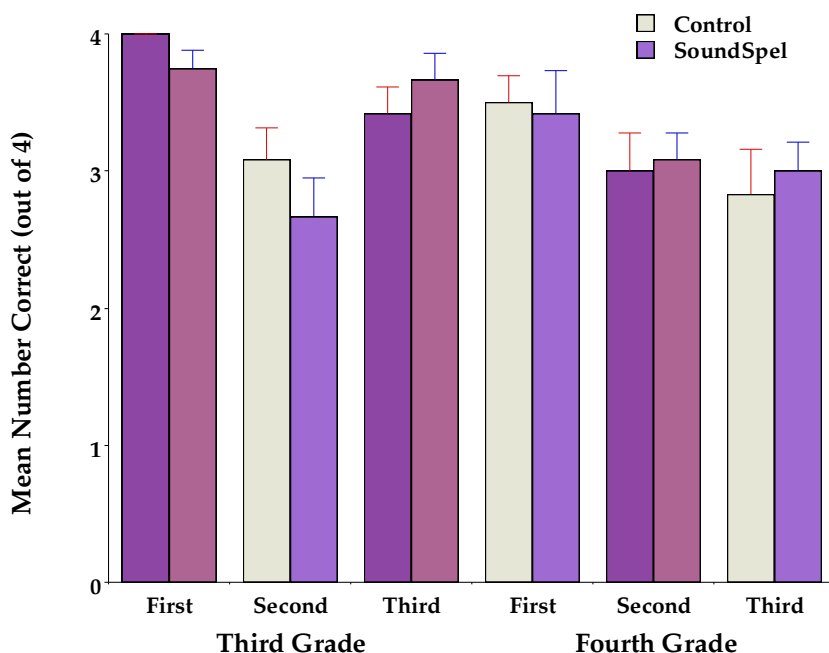


Figure 3. Mean number correct (out of 4 questions total per story) during training session for two conditions as a function of grade level and story number. Error bars show standard errors of the mean.

The analysis included the between-subjects factor of condition (control, SoundSpel) and the within-subjects factors of passage grade level (third, fourth) and story number within grade level (1, 2, 3). The analysis revealed a significant main effect of story number, $F(2, 44) = 11.932$, $MSE = 0.514$, $p < .0001$, reflecting a decline in the number of correct responses from Story 1

(3.667) to Story 2 (2.958), with Story 3 (3.229) in between. Also, there was a significant main effect of grade level, $F(1, 22) = 6.459$, $MSE = 0.474$, $p = .0186$, reflecting a lower mean number of correct responses for the fourth grade stories (3.139) than for the third grade stories (3.431). In addition, there was a significant interaction of story number and grade level, $F(2, 44) = 4.421$, $MSE = 0.457$, $p = .0178$. For the third grade stories, the mean number of correct responses was highest for the first story (3.875), lowest for the second story (2.875), and intermediate for the third story (3.542). For the fourth grade stories, the mean number of correct responses decreased across stories (first = 3.458; second = 3.042; third = 2.917).

These differences across stories may be due to the content, length, and nature of the stories themselves, which were not counterbalanced across participants, because the stories were distributed in a fixed order within each grade level. There were no other significant effects; in particular, there was not a main effect of condition, $F(1, 22) < 1$, an interaction of condition and grade level, $F(1, 22) < 1$, an interaction of condition and story number, $F(2, 44) = 1.095$, $MSE = 0.514$, $p = .3436$, or a three-way interaction of condition, grade level, and story number, $F(2, 44) < 1$. Thus, there were essentially no differences between the control and SoundSpel conditions in accuracy during training.

A mixed factorial analysis of variance was also conducted on response time (in minutes) needed to complete reading a given passage and responding to the four multiple choice questions during the training phase. As seen in Figure 4, there were three significant effects in this analysis: the main effect of grade level, $F(1, 22) = 64.019$, $MSE = 125.124$, $p < .0001$, the main effect of story number, $F(2, 44) = 3.537$, $MSE = 50.484$, $p = .0376$, and the interaction of grade level and story number, $F(2, 44) = 6.419$, $MSE = 70.919$, $p = .0036$. Third grade stories took less time to complete (34.250 min) than fourth grade stories (49.167 min). This result can be directly attributed to the overall longer length of the fourth grade passages relative to the third grade passages. Also, the first passage of the third grade stories had a longer response time (39.167 min) than the subsequent third grade stories (second = 29.208 min, third = 34.375 min). However, there was less change across the three fourth grade stories (first = 48.333 min, second = 50.625 min, third = 48.542 min). This pattern might reflect the fact that participants were particularly slow at reading the very first story they encountered in training, which was always the initial third grade story. There were no other significant effects; in particular, there was not a main effect of condition, $F(1, 22) < 1$, an interaction of condition and grade level, $F(1, 22) < 1$, an interaction of condition and story number,

$F(2, 44) < 1$, or a three-way interaction of condition, grade level, and story number, $F(2, 44) < 1$. Thus, there were no differences at all between the control and SoundSpel conditions in reading time during training, despite the differences in the material read.

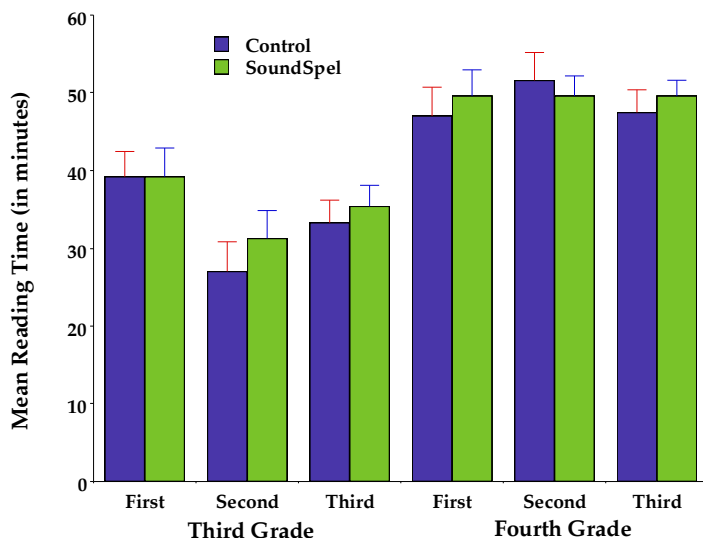


Figure 4. Mean reading time (in minutes) during training session for two conditions as a function of grade level and story number. Error bars show standard errors of the mean.

DISCUSSION

With respect to both accuracy and speed, participants in the SoundSpel condition did not differ significantly in their performance from those in the control condition on the tests before and after training. These results do not support the hypothesis that SoundSpel participants would demonstrate greater improvement from pretest to posttest in their reading comprehension. Although SoundSpel did not enhance performance at the posttest, it also did not depress performance, even though the testing conditions did not match the training conditions. This observation is noteworthy because of former studies showing that test performance is depressed whenever testing and training conditions do not correspond, in accordance with both the principle of transfer appropriate processing (e.g., Morris, Bransford, and Franks, 1977; Roediger,

Weldon, and Challis, 1989) and the principle of procedural reinstatement (e.g., Healy, Wohldmann, and Bourne, 2005). Hence, there were no facilitative or detrimental effects of training with SoundSpel.

One reason why we might not have found a significant advantage of training with SoundSpel concerns the language background of the participants. It seems most likely that participants would benefit from SoundSpel to the extent that they can understand spoken English better than they can understand written English. For participants with a Far East Asian language background (viz., Korean and Japanese), reading English typically precedes listening to English, so it seems unlikely for them that comprehension of spoken English would be superior to that of written English. In contrast, for participants with other language backgrounds, it is more likely that they encountered spoken English before written English. Thus, to determine whether SoundSpel would have a training advantage for individuals who speak English better than they read it, we conducted a post hoc analysis on the training data in which we divided the participants into two groups: Far East Asian and other. This analysis yielded the expected pattern of results; the interaction between native language category and condition was significant by a one-tailed test, $F(1, 20) = 3.297$, $MSE = 0.938$, $p = .0422$.

As shown in Figure 5, the participants with a Far East Asian native language showed better comprehension accuracy during training in the control condition than in the SoundSpel condition. In contrast, the other participants showed better comprehension accuracy during training using SoundSpel than without using SoundSpel. This result suggests that future studies investigating SoundSpel be restricted to individuals who learn to speak English before they learn to read it, such as children and ESL students with a language background other than Far East Asian.

Past studies have demonstrated that the phonology of the first language exerts a very strong influence on the acquisition of second language vocabulary (Feldman and Healy, 1998). Problems then occur for ESL students whose native language has different phonological rules (i.e., different sound-to-spelling rules) than English. SoundSpel can help such ESL students better understand written English by simplifying the sound-to-spelling mapping rules.

Thus, the ESL students can use SoundSpel to identify those words that are in their spoken vocabulary but have an orthography with less familiar sound-to-spelling correspondences. However, if the particular words or syllables encountered during training with SoundSpel do not include those that appear on the test, the ESL students will not show any benefit from SoundSpel

training. A subsequent study should, therefore, ensure that the words encountered in the tests are also included among the training passages.

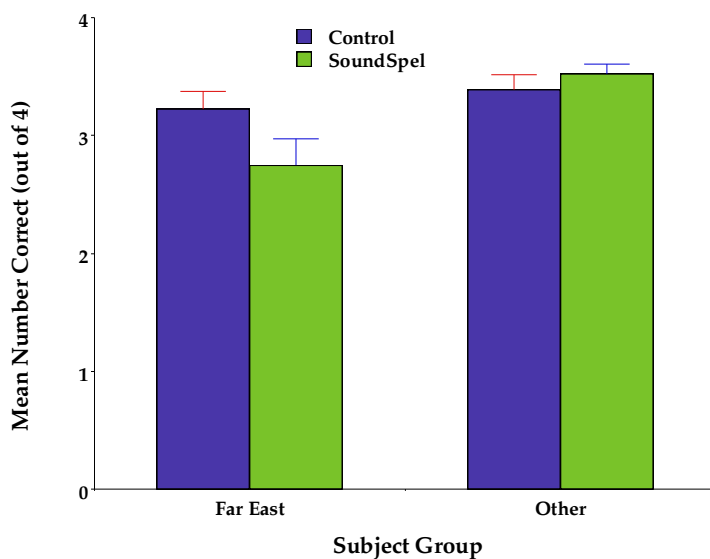


Figure 5. Mean number correct (out of 4 questions total per story) during training session for two conditions as a function of native language background. Error bars show standard errors of the mean.

We found that story grade level had a significant impact on comprehension accuracy during training, with third grade stories more accurate overall than fourth grade stories. This finding, although not unexpected, is important for two reasons. First, it provides a manipulation verification because the third grade materials were assumed to be easier to read than the fourth grade materials. Second, it verifies that the material selected was appropriate for the reading abilities of the participants (i.e., the material was not so simple that comprehension was at the ceiling, as it was for the college undergraduates in the preliminary experiment; see Appendix B). There was also a significant impact of story grade level on response time. However, this finding is difficult to interpret because the fourth grade stories were longer (i.e., included more pages) than the third grade stories, and the fourth grade stories had a smaller number of pictures per page than the third grade stories. Also, story grade level was confounded with position in the sequence, with all third grade stories appearing before fourth grade stories. However, this confounding only works against the finding that performance

was worse on fourth grade stories than on third grade stories because the additional practice should probably improve performance.

We also found significant effects of story number for both comprehension and reading time during training. The effect of story number is difficult to interpret because the stories were not counterbalanced across sessions. Also, the effect of story number on comprehension is difficult to understand because there was neither a consistent increase nor a consistent decrease in performance across stories; of the three stories performance was best overall on Story 1 and worst on Story 2. For reading time there was little difference for the fourth grade stories, but for the third grade stories participants were disproportionately slow in reading the first story. That finding could be due either to specific aspects of the story itself or to the fact that participants need some minimal practice with the unusual format in which lines are repeated before they can read the stories efficiently. A suggestion for improving performance on SoundSpel would be to make the SoundSpel instruction more congruent with its actual use. In the present experiment, SoundSpel instruction did not include DoubleLine although DoubleLine was used during the training session. Practice with DoubleLine during SoundSpel instruction may lead to better performance during training for the SoundSpel group. Although we used SoundSpel in this experiment to promote the skill of silent reading, it may prove to be a more effective tool for promoting the skill of reading aloud. The advantage of SoundSpel is that by simplifying the spelling-to-sound mapping it allows readers to go from the orthographic representation of a word to its phonological (i.e., spoken) representation. Thus, reading aloud, which requires the phonological representation, should be facilitated by the use of SoundSpel, whereas reading silently might not require access to the phonological representation, so should not show as large a benefit from SoundSpel. Therefore a future study might compare the SoundSpel and control conditions in a situation where both training and testing require the participants to read passages aloud, followed by multiple-choice comprehension quizzes, as in the present experiment. In such a study, any advantages of SoundSpel should be magnified.

AUTHOR NOTES

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Correspondence concerning this report should be sent to Alice F. Healy, Department of Psychology and Neuroscience, 345 UCB, University of Colorado, Boulder, CO 80309-0345.

APPENDIX A. EXCERPT OF SOUNDSPEL VERSION OF A PASSAGE USED IN THE EXPERIMENT

A Raccoon's Life Julia Cunningham's story about a talking raccoon is a
A Raccoon's Lief Julia Cunningham's story about a tauking raccoon is a

fantasy, a make-believe story. Even though the talking raccoon in
Macaroon

fantasy, a maek-beleev story. Eeven tho th tauking raccoon in Macaroon
is not true to life, the environment the author describes could be real. In
the

is not troo to life, th envieronment th author describes cuud be reel. In th

spring and summer a leafy, green forest is a comfortable place for
raccoons.

spring and sumer a leafy, green forest is a cumfortabl plaes for raccoons.

APPENDIX B. PRELIMINARY EXPERIMENT

Prior to testing ESL students, 48 native English-speaking University of Colorado undergraduates participated in a preliminary experiment to ensure the adequacy of the materials. These students, who were tested individually, received credit in an introductory psychology course for their participation, which lasted approximately 1 hour. Eighteen passages were selected from third, fourth, and fifth grade readers (Allington, Cortez, Cunningham, Sebesta, and Tierney, 1989a, 1989b, 1989c), with six passages from each grade level.

Each passage was accompanied by four three-alternative multiple-choice comprehension questions written by the experimenters. Each student was given three passages to read, one from each grade level, and each passage was read by 8 students. The texts were written in the same format as the pretest and posttest; that is, they did not contain DoubleLine but were written double-spaced with no repeated lines or SoundSpel text. Immediately after reading a given passage, students answered the multiple-choice questions for that passage, which occurred on a separate page given to them by the experimenter. The overall accuracy was very high for all of the passages; the mean proportion correct was over .95. Nevertheless, the passages used in the experiment were selected from the third and fourth grade passages using the criterion that all selected passages had the highest proportion of correct responses by the 8 students who read them.

APPENDIX C. PASSAGE READ ALOUD BY PARTICIPANTS LEARNING SOUND SPEL SYSTEM

It was about th midl of a laet spring morning when th Hors caem inside frum th far sied of th bair rij and stuud for a whiel on th hieest part. He apeerd to be foer or five years oeld, compactly bilt and with a ruf coet sumwherr between bloo-grae and mous culor. He wor no owner's brand, and th oenly distinktiv mark on him was th straengj mask-like pach of darker culor covering his foerhed and upper muzl. Th untiedy tangles and mats of cockleburs and mud in his long tael and maen markt him as a raenj hors, and not wun that had simply straed off frum sum ranch or farm.

REFERENCES

- Allington, R. L., Cortez, J., Cunningham, P. M., Sebesta, S. L., and Tierney, R. J. (1989a). *Collections: Between times*. Glenview, IL: Scott Foresman and Company.
- Allington, R. L., Cortez, J., Cunningham, P. M., Sebesta, S. L., and Tierney, R. J. (1989b). *Collections: In good company*. Glenview, IL: Scott Foresman and Company.

- Allington, R. L., Cortez, J., Cunningham, P. M., Sebesta, S. L., and Tierney, R. J. (1989c). *Collections: Sometimes I wonder*. Glenview, IL: Scott Foresman and Company.
- Bryant, P. E., MacLean, M., Bradley, L. L., and Crossland, J. (1990). Rhyme and alliteration, phoneme detection, and learning to read. *Developmental Psychology*, 26, 429-438.
- Feldman, A. and Healy, A. F. (1998). Effect of first language phonological configuration on lexical acquisition in a second language. In A. F. Healy and L. E. Bourne, Jr. (Eds.), *Foreign language learning: Psycholinguistic studies on training and retention* (pp. 55-76). Mahwah, NJ: Erlbaum.
- Healy, A. F., Wohldmann, E. L., and Bourne, L. E., Jr. (2005). The procedural reinstatement principle: Studies on training, retention, and transfer. In A. F. Healy (Ed.), *Experimental cognitive psychology and its applications* (pp. 59-71). Washington, DC: American Psychological Association.
- Mann, V. A. (1986). Phonological awareness: The role of reading experience. *Cognition*, 24, 65-92.
- Mole, A. (Ed.) (2003). *Stories in reformed spelling*. Boulder, CO: American Literacy Council.
- Morris, C. D., Bransford, J. D., and Franks, J. J. (1977). Levels of processing versus transfer appropriate processing. *Journal of Verbal Learning and Verbal Behavior*, 16, 519-533.
- Olson, R. K., Wise, B., Ring, J., and Johnson, M. (1997). Computer-based remedial training in phoneme awareness and phonological decoding: Effects on the posttraining development of word recognition. *Scientific Studies of Reading*, 1, 235-253.
- Patel, T. K., Snowling, M. J., and de Jong, P. F. (2004). A cross-linguistic comparison of children learning to read in English and Dutch. *Journal of Educational Psychology*, 96, 785-797.
- Rayner, K., Foorman, B. R., Perfetti, C. A., Pesetsky, D., and Seidenberg, M. S. (2001). How psychological science informs the teaching of reading. *Psychological Science in the Public Interest*, 2, 31-74.
- Roediger, H. L., III, Weldon, M. S., and Challis, B. H. (1989). Explaining dissociations between implicit and explicit measures of retention: A processing account. In H. L. Roediger, III, and F. I. M. Craik (Eds.), *Varieties of memory and consciousness: Essays in honour of Endel Tulving* (pp. 3-41). Hillsdale, NJ: Erlbaum.

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